OCCUPATIONAL HEALTH & SAFETY ACT AND REGULATIONS (85 OF 1993)

(FULL VERSION)

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OCCUPATIONAL HEALTH AND SAFETY ACT

NO. 85 OF 1993

[ASSENTED TO 23 JUNE, 1993]
[DATE OF COMMENCEMENT: 1 JANUARY, 1994]
(unless otherwise indicated)

(English test signed by state President)

as amended by

Occupational Health and Safety Amendment Act, No 181 of 1993
Labour Relations Act, No 66 of 1995.

ACT

To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

ARRANGEMENT OF SECTIONS

1. Definitions.-(1) In this Act, unless the context otherwise indicates-

"approved inspection authority" means an inspection authority approved by the chief inspector: Provided that an inspection authority approved by the chief inspector with respect to any particular service shall be an approved inspection authority with respect to that service only;

"biological monitoring" means a planned programme of periodic collection and analysis of body fluid, tissues, excreta or exhaled air in order to detect and quantify the exposure to or absorption of any substance or organism by persons.

"building" includes-

(*a*) any structure attached to the soil;

(*b*) any building or such structure or part thereof which is in the process of being erected; or

(*c*) any prefabricated building or structure not attached to the soil;

"chief executive officer", in relation to a body corporate or an enterprise conducted by the State, means the person who is responsible for the overall management and control of the business of such body corporate or enterprise;

"chief Inspector" means the officer desig nated under section 27 as chief inspector, and includes any officer acting as chief inspector;

"Council" means the Advisory Council for Occupational Health and Safety established by section 2;

"danger" means anything which may cause injury or damage to persons or property;

"Department" means the Department of Manpower;

"employee" means, subject to the provisions of subsection (2), any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person;

"employer" means, subject to the provisions of subsection (2), any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in section 1(1) of the Labour Relations Act, 1956 (Act No. 28 of 1956);

"employers' organization" means an employers' organization as defined in section 1 of the Labour Relations Act, 1956 (Act No.28 of 1956);

[Definition of " employers' organisation"inserted by s. 1 (*a*) of Act No. 181 of 1993.]

"employment" or "employed" means employment or employed as an employee;

"explosives" means any substance or article as listed in Class I: Explosives in the South African Bureau of Standards Code of Practice for the Identification and Classification of Dangerous Substances and Goods, SABS 0228;

"hazard" means a source of or exposure to danger;

"health and safety Committee" means a committee established under section 19;

"health and safety equipment" means any article or part thereof which is manufactured, provided or installed in the interest of the health or safety of any person;

"health and safety representative" means a person designated in terms of section 17(1);

"health and safety standard" means any standard, irrespective of whether or not it has the force of law, which, if applied for the purposes of this Act, will in the opinion of the Minister promote the attainment of an object of this Act;

"healthy" means free from illness or injury attributable to occupational causes;

"incident" means an incident as contemplated in section 24(1);

"industrial court" means the industrial court referred to in section 17 of the Labour Relations Act, 1956 (Act No. 28 of 1956);

"inspection authority" means any person who with the aid of specialized knowledge or equipment or after such investigations, tests, sampling or analyses as he may consider necessary, and whether for reward or otherwise, renders a service by making special findings, purporting to be objective findings, as to-

(*a*) the health of any person;

(*b*) the safety or risk to health of any work, article, substance, plant or machinery, or of any condition prevalent on or in any premises; or

(*c*) the question of whether any particular standard has been or is being complied with, with respect to any work, article, substance, plant or machinery, or with respect to work or a condition prevalent on or in any premises, or with respect to any other matter,

and by issuing a certificate, stating such findings, to the person to whom the service is rendered;

"inspector" means a person designated under section 28;

"listed work" means any work declared to be listed work under section 11;

"local authority" means-

(*a*) any institution or body contemplated in section 84 (1) (*f*) of the Provincial Government Act, 1961 (Act No. 32 of 1961);

(*b*) any regional services council established under section 3 of the Regional Services Councils Act, 1985 (Act No. 109 of 1985);

(*c*) any other institution or body or the holder of any office declared by the Minister by notice in the *Gazette* to be a local authority for the purposes of this Act;

"machinery" means any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy to performing work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, confining, transforming, transmitting, transferring or controlling any form of energy;

"major hazard installation" means an installation-

(*a*) where more than the prescribed quantity of any substance is or may be kept , whether permanently or temporarily; or

(*b*) where any substance is produced, processed, used, handled or stored in such a form and quantity that it has the potential to cause a major incident;

"major incident" means an occurrence of catastrophic proportions, resulting from the use of plant and machinery, or from activities at a workplace;

"mandatary" includes an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or a user;

"medical surveillance" means a planned programme of periodic examination (which may include clinical examinations, biological monitoring or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupation medicine practitioner;

"Minister" means the Minister of Manpower;

"occupational health" includes occupational hygiene, occupational medicine and biological monitoring;

"occupational health practitioner" means an occupational medicine practitioner or a person who holds a qualification in occupational health recognized as such by the South African Medical and Dental Council as referred to in the Medical, Dental and Supplementary Health Service Professions Act, 1974 (Act No. 56 of 1974), or the South African Nursing Council as referred to in the Nursing Act, 1978 (Act No. 50 of 1978);

"occupational hygiene" means the anticipation, recognition, evaluation and control of conditions arising in or from the workplace, which may cause illness or adverse health effects to persons;

"occupational medicine" means the prevention, diagnosis and treatment of illness and adverse health effects associated with a particular type of work;

"occupational medicine practitioner"means a medical practitioner as defined in the Medical, Dental and Supplementary Health Service Professions Act, 1974 (Act No. 56 of 1974), who holds a qualification in occupational medicine or an equivalent qualification which qualification or equivalent is recognized as such by the South African Medical and Dental Council referred to in the said Act.

"office" means an office as defined in section 1 (1) of the Basic Conditions of Employment Act, 1983 (Act No. 3 of 1983);

"officer" means an officer or employee as defined in section 1 (1) of the Public Service Act, 1984 (Act No. 111 of 1984);

"organism" means any biological entity which is capable of causing illness to persons;

"plant" includes fixtures, fittings, implements, equipment, tools and appliances, and anything which is used for any purpose in connection with such plant;

"premises" includes any building, vehicle, vessel, train or aircraft;

"prescribed" means prescribed by regulation;

"properly used" means used with reasonable care, and with due regard to any information, instruction or advice supplied by the designer, manufacturer, importer, seller or supplier;

"reasonably practicable" means practicable having regard to-

(*a*) the severity and scope of the hazard or risk concerned;

(*b*) the state of knowledge reasonably available concerning that hazard or risk and of any means of removing or mitigating that hazard or risk;

(*c*) the availability and suitability of means to remove or mitigate that hazard or risk; and

(*d*) the cost of removing or mitigating that hazard or risk in relation to the benefits deriving therefrom;

"regulation" means a regulation made under section 43;

"remuneration" means any payment in money or in kind or both in money and in kind, made or owing to any person in pursuance of such person's employment;

"risk" means the probability that injury or damage might occur;

"safe" means free from any hazard;

"sell" includes-

(*a*) offer or display for sale or import into the Republic for sale; or

(*b*) exchange, donate,lease or offer or display for leasing;

"shop" means a shop as defined in section 1(1) of the Basic Conditions of Employment Act, 1983 (Act No. 3 of 1983).

"standard" means any provision occurring -

(*a*) in a specification, compulsory specification, code of practice or standard method as defined in section 1 of the Standards Act, 1993 (Act No. 29 of 1993); or

(*b*) in any specification, code or any other directive having standardization as its aim and issued by an institution or organization inside or outside the Republic which, whether generally or with respect to any particular article or matter and whether internationally or in any particular country or territory, seeks to promote standardization;

"substance" means any solid, liquid, vapour, gas or aerosol, or combination thereof.

"this Act" includes any regulation;

"trade union" means a trade union as defined in section 1 of the Labour Relations Act, 1956 (Act No. 28 of 1956);

[Defination of " trade union'inserted by by s. 1 (*b*) of Act No. 181 of 1993]

"user" in relation to plant or machinery, means the person who uses plant or machinery for his own benefit or who has the right of control over the use of plant or machinery, but does not include a lessor of, or any person employed in connection with, that plant or machinery;

"work" means work as an employee or as a self-employed person, and for such purpose an employee is deemed to be at work during the time that he is in the course of his employment, and a self-employed person is deemed to be at work during such time as he devotes to work as a self-employed person;

"workplace" means any premises or place where a person performs work in the course of his employment;

(2) The Minister may by notice in the *Gazette* declare that a person belonging to a category of persons specified in the notice shall for the purposes of this Act or any provision thereof be deemed to be an employee, and thereupon any person vested and charged with the control and supervision of the said person shall for the said purposes be deemed to be the employer of such person.

(3) This Act shall not apply in respect of-

(*a*) a mine, a mining area or any works as defined in the Minerals Act, 1991 (Act No. 50 of 1991), except in so far as that Act provides otherwise;

(*b*) any load line ship (including a ship holding a load line exemption certificate), fishing boat, sealing boat and whaling boat as defined in section 2 (1) of the Merchant Shipping Act, 1951 (Act No. 57 of 1951), or any floating crane, whether or not such ship, boat or crane is in or out of the water within any harbour in the Republic or within the territorial waters thereof,

(Date of commencement of para. (*b*) to be proclaimed.)

or in respect of any person present on or in any such mine, mining area, works, ship, boat or crane.

2. Establishment of Advisory Council for Occupational Health and Safety.-There is hereby established an Advisory Council for Occupational Health and Safety.

3. Functions of Council.-(1) The Council shall -

(*a*) advise the Minister with regard to-

(i) matters of policy arising out of or in connection with the application of the provisions of this Act;

(ii) any matter relating to occupational health and safety;

(*b*) perform the functions assigned to it by this Act or referred to it by the Minister.

(2) The Council may-

(*a*) with a view to the performance of its functions, do such research and conduct such investigations as it may deem necessary;

(*b*) make rules relating to the calling of meetings of the Council, the determining of a quorum for and the procedure at such meetings, and generally relating to all matters which may be necessary for the effective performance of the functions of the Council or, subject to section 6, of a technical committee;

(*c*) advise the Department concerning-

(i) the formulation and publication of standards, specifications or other forms of guidance for the purpose of assisting employers, employees and users to maintain appropriate standards of occupational health and safety;

(ii) the promotion of education and training in occupational health and safety; and

(iii) the collection and dissemination of information on occupational health and safety.

(3) The Council may for the purposes of the performance of any of its functions, with the approval of the Minister, and with the concurrence of the Minister of State Expenditure, enter into an agreement for the performance of a particular act or particular work or for the rendering of a particular service, on such conditions and at such remuneration as may be agreed upon, with anybody who in the opinion of the Council is fit to perform such act or work or to render such service.

(4) Subject to the laws governing the Public Service, the Minister shall provide the Council with such personnel as he may deem necessary for the effective performance of the functions of the Council, and such persons shall perform their functions subject to the control and directions of the chief inspector.

4. Constitution of Council.-(1) The Council shall consist of 20 members, namely -

(*a*) the chief inspector, *ex officio*, who shall be the chairman;

(*b*) one officer serving in the Department;

(*c*) the Workmen's Compensation Commissioner, or his nominee;

(*d*) one person nominated by the Minister for National Health and Welfare;

(*e*) one person nominated by the Minister of Mineral and Energy Affairs;

(*f*) six persons to represent the interests of employers from a list of the names of persons nominated by employers' organizations or federations of employers' organizations;

[Para. (g) substituted by s. 2 of Act No.181 of 1993]

(*g*) six persons to represent the interests of employees from a lists of the names of persons nominated by trade unions or federations of trade unions;

[Para. (g) substituted by s. 2 of Act No.181 of 1993]

(*h*) one person who in the opinion of the Minister has knowledge of occupational safety matters;

(*i*) one person who in the opinion of the Minister has knowledge of occupational medicine and who was recommended by the Minister for National Health and Welfare;

(*j*) one person who in the opinion of the Minister has knowledge of occupational hygiene.

(2) The members referred to in subsection (1) (*b*) up to and including (*j*) shall be appointed by the Minister.

5. Period of office and remuneration of members of Council.-(1) The members of the Council referred to in section 4 (2) shall be appointed for a period of three years, and on such conditions as the Minister may determine with the concurrence of the Minister of State Expenditure.

(2) Any person whose period of office as a member of the Council has expired shall be eligible for reappointment.

(3) A member referred to in section 4 (1) (*f*), (*g*), (*h*), (*i*) or (*j*) who is not an officer may be paid from money appropriated for such purpose by Parliament such allowances as the Minister may determine with the concurrence of the Minister of State Expenditure.

6. Establishment of technical committees of Council.-(1) The Council may with the approval of the Minister establish one or more technical committees to advise the Council on any matter regarding the performance by the Council of its functions.

(2) A member of a technical committee shall be appointed by the Council by reason of his knowledge of the matter for which the committee is established, and such a member need not be a member of the Council.

(3) A meeting of a technical committee shall be held at such time and place as may be determined by the chairman of the Council, and in accordance with rules approved by the Council.

(4) A member of a technical committee who is not an officer may be paid from money appropriated for such purpose by Parliament such allowances as the Minister may determine with the concurrence of the Minister of State Expenditure.

7. Health and safety policy.-(1) The chief inspector may direct -

(*a*) any employer in writing; and

(*b*) any category of employers by notice in the *Gazette,* to prepare a written policy concerning the protection of the health and safety of his employees at work, including a description of his organization and the arrangements for carrying out and reviewing that policy.

(2) Any direction under subsection (1) shall be accompanied by guide-lines concerning the contents of the policy concerned.

(3) An employer shall prominently display a copy of the policy referred to in subsection (1), signed by the chief executive officer, in the workplace where his employees normally report for service.

8. General duties of employers to their employees.- (1) Every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of his employees.

(2) Without derogating from the generality of an employer's duties under subsection (1), the matters to which those duties refer include in particular --

(*a*) the provision and maintenance of systems of work, plant and machinery that, as far as is reasonably practicable, are safe and without risks to health;

(*b*) taking such steps as may be reasonably practicable to eliminate or mitigate any hazard or potential hazard to the safety or health of employees, before resorting to personal protective equipment;

(*c*) making arrangements for ensuring, as far as is reasonably practicable, the safety and absence of risks to health in connection with the production, processing, use, handling, storage or transport of articles or substances;

(*d*) establishing, as far as is reasonably practicable, what hazards to the health or safety of persons are attached to any work which is performed, any article or substance which is produced, processed, used, handled, stored or transported and any plant or machinery which is used in his business, and he shall, as far as is reasonably practicable, further establish what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons, and he shall provide the necessary means to apply such precautionary measures;

(*e*) providing such information, instructions, training and supervision as may be necessary to ensure, as far as is reasonably practicable, the health and safety at work of his employees;

(*f*) as far as is reasonably practicable, not permitting any employee to do any work or to produce, process, use, handle, store or transport any article or substance or to operate any plant or machinery, unless the precautionary measures contemplated in paragraphs (*b*) and (*d*), or any other precautionary measures which may be prescribed, have been taken;

(*g*) taking all necessary measures to ensure that the requirements of this Act are complied with by every person in his employment or on premises under his control where plant or machinery is used;

(*h*) enforcing such measures as may be necessary in the interest of health and safety;

(*i*) ensuring that work is performed and that plant or machinery is used under the general supervision of a person trained to understand the hazards associated with it and who have the authority to ensure that precautionary measures taken by the employer are implemented; and

(*j*) causing all employees to be informed regarding the scope of their authority as contemplated in section 37 (1) (*b*).

9. General duties of employers and self-employed persons to persons other than their employees.-(1) Every employer shall conduct his undertaking in such a manner as to ensure, as far as is reasonably practicable, that persons other than those in his employment who may be directly affected by his activities are not thereby exposed to hazards to their health or safety.

(2) Every self-employed person shall conduct his undertaking in such a manner as to ensure, as far as is reasonably practicable, that he and other persons who may be directly affected by his activities are not thereby exposed to hazards to their health or safety.

10. General duties of manufacturers and others regarding articles and substances for use at work.- (1) Any person who designs, manufactures, imports, sells or supplies any article for use at work shall ensure, as far as is reasonably practicable, that the article is safe and without risks to health when properly used and that it complies with all prescribed requirements.

(2) Any person who erects or installs any article for use at work on or in any premises shall ensure, as far as is reasonably practicable, that nothing about the manner in which it is erected or installed makes it unsafe or creates a risk to health when properly used.

(3) Any person who manufactures, imports, sells or supplies any substance for use at work shall-

(*a*) ensure, as far as is reasonably practicable, that the substance is safe and without risks to health when properly used; and

(*b*) take such steps as may be necessary to ensure that information is available with regard to the use of the substance at work, the risks to health and safety associated with such substance, the conditions necessary to ensure that the substance will be safe and without risks to health when properly used and the procedures to be followed in the case of an accident involving such substance.

(4) Where a person designs, manufactures, imports, sells or supplies an article or substance for or to another person and that other person undertakes in writing to take specified steps sufficient to ensure, as far as is reasonably practicable, that the article or substance will comply with all prescribed requirements and will be safe and without risks to health when properly used, the undertaking shall have the effect of relieving the first-mentioned person from the duty imposed upon him by this section to such an extent as may be reasonable having regard to the terms of the undertaking.

11. Listed work.-(1) The Minister may, subject to the provisions of subsections (2) and (3), by notice in the *Gazette* declare any work, under the conditions or circumstances specified in the notice, to be listed work.

(2) (*a*) Before the Minister declares any work to be listed work, he shall cause to be published in the *Gazette* a draft of his proposed notice and at the same time invite interested persons to submit to him in writing within a specified period, comments and representations in connection with the proposed notice.

(*b*) A period of not less than three months shall elapse between the publication of the draft notice and the notice under subsection (1).

(3) The provisions of subsection (2) shall not apply-

(*a*) if the Minister in pursuance of comments and representations received in terms of subsection (2) (*a*), decides to publish the notice referred to in subsection (1) in an amended form; and

(*b*) to any declaration in terms of subsection (1) in respect of which the Minister is of the opinion that the public interest requires that it be made without delay.

(4) A notice under subsection (1) may at any time be amended or withdrawn by like notice.

12. General duties of employers regarding listed work.-(1) Subject to such arrangements as may be prescribed, every employer whose employees undertake listed work or are liable to be exposed to the hazards emanating from listed work, shall, after consultation with the health and safety committee established for that workplace -

(*a*) identify the hazards and evaluate the risks associated with such work constituting a hazard to the health of such employees, and the steps that need to be taken to comply with the provisions of this Act;

(*b*) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure; and

(*c*) having regard to the nature of the risks associated with such work and the level of exposure of such employees to the hazards, carry out an occupational hygiene programme and biological monitoring, and subject such employees to medical surveillance.

(2) Every employer contemplated in subsection (1) shall keep the health and safety representatives designated for their workplaces or sections of the workplaces, informed of the actions taken under subsection (1) in their respective workplaces or sections thereof and of the results of such actions: Provided that individual results of biological monitoring and medical surveillance relating to the work of the employee, shall only with the written consent of such employee be made available to any person other than an inspector, the employer or the employee concerned.

13. Duty to inform.-Without derogating from any specific duty imposed on an employer by this Act, every employer shall-

(*a*) as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards;

(*b*) inform the health & safety representatives concerned beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector, and of any application for exemption made by him in terms of section 40; and

(*c*) inform a health and safety representative as soon as reasonably practicable of the occurrence of an incident in the workplace or section of the workplace for which such representative has been designated.

14. General duties of employees at work.-
Every employee shall at work-

(*a*) take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions;

(*b*) as regards any duty or requirement imposed on his employer or any other person by this Act, co-operate with such employer or person to enable that duty or requirement to be performed or complied with;

(*c*) carry out any lawful order given to him, and obey the health and safety rules and procedures laid down by his employer or by anyone authorized thereto by his employer, in the interest of health or safety;

(*d*) if any situation which is unsafe or unhealthy comes to his attention, as soon as practicable report such situation to his employer, or to the health & safety representative for his workplace or section thereof, as the case may be, who should report it to the employer; and

(*e*) if he is involved in any incident which may affect his health or which has caused an injury to himself, report such incident to his employer or to anyone authorized thereto by the employer, or to his health and safety representative, as soon as practicable but not later than the end of the particular shift during which the incident occurred, unless the circumstances were such that the reporting of the incident was not possible, in which case he shall report the incident as soon as practicable thereafter.

15. Duty not to interfere with, damage or misuse things.- No person shall intentionally or recklessly interfere with, damage or misuse anything which is provided in the interest of health or safety.

[S. 15 substituted by s.3 of Act No. of 181 of 1993.]

16. Chief executive officer charged with certain duties.-(1) Every chief executive officer shall as far as is reasonably practicable ensure that the duties of his employer as contemplated in this Act, are properly discharged.

(2) Without derogating from his responsibility or liability in terms of subsection (1), a chief executive officer may assign any duty contemplated in the said subsection, to any person under his control, which person shall act subject to the control and directions of the chief executive officer.

(3) The provisions of subsection (1) shall not, subject to the provisions of section 37, relieve an employer of any responsibility or liability under this Act.

(4) For the purpose of subsection (1), the head of department of any department of State shall be deemed to be the chief executive officer of that department.

17. Health and safety representatives.-(1) Subject to the provisions of subsection (2), every employer who has more than 20 employees in his employment at any workplace, shall, within four months after the commencement of this Act or after commencing business, or from such time as the number of employees exceeds 20, as the case may be, designate in writing for a specified period health and safety representatives for such workplace, or for different sections thereof.

(2) An employer and the representative of his employees recognized by him or, where there are no such representatives, the employees shall consult in good faith regarding the arrangements and procedures for the nomination or election, period of office and subsequent designation of health and safety representatives in terms of subsection (1): Provided that if such consultation fails, the matter shall be referred for arbitration to a person mutually agreed upon, whose decision shall be final: Provided further that if the parties do not agree within 14 days on an arbitrator, the employer shall give notice to this effect in writing to the President of the Industrial Court, who shall in consultation with the chief inspector designate an arbitrator, whose decision shall be final.

[Sub-s. (2)substituted by s. 4 of Act No. 181 of 1993.]

(3) Arbitration in terms of subsection (2) shall not be subject to the provisions of the Arbitration Act, 1965 (Act No. 42 of 1965), and a failure of the consultation contemplated in that subsection shall not be deemed to be a dispute in terms of the Labour Relations Act, 1956 (Act No. 28 of 1956): Provided that the Minister may prescribe the manner of arbitration and the remuneration of the arbitrator designated by the President of the Industrial Court.

(4) Only those employees employed in a full-time capacity at a specific workplace and who are acquainted with conditions and activities at that workplace or section thereof, as the case may be, shall be eligible for designation as health and safety representatives for that workplace or section.

(5) The number of health and safety representatives for a workplace or section thereof shall in the case of shops and offices be at least one health and safety representative for every 100 employees or part thereof, and in the case of all other workplaces at least one health and safety representative for every 50 employees or part thereof: Provided that those employees performing work at a workplace other than that where they ordinarily report for duty, shall be deemed to be working at the workplace where they so report for duty.

(6) If an inspector is of the opinion that the number of health and safety representatives for any workplace or section thereof, including a workplace or section with 20 or fewer employees, is inadequate, he may by notice in writing direct the employer to designate such number of employees as the inspector may determine as health and safety representatives for that workplace or section thereof in accordance with the arrangements and procedures referred to in subsection (2).

(7) All activities in connection with the designation, functions and training of health and safety representatives shall be performed during ordinary working hours, and any time reasonably spent by any employee in this regard shall for all purposes be deemed to be time spent by him in the carrying out of his duties as an employee.

18. Functions of health and safety Representatives.-(1) A health & safety representative may perform the following functions in respect of the workplace or section of the workplace for which he has been designated, namely-

(*a*) review the effectiveness of health and safety measures;

(*b*) identify potential hazards and potential major incidents at the workplace;

(*c*) in collaboration with his employer, examine the causes of incidents at the workplace;

(*d*) investigate complaints by any employee relating to that employee's health or safety at work;

(*e*) make representations to the employer or a health and safety committee on matters arising from paragraphs (*a*), (*b*), (*c*) or (*d*), or where such representations are unsuccessful, to an inspector;

(*f*) make representations to the employer on general matters affecting the health or safety of the employees at the workplace;

(*g*) inspect the workplace, including any article, substance, plant, machinery or health and safety equipment at that workplace with a view to the health and safety of employees, at such intervals as may be agreed upon with the employer: Provided that the health and safety representative shall give reasonable notice of his intention to carry out such an inspection to the employer, who may be present during the inspection;

(*h*) participate in consultations with inspectors at the workplace and accompany inspectors on inspections of the workplace;

(*i*) receive information from inspectors as contemplated in section 36; and

(*j*) in his capacity as a health and safety representative attend meetings of the health and safety committee of which he is a member, in connection with any of the above functions.

(2) A health and safety representative shall, in respect of the workplace or section of the workplace for which he has been designated be entitled to-

(*a*) visit the site of an incident at all reasonable times and attend any inspection in *loco*;

(*b*) attend any investigation or formal inquiry held in terms of this Act;
(*c*) in so far as is reasonably necessary for performing his functions, inspect any document which the employer is required to keep in terms of this Act;
(*d*) accompany an inspector on any inspection;
(*e*) with the approval of the employer (which approval shall not be unreasonably withheld) , be accompanied by a technical adviser, on any inspection; and
(*f*) participate in any internal health or safety audit.
[Sub-s. (2) substituted by s. 5of the Act No.181 of 1993}

(3) An employer shall provide such facilities, assistance and training as a health and safety representative may reasonably require and as have been agreed upon for the carrying out of his functions.

(4) A health and safety representative shall not incur any civil liability by reason of the fact only that he failed to do anything which he may do or is required to do in terms of this Act.

19. Health and safety committees.-(1) An employer shall in respect of each workplace where two or more health and safety representatives have been designated, establish one or more health and safety committees and, at every meeting of such a committee as contemplated in subsection (4), consult with the committee with a view to initiating, developing, promoting, maintaining and reviewing measures to ensure the health and safety of his employees at work.

2. A health and safety committee shall consist of such number of members as the employer may from time to time determine: Provided that-
(*a*) if one health and safety committee has been established in respect of a workplace, all the health and safety representatives for that workplace shall be members of the committee;
(*b*) if two or more health and safety committees have been established in respect of a workplace, each health and safety representative for that workplace shall be a member of at least one of those committees; and
(*c*) the number of persons nominated by an employer on any health and safety committee established in terms of this section shall not exceed the number of health and safety representatives on that committee.

(3) The persons nominated by an employer on a health and safety committee shall be designated in writing by the employer for such period as may be determined by him, while the health and safety representatives shall be members of the committee for the period of their designation in terms of section 17 (1).

(4) A health and safety committee shall hold meetings as often as may be necessary, but at least once every three months, at a time and place determined by the committee: Provided that an inspector may by notice in writing direct the members of a health and safety committee to hold a meeting at a time and place determined by him: Provided further that, if more than 10 per cent of the employees at a specific workplace has handed a written request to an inspector, the inspector may by written notice direct that such a meeting be held.

(5) The procedure at meetings of a health and safety committee shall be determined by the committee.

(6) (*a*) A health and safety committee may co-opt one or more persons by reason of his or their particular knowledge of health or safety matters as an advisory member or as advisory members of the committee.

(*b*) An advisory member shall not be entitled to vote on any matter beore the committee.

7. If an inspector is of the opinion that the number of health and safety committees established for any particular workplace is inadequate, he may in writing direct the employer to establish for such workplace such number of health and safety committees as the inspector may determine.

20. Functions of health and safety committees.-(1) A health and safety committee-

(*a*) may make recommendations to the employer or, where the recommendations fail to resolve the matter, to an inspector regarding any matter affecting the health or safety of persons at the workplace or any section thereof for which such committee has been established;
(*b*) shall discuss any incident at the workplace or section thereof in which or in consequence of which any person was injured, became ill or died, and may in writing report on the incident to an inspector; and
(*c*) shall perform such other functions as may be prescribed.

(2) A health and safety committee shall keep record of each recommendation made to an employer in terms of subsection (1) (*a*) and of any report made to an inspector in terms of subsection (1) (*b*).

(3) A health and safety committee or a member thereof shall not incur any civil liability by reason of the fact only that it or he failed to do anything which it or he may or is required to do in terms of this Act.

(4) An employer shall take the prescribed steps to ensure that a health and safety committee complies with the provisions of section 19 (4) and performs the duties assigned to it by subsections (1) and (2).

21. General prohibitions.-(1) The Minister may by notice in the *Gazette* declare-
(*a*) that no employer shall require or permit any employee belonging to a category of employees specified in the notice to perform work on or in any premises on or in which an activity specified in the notice is carried out which in the opinion of the Minister is an activity which threatens or is likely to threaten the health or safety of an employee belonging to that category of employees, or that no employer shall require or permit any such employee to perform any work on or in such premises otherwise than on the conditions specified in the notice;
(*b*) that no employer shall require or permit any employee to perform any work in connection with the carrying out of a process specified in the notice which in the opinion of the Minister is a process which threatens or is likely to threaten the health or safety of an employee, or that no employer shall require or permit an employee to perform any work in connection with the carrying out of such a process otherwise than on the conditions specified in the notice; and
(*c*) that no employer shall require or permit any employee, otherwise than on the conditions specified in the notice, to perform any work on or in any premises where an article or substance specified in the notice is produced, processed, used, handled, stored or transported which in the opinion of the Minister is an article or substance which threatens or is likely to threaten the health or safety of an employee.

(2) (*a*) The Minister shall, before he publishes a notice under subsection (1), cause a draft of his proposed notice to be published in the *Gazette* and at the same time invite interested persons to submit to him in writing, within a specified period, comments and representations in connection with the proposed notice.

(*b*) The provisions of paragraph (*a*) shall not apply if the Minister, in pursuance of comments and representations received, decides to publish the notice referred to in subsection (1) in an amended form.

(3) A notice under subsection (1) may at any time be amended or withdrawn by like notice.

(4) A notice shall not be issued under subsection (1) or (3) unless the Minister for National Health and Welfare and the Council have been consulted.

(5) A notice issued or deemed to have been issued under section 13 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), and which was in force immediately prior to the commencement of this Act, shall be deemed to have been issued under this section.

22. Sale of certain articles prohibited.-Subject to the provisions of section 10 (4), if any requirement (including any health and safety standard) in respect of any article, substance, plant, machinery or health and safety equipment or for the use or application thereof has been prescribed, no person shall sell or market in any manner whatsoever such article, substance, plant, machinery or health and safety equipment unless it complies with that requirement.

23. Certain deductions prohibited.-No employer shall in respect of anything which he is in terms of this Act required to provide or to do in the interest of the health or safety of an employee, make any deduction from any employee's remuneration or require or permit any employee to make any payment to him or any other person.
[S. 23 substituted by .6 of Act No.181 of 1993]

24. Report to inspector regarding certain incidents.-(1) Each incident occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which -
(*a*) any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;
(*b*) a major incident occurred; or
(*c*) the health or safety of any person was endangered and where-
(i) a dangerous substance was spilled;
(ii) the uncontrolled release of any substance under pressure took place;
(iii) machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or
(iv) machinery ran out of control,
shall, within the prescribed period and in the prescribed manner, be reported to an inspector by the employer or the user of the plant or machinery concerned, as the case may be.

(2) In the event of an incident in which a person died, or was injured to such an extent that he is likely to die, or suffered the loss of a limb or part of a limb, no person shall without the consent of an inspector disturb the site at which the incident occurred or remove any article or substance involved in the incident therefrom: Provided that such action may be taken as is necessary to prevent a further incident , to remove the injured or dead, or to rescue persons from danger.

(3) The provisions of subsections (1) and (2) shall not apply in respect of-
(*a*) a traffic accident on a public road;
(*b*) an incident occurring in a private household, provided the householder forthwith reports the incident to the South African Police; or
(*c*) any accident which is to be investigated un-

der section 12 of the Aviation Act, 1962 (Act No. 74 of 1962).

(4) A member of the South African Police to whom an incident was reported in terms of subsection (3) (*b*), shall forthwith notify an inspector thereof.

25. Report to chief inspector regarding occupational disease.-Any medical practitioner who examines or treats a person for a disease described in the Second Schedule to the Workmen's Compensation Act, 1941 (Act No. 30 of 1941), or any other disease which he believes arose out of that person's employment, shall within the prescribed period and in the prescribed manner report the case to the person's employer and to the chief inspector, and inform that person accordingly.

[S. 25 substituted by s. 7 of Act No. 181 of 1993.]

26. Victimization forbidden.-(1) No employer shall dismiss an employee, or reduce the rate of his remuneration, or alter the terms or conditions of his employment to terms or conditions less favourable to him, or alter his position relative to other employees employed by that employer to his disadvantage, by reason of the fact, or because he suspects or believes, whether or not the suspicion or belief is justified or correct, that that employee has given information to the Minister or to any other person charged with the administration of a provision of this Act which in terms of this Act he is required to give or which relates to the terms, conditions or circumstances of his employment or to those of any other employee of his employer, or has complied with a lawful prohibition, requirement, request or direction of an inspector, or has given evidence before a court of law or the industrial court, or has done anything which he may or is required to do in terms of this Act or has refused to do anything which he is prohibited from doing in terms of this Act.

(2) No employer shall unfairly dismiss an employee, or reduce the rate of his remuneration, or alter the terms or conditions of his employment to terms or conditions less favourable to him, or alter his position relative to other employees employed by that employer to his disadvantage, by reason of the information that the employer has obtained regarding the results contemplated in section 12 (2) or by reason of a report made to the employer in terms of section 25.

[Sub.-s. 2 added by s.8 of Act No. 181 of 1993.]

27. Designation and functions of chief inspector.-(1) The Minister shall designate an officer serving in the Department as chief inspector for the purposes of this Act.

(2) The chief inspector shall perform his functions subject to the control and supervision of the Director-General of the Department and may perform any function assigned to an inspector by this Act.

(3) (*a*) The chief inspector may delegate any power conferred upon him by this Act, excluding a power referred to in section 35 (1) or delegated to him under section 42, to any other officer or authorize any such officer to perform any duty assigned to him by this Act.

(*b*) No delegation of a power under paragraph (*a*) shall prevent the exercise of such power by the chief inspector himself.

(4) Whenever the chief inspector is absent or unable to perform his functions as chief inspector or whenever the designation of a chief inspector is pending, the Minister may designate any other officer serving in the Department to act as chief inspector during the chief inspector's absence or incapacity or until a chief inspector is designated.

(5) Any person who immediately prior to the commencement of this Act was designated as chief inspector under section 19 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983) , shall be deemed to have been designated as chief inspector under subsection (1) of this section.

28. Designation of inspectors by Minister.-(1) The Minister may designate any person as an inspector to perform, subject to the control and directions of the chief inspector, any or all of the functions assigned to an inspector by this Act.

(2) Each inspector designated under subsection (1) shall be furnished with a certificate signed by or on behalf of the Minister and stating that he has been designated as an inspector: Provided that if his designation as inspector is limited to any particular function or functions, his certificate shall state such limitation.

(3) Whenever an inspector designated under subsection (1) performs a function under this Act in the presence of any person affected thereby the inspector shall on demand by such person produce to him the certificate referred to in subsection (2).

(4) Any officer who immediately prior to the commencement of this Act was designated as an inspector under section 20 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), shall be deemed to have been designated as an inspector under subsection (1) of this section.

29. Functions of inspectors.-(1) An inspector may, for the purposes of this Act-

(*a*) without previous notice, at all reasonable times, enter any premises which are occupied or used by an employer or on or in which an employee performs any work or any plant or machinery is used, or which he suspects to be such premises;

(*b*) question any person who is or was on or in such premises, either alone or in the presence of any other person, on any matter to which this Act relates;

(*c*) require from any person who has control over or custody of a book, record or other document on or in those premises, to produce to him forthwith, or at such time and place as may be determined by him, such book, record or other document;

(*d*) examine any such book, record or other document or make a copy thereof or an extract therefrom;

(*e*) require from such a person an explanation of any entry in such book, record or other document;

(*f*) inspect any article, substance, plant or machinery which is or was on or in those premises, or any work performed on or in those premises or any condition prevalent on or in those premises or remove for examination or analysis any article, substance, plant or machinery or a part or sample thereof;

(*g*) seize any such book, record or other document or any such article, substance, plant or machinery or a part or sample thereof which in his opinion may serve as evidence at the trial of any person charged with an offence under this Act or the common law: Provided that the employer or user of the article, substance, plant or machinery concerned, as the case may be, may make copies of such book, record or document before such seizure;

(*h*) direct any employer, employee or user, including any former employer, employee or user, to appear before him at such time and place as may be determined by him and question such employer, employee or user either alone or in the presence of any other person on any matter to which this Act relates;

(*i*) perform any other function as may be prescribed.

(2) (*a*) An interpreter, a member of the South African Police or any other assistant may, when required by an inspector, accompany him when he performs his functions under this Act.

(*b*) For the purposes of this Act an inspector's assistant shall, while he acts under the instructions of an inspector, be deemed to be an inspector.

(3) When an inspector enters any premises under subsection (1) the employer occupying or using those premises and each employee performing any work thereon or therein and any user of plant or machinery thereon or therein, shall at all times provide such facilities as are reasonably required by the inspector to enable him and his assistant (if any) to perform effectively and safely his or their functions under this Act.

(4) When an inspector removes or seizes any article, substance , plant, machinery, book, record or other document as contemplated in subsection (1) (*f*) or (*g*) , he shall issue a receipt to the owner or person in control thereof.

30. Special powers of Inspectors.-(1) (*a*) Whenever an employer performs an act or requires or permits an act to be performed, or proposes to perform an act or to require or permit an act to be performed, which in the opinion of an inspector threatens or is likely to threaten the health or safety of any person, the inspector may in writing prohibit that employer from continuing or commencing with the performance of that act or from requiring or permitting that act to be continued or commenced with, as the case may be.

(*b*) Whenever a user of plant or machinery uses or proposes to use any plant or machinery, in a manner or in circumstances which in the opinion of an inspector threatens or is likely to threaten the health or safety of any person who works with such plant or machinery or who is or may come within the vicinity thereof, the inspector may in writing prohibit that user from continuing or commencing with the use of such plant or machinery or in that manner or those circumstances, as the case may be.

(*c*) An inspector may in writing prohibit an employer from requiring or permitting an employee or any employee belonging to a category of employees specified in the prohibition to be exposed in the course of his employment for a longer period than a period specified in the prohibition, to any article, substance, organism or condition which in the opinion of an inspector threatens or is likely to threaten the health or safety of that employee or the employee belonging to that category of employees, as the case may be.

(*d*) A prohibition imposed under paragraph (*a*), (*b*) or (*c*) may at any time be revoked by an inspector in writing if arrangements to the satisfaction of the inspector have been made to dispose of the threat which gave rise to the imposition of the prohibition.

(2) In order to enforce a prohibition imposed under subsection (1) (*a*) or (*b*), an inspector may block, bar, barricade or fence off that part of the workplace, plant or machinery to which the prohibition applies, and no person shall interfere with or remove such blocking, bar, barricade or fence.

(3) Whenever an inspector is of the opinion that the health or safety of any person at a workplace or in the course of his employment or in connection with the use of plant or machinery is threatened on account of the refusal or failure of an employer or a user, as the case may be, to take reasonable steps in the interest of such person's health or safety, the inspector may in writing direct that employer or user to take such steps as are specified in the direction within a specified period.

(4) Whenever an inspector is of the opinion that an employer or a user has failed to comply with a provision of a regulation applicable to him, the inspector may in writing direct that employer or user to take within a period specified in the direction such steps as in the inspector's opinion are necessary to comply with the said provision, and are specified in the direction.

(5) A period contemplated in subsection (3) or (4) may at any time be extended by an inspector by notice in writing to the person concerned.

(6) An employer shall forthwith bring the contents of a prohibition, direction or notice under this section to the attention of the health and safety representatives and employees concerned.

31. Investigations.-(1) An inspector may investigate the circumstances of any incident which has occurred at or originated from a workplace or in connection with the use of plant or machinery which has resulted, or in the opinion of the inspector could have resulted, in the injury, illness or death of any person in order to determine whether it is necessary to hold a formal investigation in terms of section 32.

(2) After completing the investigation in terms of subsection (1) the inspector shall submit a written report thereon, together with all relevant statements, documents and information gathered by him, to the attorney- general within whose area of jurisdiction such incident occurred and he shall at the same time submit a copy of the report, statements and documents to the chief inspector.

(3) Upon receipt of a report referred to in subsection (2), the attorney- general shall deal therewith in accordance with the provisions of the Inquests Act, 1959 (Act No. 58 of 1959), or the Criminal Procedure Act, 1977 (Act No. 51 of 1977), as the case may be.

(4) An inspector holding an investigation shall not incur any civil liability by virtue of anything contained in the report referred to in subsection (2).

32. Formal enquiries.-(1) The chief inspector may, and he shall when so requested by a person producing *prima facie* evidence of an offence, direct an inspector to conduct a formal inquiry into any incident which has occurred at or originated from a workplace or in connection with the use of plant or machinery which has resulted, or in the opinion of the chief inspector could have resulted, in the injury, illness or death of any person.

(2) For the purposes of an inquiry referred to in subsection (1) an inspector may subpoena any person to appear before him on a day and at a place specified in the subpoena and to give evidence or to produce any book, document or thing which in the opinion of the inspector has a bearing on the subject of the inquiry.

(3) Save as is otherwise provided in this section, the law governing criminal trials in magistrates' courts shall *mutatis mutandis* apply to obtaining the attendance of witnesses at an inquiry under this section, the administering of an oath or affirmation to them, their examination, the payment of witness fees to them and the production by them of books, documents and things.

(4) Any inquiry under this section shall be held in public: Provided that the presiding inspector may exclude from the place where the inquiry is held, any person whose presence is, in his opinion, undesirable or not in the public interest.

(5) (*a*) The presiding inspector may designate any person to lead evidence and to examine any witness giving evidence at a formal inquiry.

(*b*) Any person who has an interest in the issue of the formal inquiry may personally or by representative, advocate or attorney put such questions to a witness at the inquiry to such extent as the presiding inspector may allow.

(*c*) The following persons shall have an interest as referred to in paragraph (*b*), namely-

(i) any person who was injured or suffered damage as a result of the incident forming the subject of the inquiry;
(ii) the employer or user, as the case may be, involved in the incident;
(iii) any person in respect of whom in the opinion of the presiding inspector it can reasonably be inferred from the evidence that he could be held responsible for the incident;
(iv) a trade union recognized by the employer concerned or any trade union of which a person referred to in subparagraph (i) or (iii) is a member;
(v) any owner or occupier of any premises where the said incident occurred;
(vi) any other person who, at the discretion of the presiding inspector, can prove such interest.

(6) (*a*)An inquiry may, if it is necessary or expedient, be adjourned at any time by the presiding inspector.

(*b*) An inquiry adjourned under paragraph (*a*)0 may at any stage be continued by an inspector other than the inspector before whom the inquiry commenced, and may after an adjournment again be continued by the inspector before whom the inquiry commenced.

(7) An affidavit made by any person in connection with the incident in respect of which the inquiry is held, shall at the discretion of the presiding inspector upon production be admissible as proof of the facts stated therein, and the presiding inspector may, at his discretion, subpoena the person who made such an affidavit to give oral evidence at the inquiry or may submit written interrogatories to him for reply, and such interrogatories and any reply thereto purporting to be a reply from such person shall likewise be admissible in evidence at the inquiry: Provided that the presiding inspector shall afford any person present at the inquiry the opportunity to refute the facts stated in such document, evidence or reply.

(8) (*a*) Whenever in the course of any inquiry it appears to the presiding inspector that the examination of a witness is necessary and that the attendance of such witness cannot be procured without a measure of delay, expense or inconvenience which in the circumstances would be unreasonable, the presiding inspector may dispense with such attendance and may appoint a person to be a commissioner to take the evidence of such witness, whether within or outside the Republic, in regard to such matters or facts as the presiding inspector may indicate.

(*b*) Any person referred to in subsection (5) (*b*) may in person or through a representative, advocate or attorney appear before such commissioner in order to examine the said witness.

(*c*) The evidence recorded in terms of this subsection shall be admissible in evidence at the inquiry.

(9) At the conclusion of an inquiry under this section, the presiding inspector shall compile a written report thereon.

(10) The evidence given at any inquiry under this section shall be recorded and a copy thereof shall be submitted by the presiding inspector together with his report to the chief inspector, and in the case of an incident in which or as a result of which any person died or was seriously injured or became ill, the inspector shall submit a copy of the said evidence and the report to the attorney-general within whose area of jurisdiction such incident occurred.

(11) Nothing contained in this section shall be construed as preventing the institution of criminal proceedings against any person or as preventing1 any person authorized thereto from issuing a warrant for the arrest of or arresting any person, whether or not an inquiry has already commenced.

(12) Upon receipt of a report referred to in subsection (10), the attorney general shall deal therewith in accordance with the provisions of the Inquests Act, 1959 (Act No. 58 of 1959), or the Criminal Procedure Act, 1977 (Act No. 51 of 1977), as the case may be.

(13) An inspector presiding at any formal inquiry shall not incur any civil liability by virtue of anything contained in the report compiled in terms of subsection (9).

33. Joint enquiries.-(1) The provisions of section 32 shall not affect the provisions of any law requiring and regulating inquests or other inquiries in case of death resulting from other than natural causes, and in respect of each incident referred to in that section in which or in consequence of which any person has died there shall be held, in addition to an inquiry under the said section, such inquest or inquiry as is required by any such law, but an inquiry under the said section and an inquest held by a judicial officer under the Inquests Act, 1959 (Act No. 58 of 1959), may be held jointly.

(2) At such a joint inquiry and inquest the judicial officer shall preside and thereupon the provisions of the Inquests Act, 1959, shall apply, but the inspector and the judicial officer shall each make the report required of them by section 32 (9) and that Act, respectively.

34. Obstruction of investigation or inquiry or presiding Inspector or failure to render assistance.-No person shall, in relation to any investigation or inquiry held in terms of section 31 or section 32-

(*a*) without reasonable justification fail to comply with any lawful direction, subpoena, request or order issued or given by the presiding inspector;
(*b*) refuse or fail to answer to the best of his knowledge any question lawfully put to him by or with the concurrence of the presiding inspector: Provided that no person shall be obliged to answer any question whereby he may incriminate himself;
(*c*) in any manner whatsoever advise, encourage, incite, order or persuade any person who has been directed, subpoenaed, requested or ordered to do something by the presiding inspector, not to comply with such direction, subpoena, request or order or in any manner prevent him from doing so;
(*d*) refuse or fail, when required thereto by the presiding inspector, to furnish him with the means or to render him the necessary assistance for holding such inquiry;
(*e*) refuse or fail, when required thereto by the presiding inspector, to attend an inquiry; or
(*f*) intentionally insult the presiding inspector or his assistant or intentionally interrupt the proceedings thereof.

35. Appeal against decision of Inspector.-(1) Any person aggrieved by any decision taken by an inspector under a provision of this Act may appeal against such decision to the chief inspector, and the chief inspector shall, after he has considered the grounds of the appeal and the inspector's reasons for the decision, confirm, set aside or vary the decision or substitute for such decision any other decision which the inspector in the chief inspector's opinion ought to have taken.

(2) Any person who wishes to appeal in terms of subsection (1), shall within 60 days after the inspector's decision was made known, lodge such an appeal with the chief inspector in writing, setting out the grounds on which it is made.

(3) Any person aggrieved by a decision taken by the chief inspector under subsection (1) or in the exercise of any power under this Act, may appeal against such decision to the Labour court, and the Labour court shall inquire into and consider the matter forming the subject of the appeal and confirm, set aside or vary the decision or substitute for such decision any other decision which the chief inspector in the opinion of the Labour court ought to have taken.

[Sub-s. 4 amended by s. 211 of Act No. 66 of 1995]

(4) Any person who wishes to appeal in terms of subsection (3) , shall within 60 days after the chief inspector's decision was given, lodge such appeal with the registrar of the Labour court in

accordance with the Labour Relations Act, 1995, and the rules of the Labour court.

[Sub-s. (4) amended by s. 211 of Act No.66 of 1995]

(5) An appeal under subsection (1) or (3) in connection with a prohibition imposed under section 30(1) (*a*) or (*b*) shall not suspend the operation of such prohibition.

36. Disclosure of information.-No person shall disclose any information concerning the affairs of any other person obtained by him in carrying out his functions in terms of this Act, except-

(*a*) to the extent to which it may be necessary for the proper administration of a provision of this Act;

(*b*) for the purposes of the administration of justice; or

(*c*) at the request of a health & safety representative or a health and safety committee entitled thereto.

37. Acts or omissions by employees or mandataries.-(1) Whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer of such employee or a user to do or omit to do, then, unless it is proved that-

(*a*) in doing or omitting to do that act the employee was acting without the connivance or permission of the employer or any such user;

(*b*) it was not under any condition or in any circumstance within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omission charged; and

(*c*) all reasonable steps were taken by the employer or any such user to prevent any act or omission of the kind in question,

the employer or any such user himself shall be presumed to have done or omitted to do that act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omission of the kind in question shall not, in itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.

(2) The provisions of subsection (1) shall *mutatis mutandis* apply in the case of a mandatary of any employer or user, except if the parties have agreed in writing to the arrangements and procedures between them to ensure compliance by the mandatary with the provisions of this Act.

(3) Whenever any employee or mandatary of any employer or user does or omits to do an act which it would be an offence in terms of this Act for the employer or any such user to do or omit to do, he shall be liable to be convicted and sentenced in respect thereof as if he were the employer or user.

(4) Whenever any employee or mandatary of the State commits or omits to do an act which would be an offence in terms of this Act, had he been the employee or mandatary of an employer other than the State and had such employer committed or omitted to do that act, he shall be liable to be convicted and sentenced in respect thereof as if he were such an employer.

(5) Any employee or mandatary referred to in subsection (3) may be so convicted and sentenced in addition to the employer or user.

(6) Whenever the employee or mandatary of an employer is convicted of an offence consisting of a contravention of section 23, the court shall, when making an order under section 38(4), make such an order against the employer and not against such employee or mandatary.

38. Offences, penalties and special orders of court.-(1) Any person who-

(*a*) contravenes or fails to comply with a provision of section 7, 8, 9, 10 (1), (2) or (3), 12, 13, 14, 15, 16 (1) or (2), 17 (1), (2) or (5), 18 (3), 19 (1), 20 (2) or (4), 22, 23, 24 (1) or (2), 25, 26, 29 (3), 30 (2) or (6), 34 or 36;

(*b*) contravenes or fails to comply with a direction or notice under section 17 (6), 19 (4) or (7), 21 (1) or 30 (1) (*a*), (*b*) or (*c*) or (3), (4) or (6);

(*c*) contravenes or fails to comply with a condition of an exemption under section 40(1);

(*d*) in any record, application, statement or other document referred to in this Act wilfully furnishes information or makes a statement which is false in any material respect;

(*e*) hinders or obstructs an inspector in the performance of his functions;

(*f*) refuses or fails to comply to the best of his ability with any requirement or request made by an inspector in the performance of his functions;

(*g*) refuses or fails to answer to the best of his ability any question which an inspector in the performance of his functions has put to him;

(*h*) wilfully furnishes to an inspector information which is false or misleading;

(*i*) gives himself out as an inspector;

(*j*) having been subpoenaed under section 32 to appear before an inspector, without sufficient cause (the onus of proof whereof shall rest upon him) fails to attend on the day and at the place specified in the subpoena, or fails to remain in attendance until the inspector has excused him from further attendance;

(*k*) having been called under section 32, without sufficient cause (the onus of proof whereof shall rest upon him)-

(i) refuses to appear before the inspector;

(ii) refuses to be sworn or to make affirmation as a witness after he has been directed to do so;

(iii) refuses to answer, or fails to answer to the best of his knowledge and belief, any question put to him; or

(iv) refuses to comply with a requirement to produce a book, document or thing specified in the subpoena or which he has with him;

(*l*) tampers with or discourages, threatens, deceives or in any way unduly influences any person with regard to evidence to be given or with regard to a book, document or thing to be produced by such a person before an inspector under section 32;

(*m*) prejudices, influences or anticipates the proceedings or findings of an inquiry under section 32 or section 33;

(*n*) tampers with or misuses any safety equipment installed or provided to any person by an employer or user;

(*o*) fails to use any safety equipment at a workplace or in the course of his employment or in connection with the use of plant or machinery, which was provided to him by an employer or such a user;

(*p*) wilfully or recklessly does anything at a workplace or in connection with the use of plant or machinery which threatens the health or safety of any person,

shall be guilty of an offence and on conviction be liable to a fine not exceeding R50 000 or to imprisonment for a period not exceeding one year or to both such fine and such imprisonment.

(2) Any employer who does or omits to do an act, thereby causing any person to be injured at a workplace, or, in the case of a person employed by him, to be injured at any place in the course of his employment, or any user who does or omits to do an act in connection with the use of plant or machinery, thereby causing any person to be injured, shall be guilty of an offence if that employer or user, as the case may be, would in respect of that act or omission have been guilty of the offence of culpable homicide had that act or omission caused the death of the said person, irrespective of whether or not the injury could have led to the death of such person, and on conviction be liable to a fine not exceeding R100 000 or to imprisonment for a period not exceeding two years or to both such fine and such imprisonment.

(3) Whenever a person is convicted of an offence consisting of a failure to comply with a provision of this Act or of any direction or notice issued thereunder, the court convicting him may, in addition to any punishment imposed on him in respect of that offence, issue an order requiring him to comply with the said provision within a period determined by the court.

(4) Whenever an employer is convicted of an offence consisting of a contravention of a provision of section 23, the court convicting him shall inquire into and determine the amount which contrary to the said provision was deducted from the remuneration of the employee concerned or recovered from him and shall then act with respect to the said amount mutatis mutandis in accordance with sections 28 and 29 of the Basic Conditions of Employment Act, 1983 (Act No. 3 of 1983), as if such amount is an amount underpaid within the meaning of those sections.

39. Proof of certain facts.-(1) Whenever in any legal proceedings in terms of this Act it is proved that any person was present on or in any premises, that person shall, unless the contrary is proved, be presumed to be an employee.

(2) In the absence of satisfactory proof of age , the age of any person shall, in any legal proceedings in terms of this Act, be presumed to be that stated by an inspector to be in his opinion the probable age of the person; but any person having an interest who is dissatisfied with that statement of opinion may, at his own expense, require that the person whose age is in question appear before and be examined by a district surgeon, and a statement contained in a certificate by a district surgeon who examined that person as to what in his opinion is the probable age of that person shall, but only for the purpose of the said proceedings, be conclusive proof of the age of that person.

(3) In any legal proceedings in terms of this Act, any statement or entry contained in any book or document kept by any employer or user or by his employee or mandatary, or found on or in any premises occupied or used by that employer or user, and any copy or reproduction of any such statement or entry, shall be admissible in evidence against him as an admission of the facts set forth in that statement or entry, unless it is proved that that statement or entry was not made by that employer or user or by any employee or mandatary of that employer or user within the scope of his authority.

(4) Whenever in any legal proceedings in terms of this Act it is proved that any untrue statement or entry is contained in any record kept by any person, he shall be presumed, until the contrary is proved, wilfully to have falsified that record.

(5) (*a*) Whenever at the trial of any person charged with a contravention of section 22 it is proved that the accused sold or marketed any article, substance, plant, machinery or health and safety equipment contemplated in that section, it shall be presumed, until the contrary is proved, that such article, substance, plant, machinery or health and safety equipment did not at the time of the sale or marketing thereof comply with the said requirements.

(*b*) At any trial any document purporting to be a certificate or statement by an approved inspection authority and in which it is alleged that the article, substance, plant, machinery or health and safety equipment forming the subject of the charge complies with the requirements prescribed in respect thereof or with any particular standard, shall on its mere production at that trial by or on behalf of the accused be accepted as *prima facie* proof of the facts stated therein.

(6) Notwithstanding the provisions of section 31 (3) of the Standards Act, 1993 (Act No. 29 of 1993), whenever in any legal proceedings in terms of this Act the question arises whether any document contains the text of a health and safety standard incorporated in the regulations under section 44, any document purporting to be a statement by a person who in that statement alleges that he is an inspector and that a particular document contains the said text, shall on its mere production at those proceedings by any person be prima facie proof of the facts stated therein.

(7) The records to be kept by a health and safety committee in terms of section 20 (2), including any document purporting to be certified by an inspector as a true extract from any such records, shall on their mere production at any legal proceedings by any person be admissible as evidence of the fact that a recommendation or report recorded in such records was made by a health and safety committee to an employer or inspector concerned.

40. Exemptions.-(1) The Minister may, for such period and on such conditions as may be determined by him, exempt any employer or user or any category of employers or users, generally or with respect to any particular employee or category of employees or users or with respect to any matter, from any of or all the provisions of this Act or the provisions of a notice or direction issued under this Act.

(2) The period for which exemption may be granted under subsection (1) may commence on a date earlier than the date on which exemption is granted, but not earlier than the date on which application for such exemption was made to the Minister.

(3) An exemption under subsection (1) shall-

(*a*) in the case of the exemption of a particular employer or user, be granted by issuing to such employer or user a certificate of exemption in which his name and the scope, period and conditions of the exemption are specified;

(*b*) in the case of the exemption of a category of employers or of a category of such users, be granted by the publication in the *Gazette* of a notice in which that category of employers or users is described and the scope, period and conditions of the exemption are specified:

Provided that the Minister may grant exemption-

(i) to an organization of employers or an organization of users in accordance with the requirements of either paragraph (a) or paragraph (*b*);

(ii) from any health and safety standard incorporated in the regulations under section 44, in any manner which he may deem expedient.

(4) A certificate of exemption contemplated in subsection (3) (*a*) and a notice contemplated in subsection (3) (*b*) may at any time be amended or withdrawn by the Minister.

(5) An exemption under subsection (1) shall lapse-

(*a*) upon termination of the period for which it was granted;

(*b*) upon withdrawal of the relevant certificate or notice under subsection (4).

(6) Any exemption granted under section 32 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), to the extent to which it grants exemption from the operation of a provision similar to a provision in respect of which exemption may be granted under subsection (1) of this section, which exemption has at the commencement of this Act not lapsed as contemplated in subsection (5) of the said section 32, shall be deemed to have been granted under this section.

41. This Act not affected by agreements.- Subject to the provisions of sections 10 (4) and 37 (2), a provision of this Act or a condition specified in any notice or direction issued thereunder or subject to which exemption was granted to any person under section 40, shall not be affected by any condition of any agreement, whether such agreement was entered into before or after the commencement of this Act or before or after the imposition of any such condition, as the case may be.

42. Delegation and assignment of functions .-(1) The Minister may delegate any power conferred upon him by or under this Act, except the power contemplated in section 43, to an officer.

(2) A delegation under subsection (1) shall not prevent the exercise of the relevant power by the Minister himself.

(3) The Minister may authorize any provincial administration or local authority to perform any function referred to in this Act.

(4) An authorization under subsection (3) shall not prevent the performance of the relevant function by the Minister, the chief inspector or an inspector, as the case may be.

43. Regulations.-(1) The Minister may make regulations-

(*a*) as to any matter which in terms of this Act shall or may be prescribed;

(*b*) which in the opinion of the Minister are necessary or expedient in the interest of the health and safety of persons at work or the health and safety of persons in connection with the use of plant or machinery, or the protection of persons other than persons at work against risks to health and safety arising from or connected with the activities of persons at work, including regulations as to-

(i) the planning, layout, construction, use, alteration, repair, maintenance or demolition of buildings;

(ii) the design, manufacture, construction, installation, operation, use, handling, alteration, repair, maintenance or conveyance of plant, machinery or health and safety equipment;

(iii) the training, safety equipment or facilities to be provided by employers or users, the persons to whom and the circumstances in which they are to be provided and the application thereof;

(iv) the health or safety measures to be taken by employers or users;

(v) the occupational hygiene measures to be taken by employers or users;

(vi) any matter regarding the biological monitoring or medical surveillance of employees;

(vii) the production, processing, use, handling, storage or transport of, and the exposure of employees and other persons to, hazardous articles, substances or organisms or potentially hazardous articles, substances or organisms, including specific limits, thresholds or indices of or for such exposure;

(viii) the performance of work in hazardous or potentially hazardous conditions or circumstances;

(ix) the emergency equipment and medicine to be held available by employers and users, the places where such equipment and medicine are to be held, the requirements with which such equipment and medicine shall comply, the inspection of such equipment and medicine, the application of first-aid and the qualifications which persons applying first-aid shall possess;

(x) the compilation by employers of health and safety directives in respect of a workplace, the matters to be dealt with in such directives and the manner in which such directives shall be brought to the attention of employees and other persons at such a workplace;

(xi) the registration of persons performing hazardous work or using or handling plant or machinery, the qualifications which such persons shall possess and the fees payable to the State in respect of such registration;

(xii) the accreditation, functions, duties and activities of approved inspection authorities;

(xiii) the consultations between an employer and employees on matters of health and safety;

(xiv) subject to section 36, the provision of information by an employer or user to employees or the public on any matter to which this Act relates;

(xv) the conditions under which any employer is prohibited from permitting any person to partake of food or to smoke on or in any premises where a specified activity is carried out;

(xvi) the conditions under which the manufacture of explosives and activities incidental thereto may take place;

(*c*) as to the preventive and protective measures for major hazard installations with a view to the protection of employees and the public against the risk of major incidents;

(*d*) as to the registration of premises where employees perform any work or where plant or machinery is used and the fee payable to the State in respect of such registration;

(*e*) whereby provision is made for the continuation of any registration under this Act;

(*f*) as to the registration of plant and machinery and the fee payable to the State in respect of such registration;

(*g*) as to the establishment of one or more committees for the administration of a provision of the regulations, the constitution of such committees, the functions of such committees, the procedure to be followed at meetings of such committees, the allowances which may be paid to members of such committees from money appropriated by Parliament for such purpose and the person by whom such allowances shall be fixed;

(*h*) prescribing the records to be kept and the returns to be rendered by employers and users and the person or persons to whom such returns shall be rendered;

(*i*) as to the designation and functions of health and safety representatives and health and safety committees and the training of health and safety representatives;

(*j*) as to the activities of self-employed persons; and

(*k*) as to any other matter the regulation of which is in the opinion of the Minister necessary or desirable for the effective carrying out of the provisions of this Act.

(2) No regulation shall be made by the Minister except after consultation with the Council, and no regulation relating to State income or expenditure or to any health matter shall be made by the Minister except after consultation also with the Minister of State Expenditure and the Minister for National Health and Welfare, respectively.

(3) In making regulations the Minister may apply any method of differentiation that he may deem advisable: Provided that no differentiation on the basis of race or colour shall be made.

(4) A regulation may in respect of any contravention thereof or failure to comply therewith prescribe a penalty of a fine, or imprisonment for a period not exceeding 12 months, and, in the case of a continuous offence, not exceeding an additional fine of R200 or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

(5) A regulation made under section 35 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983) , which was in force immediately prior to the commencement of this Act and which could have been made under this section, shall be deemed to have been made under this section.

44. Incorporation of health and safety standards in regulations.-(1) The Minister may by notice in the *Gazette* incorporate in the regulations any health and safety standard or part thereof, without stating the text thereof, by mere reference to the number, title and year of issue of that health and safety standard or to any other particulars by which that health and safety standard is sufficiently identified.

(2) No health and safety standard shall be incorporated in the regulations except after consultation with the Council.

(3) Any health & safety standard incorporated in the regulations under subsection (1) shall for the purposes of this Act, in so far as it is not repugnant to any regulation made under section 43, be deemed to be a regulation, but not before the expiry of two months from the date of incorporation thereof.

(4) Whenever any health and safety standard is at any time after the incorporation thereof as aforesaid, amended or substituted by the competent authority, the notice incorporating that health and safety standard shall, unless otherwise stated therein, be deemed to refer to that health and safety standard as so amended or substituted, as the case may be.

(5) The chief inspector shall keep a register of particulars of every publication in which a health and safety standard incorporated in the regulations under subsection (1), and every amendment or substitution of any such health and safety standard, was published, and also of the place in the Republic where such publication is obtainable or otherwise available for inspection, and he shall make that register or an extract therefrom available free of charge to persons having an interest, for inspection.

(6) The provisions of section 31 of the Standards Act, 1993 (Act No. 29 of 1993), shall not apply to any incorporation of a health and safety standard or of any amendment or substitution of a health and safety standard under this section.

(7) Any safety standard which was immediately prior to the commencement of this Act incorporated under section 36 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), in the regulations made under that Act, shall be deemed to be a health and safety standard incorporated under this section.

45. Serving of notices.- Unless another method is prescribed, a notice under this Act shall be served-

(*a*) by delivering a copy thereof to the person upon whom it is to be served;

(*b*) by leaving such a copy at the usual or last known place of residence or business of such a person; or

(*c*) by sending such a copy by registered post to the usual or last known place of residence or business of such a person.

46. Jurisdiction of magistrates' courts.-Notwithstanding anything to the contrary co-ntained in any law-

(*a*) a magistrate's court shall have jurisdiction to impose any penalty or to make any order provided for in this Act;

(*b*) no magistrate's court shall be competent to pronounce upon the validity of any regulation made under this Act.

47. State bound.-This Act shall bind the State.

48. Conflict of provisions.-In so far as any provision of the Explosives Act, 1956 (Act No. 26 of 1956), is repugnant to a provision of this Act the provisions of this Act shall apply.

49. Repeal of laws.-The Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), the Machinery and Occupational Safety Amendment Act, 1989 (Act No. 40 of 1989), and the Machinery and Occupational Safety Amendment Act, 1991 (Act No. 97 of 1991), are hereby repealed.

50. Short title and commencement - (1) This Act shall be called the Occupational Health and Safety Act, 1993, and shall come into operation on a date fixed by the State President by proclamation in the Gazette.

(2) Different dates may be so fixed in respect of different provisions of this Act.1

GENERAL ADMINISTRATIVE REGULATIONS

GNR.929 of 25 June 2003

[These regulations were first published in GNR.2206 of 5 October 1984, and were subsequently amended by GNR.2274 of 11 October 1985, by GN 104 of 20 February 1987, by GNR.1617 of 31 July 1987, by GNR 1595 of 12 August 1988, by GNR.2131 of 7 September 1990, by GNR.1605 of 5 July 1991 and repealed by GNR.1449 of 6 September 1996. Subsequently, GNR h1449 of 6 September 1996 has been amended by GNR.928 of 25 June 2003 and repealed by GNR.929 of 25 June 2003]

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"bargaining council" means the bargaining council established by section 27 of the Labour Relations Act;

"CCMA" means the Commission for Conciliation, Mediation and Arbitration established by section 112 of the Labour Relations Act;

"Compensation Commissioner" means the Compensation Commissioner appointed under section 2 of the Compensation for Occupational Injuries and Diseases Act, 1993;

"Compensation for Occupational Injuries and Diseases Act" means the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);

"Labour Court" means the Labour Court established by section 151 of the Labour Relations Act;

"Labour Relations Act" means the Labour Relations Act, 1995 (Act No. 66 of 1995);

"provincial director", in respect of the-

(*a*) Province of Eastern Cape, means the Provincial Director: Eastern Cape, Department of Labour, Private Bag X9005, East London, 5200;

(*b*) Province of Free State, means the Provincial Director: Free State, Department of Labour, P.O. Box 522, Bloemfontein, 9300;

(*c*) Province of Gauteng in the Magisterial Districts of-

(i) Benoni, Bronkhorstspruit, Cullinan, Krugersdorp, Nigel, Pretoria, Randfontein, Soshanguve 1, Soshanguve 2, Springs and Wonderboom, means the Provincial Director: Gauteng North, Department of Labour, P.O. Box 393, Pretoria, 0001; or

(ii) Alberton, Boksburg, Brakpan, Germiston, Heidelberg, Johannesburg, Kemptonpark, Oberholzer, Randburg, Roodepoort, Vanderbijlpark, Vereeniging and Westonaria, means the Provincial Director: Gauteng South, Department of Labour, P. O. Box 4560, Johannesburg, 2000;

(*d*) Province of KwaZulu-Natal, means the Provincial Director: KwaZulu-Natal, Department of Labour, P. O. Box 940, Durban, 4000;

(*e*) Province of Mpumalanga, means the Provincial Director: Mpumalanga, Department of Labour, Private Bag X7263, Witbank, 1035;

(*f*) Province of the Northern Cape, means the Provincial Director: Northern Cape, Department of Labour, Private Bag X5102, Kimberley, 8300;

(*g*) Limpopo Province, means the Provincial Director: Limpopo, Department of Labour, Private Bag X9368, Pietersburg, 0700;

(*h*) Province of North West, means the Provincial Director: North West, Department of Labour, Private Bag X1, Buhrmansdrif, 2867; or

(*i*) Province of the Western Cape, means the Provincial Director: Western Cape, Department of Labour, P. O. Box 872, Cape Town, 8000, and

"provincial executive manager" has a corresponding meaning;

"registered trade union for a workplace" means a trade union registered in terms of the

Labour Relations Act, with members in that workplace;

"the Act" means the Occupational Health and Safety Act, 1993(Act No. 85 of 1993); and

"WCL 1", "WCL 2" and "WCL 22" means the prescribed forms for reporting of incidents and occupational diseases referred to in the Compensation for Occupational Injuries and Diseases Act.

2. Access to premises.-(1) No person shall refuse an inspector entry into his or her premises to perform his or her functions unless that person is authorized to do so by any other law.

(2) An inspector or his or her assistant may require an employer or user to make a person available who has full knowledge of the hazards associated with the activities of the workplace to accompany him or her during the entire visit of the workplace.

3. Exemption.-A certificate of exemption issued in terms of section 40 of the Act shall be signed by the chief inspector.

4. Copy of the Act.-Every employer with five or more persons in his employ shall have a copy of the Act and the relevant regulations readily available at the work place: Provided that, where the total number of employees is less than five, the employer shall, on request of an employee, make a copy of the Act available to that employee.

5. Health and safety committee.-Where a health and safety committee has been established in terms of section 19 of the Act, an employer shall -

(*a*) make available a suitable meeting place to such committee; and

(*b*) ensure that the records, as contemplated in section 20 (2) of the Act, are kept for a period of at least three years.

6. Negotiations and consultations before designation of health and safety representatives.- (1) The employer shall, in any workplace where there must be a health and safety representative in terms of section 17 (1) of the Act and within four months after the commencement of these regulations or after commencing business, meet with the registered trade unions of that workplace in order to consult or bargain in good faith and conclude an agreement concerning the -

(*a*) nomination or election of health and safety representatives;

(*b*) terms of office of health and safety representatives and the circumstances and the prescribed manner in which they may be removed as health and safety representatives;

(*c*) manner in which vacancies are to be filled;

(*d*) manner in which health and safety representatives must perform their functions in terms of the Act; and

(*e*) facilities, training and assistance that must be provided to a health and safety representative in terms of section 18 (3) of the Act:

Provided that, where there is no registered trade union, the employer shall enter into consultation with all employee representatives in that workplace in order to conclude an agreement with regard to subregulation (1).

(2) An agreement referred to in subregulation (1) may include two or more employers as parties to the agreement.

(3) The conditions applicable to collective agreements in terms of the Labour Relations Act, read with the changes required by the context, shall apply to agreements concluded in terms of subregulation (1).

(4) A dispute shall exist if no agreement in terms of subregulation (1) is concluded on the arrangement and procedures for the nomination and the election of health and safety representatives at a workplace.

(5) If a dispute exists in terms of subregulation (4), any party to the dispute may refer the dispute to the CCMA or Bargaining Council.

(6) If a dispute is referred to the CCMA or Bargaining Council under subregulation (5), the CCMA shall attempt to resolve it through conciliation.

(7) If a dispute remains unresolved, any party to the dispute may request that it be resolved through arbitration, in which case the CCMA shall, taking into account the objectives of the Act and the proposals of the parties, determine the arrangement and procedures for the nomination or the election of the health and safety representatives.

7. Designation of health and safety representatives.-An employer shall ensure that the designation of health and safety representatives is in accordance with the agreement contemplated in regulation 6.

8. Reporting of incidents and occupational diseases.-(1) An employer or user, as the case may be, shall -

(*a*) within seven days of any incident referred to in section 24 (1) (*a*) of the Act, give notice thereof to the provincial director in the form of WCL1 or WCL 2; and

(*b*) where a person, in consequence of such an incident, dies, becomes unconscious, suffers the loss of a limb or part of a limb, or is otherwise injured or becomes ill to such a degree that he or she is likely either to die or to suffer a permanent physical defect, such incident, including any other incident contemplated in section 24 (1) (*b*) and (*c*) of the Act, shall forthwith also be reported to the provincial director by telephone, facsimile or similar means of communication.

(2) If an injured person dies after notice of the incident in which he or she was injured was given in terms of subregulation (1), the employer or user, as the case may be, shall forthwith notify the provincial director of his or her death.

(3) Whenever an incident arising out of or in connection with the activities of persons at work occur to persons other than employees, the user, employer or self-employed person, as the case may be, shall forthwith notify the provincial director by facsimile or similar means of communication as to the —

(*a*) name of the injured person;

(*b*) address of the injured person;

(*c*) name of the user, employer or self-employed person;

(*d*) address of the user, employer or self-employed person;

(*e*) telephone number of the user, employer or self-employed person;

(*f*) name of contact person;

(*g*) details of incident:

(i) What happened;

(ii) where it happened (place);

(iii) when it happened (date and time);

(iv) how it happened;

(v) why it happened; and

(*h*) names of witnesses.

(4) Any registered medical practitioner shall, within 14 days of the examination or treatment of a person for a disease contemplated in section 25 of the Act, give notice thereof to the chief inspector and the employer in the form of WCL 22.

(5) Any other person not contemplated in this regulation may in writing give notice of any disease contemplated in section 25 of the Act, to the employer and chief inspector.

9. Recording and investigation of incidents.-

(1) An employer or user shall keep at a workplace or section of a workplace, as the case may be, a record in the form of Annexure 1 for a period of at least three years, which record shall be open for inspection by an inspector, of all incidents which he or she is required to report in terms of section 24 of the Act and also of any other incident which resulted in the person concerned having had to receive medical treatment other than first aid.

(2) An employer or user shall cause every incident which must be recorded in terms of subregulation (1), to be investigated by the employer, a person appointed by him or her, by a health and safety representative or a member of a health and safety committee within 7 days from the date of the incident and finalised as soon as is reasonably practicable, or within the contracted period in the case of contracted workers.

(3) The employer or user shall cause the findings of the investigation contemplated in subregulation (2) to be entered in Annexure 1 immediately after completion of such investigation.

(4) An employer shall cause every record contemplated in subregulation (1) to be examined by the health and safety committee for that workplace or section of the workplace at its next meeting and shall ensure that necessary actions, as may be reasonable practicable, are implemented and followed up to prevent the recurrence of such incident.

10. Witness at inquiry.-(1) When an inspector is directed to hold a formal inquiry into an incident in terms of section 32 (1) of the Act, he or she shall notify the employer or user concerned of the date, time and place of such inquiry.

(2) The employer or user shall forthwith advise in writing those persons who witnessed an incident, the union recognised by him or her and any other person specified by the inspector, of such date, time and place, and that their presence shall be required at the inquiry.

(3) The employer or user concerned shall ascertain which of the persons he or she has advised in terms of subregulation (2) are likely to refuse to attend the inquiry, and shall forthwith advise the inspector of the names and addresses of such persons in for the inspector to subpoena such persons.

(4) A subpoena issued in terms of section 32 (2) of the Act shall be in the form of Annexure 2: Provided that, when a subpoena is served personally on a person, the service of such subpoena may be effected by any person authorised thereto by the inspector who has signed it.

11. Returns.-An employer or a user shall on demand furnish the inspector with such returns as may be required for the purposes of the administration of the Act.

12. Offences and penalties.-Any person who -

(*a*) contravenes or fails to comply with any provision of regulations 2 (1), 4, 5, 6 (1), 7, 8 (1), 8 (2), 8 (3), 8 (4), 9 (1), 9 (2), 9 (3), 9 (4), 10 (2) or 10 (3);

(*b*) fails to furnish a return required in terms of regulation 11; or

(*c*) refuses or fails to comply, to the best of his or her ability, with a request made by the inspector to make available a person to accompany him or her during the visit of the workplace,

shall be guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

13. Repeal of regulations.-Regulations 1, 2, 3, 4, 5, 6, 8, 9, 12, 14, 15, 16, and 17 of the General Administrative Regulations, published under Government Notice No. R: 1449 of 6 September 1996, are hereby repealed.

Annexure 1

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(ACT NO. 85 OF 1993)
REGULATION 9 OF THE GENERAL ADMINISTRATIVE REGULATIONS
RECORDING AND INVESTIGATION OF INCIDENTS

A. RECORDING OF INCIDENT

1. Name of employer.....
.....
2. Name of affected person .....
3. Identity number of affected person .....
4. Date of incident ..... 5. Time of incident .....
6. Part of body affected

Head or Neck	Eye	Trunk	Finger	Hand
Arm	Foot	Leg	Internal	Multiple

7. Effect on person

Sprains or strains	Contusion or wounds	Fractures	Burns	Amputation
Electric shock	Asphyxiation	Unconsciousness	Poisoning	Occupational Disease

8. Expected period of disablement

0 - 13 days	2 - 4 weeks	>4 - 16 weeks	>16 - 52 weeks	>52 weeks or permanent disablement	Killed

9. Description of occupational disease .....
10. Machine/process involved/type of work performed/exposure**.....
.....
.....
.....
.....
.....

11. Was the incident reported to the Compensation Commissioner and Provincial Director?

Yes	No

12. Was the incident reported to the police?*

Yes	No

13. SAPS office and reference.....

*to be completed in case of a fatal incident.

** in case of a hazardous chemical substance, indicate substance exposed to.

B. INVESTIGATION OF THE ABOVE INCIDENT BY A PERSON DESIGNATED THERETO

1. Name of investigator .....
2. Date of investigation .....
3. Designation of Investigator .....
4. Short description of incident .....
.....
.....
.....

5. Suspected cause of incident .....
.....
.....
.....
6. Recommended steps to prevent a recurrence .....
.....
.....

.....

....

Signature of investigator *Date*

REGULATION 9 OF THE GENERAL ADMINISTRATIVE REGULATIONS

RECORDING AND INVESTIGATION OF INCIDENTS

C. ACTION TAKEN BY EMPLOYER TO PREVENT THE RECURRENCE OF A SIMILAR INCIDENT

.....

.....

.....

....

Signature of employer *Date*

D. REMARKS BY HEALTH AND SAFETY COMMITTEE

Remarks

.....

.....

.....

....

Signature of Chairman of Health and Safety Committee *Date*

Annexure 2

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(ACT NO. 85 OF 1993)

REGULATION 10 OF THE GENERAL ADMINISTRATIVE REGULATIONS
SUBPOENA TO ATTEND INQUIRY

To .....

..... (Name and address of witness)

.....

In terms of section 32 (2) of the Occupational Health and Safety Act, 1993, you are hereby subpoenaed to appear before me in person at .....

..... (address)

on ..... (date) at the hour of ..... (time) to give

.....

evidence regarding and to bring with you, and there and then produce to me those books, writing or things and persons specified here under

1. .....
2. .....
3. .....

Office stamp

.....

Signature of inspector

Warning!! Failure to obey this subpoena renders you liable to prosecution.

FOR OFFICIAL PURPOSES ONLY

I, the undersigned, certify that I have served this subpoena upon the named person by-

*(*a*) delivering a true copy to him or her PERSONALLY; or

*(*b*) delivering, as he or she could not be found, a true copy

to

a person apparently over the age of 16 years and apparently residing or employed at the witness's place of RESIDENCE/EMPLOYMENT/BUSINESS;

at .....(time) .....(day) ..... (month) ..... 200 .....

Place ..... Signature of empowered officer .....

Full names……..

Signature of recipient .....

Full names .....

Capacity/relationship to the witness .....

GENERAL SAFETY REGULATIONS

GNR.1031 of 30 MAY 1986

[These regulations were first published in GNR.1013 of 30 May 1986, and were subsequently amended by GNR.433 of 20 June 1986, by GNR. 1791 of 9 September 1988, by GNR.2245 of 7 August 1992, by GNR.928 of 25 June 2003 and by GNR.1010 of 18 July 2003]

The Minister of Manpower has, in terms of section 35 of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983) made the regulations contained in the Schedule hereto.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.- In these regulations **"the Act"** means the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983), and any expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context indicates otherwise-

"Boatswain's chair" means a suspended platform seat intended for supporting one person in an elevated position;

[Defination of "boatswain's chair" added by GNR.1971 OF 1998]

"building work" means building work as defined in the General Administrative Regulations published under Government Notice R.2206 of 5 October 1984;

"confined space" means an enclosed, restricted, or limited space in which, because of its construction, location or contents, or any work activity carried on therein, a hazardous substance may accumulate or an oxygen-deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, pump, sump, or similar construction, equipment, machinery or object in which a dangerous liquid or dangerous concentration of gas, vapour, dust or fumes may be present;

"fire resistance" means the minimum period for which a building element or component will comply with the requirements for stability, integrity, and insulation when tested in accordance with SABS 0177: Part II;

"flammable liquid" means any liquid which produces a vapour that forms an explosive mixture with air, and includes any liquid with a closed-cup flash-point of less than 55° C;

"high-risk substance" means a substance listed in the Schedule to the General Administrative Regulations published under Government Notice R.2206 of 5 October 1984, as amended from time to time;

"putlog scaffold" means a scaffold supported by a single row of standards and the structure in connection with which it is being used;

[Defination of 'putlog scaffold added by GNR.1791 of 1988.]

"scaffold" means any temporary elevated platfoam and supporting structure used for supporting worksmen or materials or both;

[Defination of "scaffold"added by GNR.1791 OF 1988.]

"SABS 0177: Part II" means the South African Bureau of Standards' code of practice entitled *Fire Resistance Test For Building Elements,* SABS 0177: Part II– 1981;

"suspended scaffold" means a working platform suspended from supports by means of one or more separate suspensions from each support;

[Defination of "suspended scaffold" added by GNR.1791 of 1988.]

"trestle scaffold" means a working platform supported on trestles, stepladders, tripods and the like.

[Defination of "trestle scaffold' added by GNR.1791 of 1988]

2. Personal Safety Equipment and Facilities.-

(1) Subject to the provisions of paragraphs (*f*), (*g*), (*h*) and (*i*) of regulation 5 of the General Administrative Regulations published un-der Government Notice R.2206 of 5 October 1984, every employer and every user of machinery shall make an evaluation of the risk attached to any condition or situation which may arise from the activities of such employer or user, as the case may be, and to which persons at a workplace or in the course of their employment or in connection with the use of machinery are exposed, and he shall take such steps as may under the circumstances be necessary to make such condition or situation safe.

(2) Where it is not practicable to safeguard the condition or situation contemplated in subregulation (1), the employer or user of machinery, as the case may be, shall take steps to reduce the risk as much as is practicable, and shall provide free of charge and maintain in a good and clean condition such safety equipment and facilities as may be necessary to ensure that any person exposed to any such condition or situation at a workplace or in the course of his employment or on premises where machinery is used is rendered safe.

(3) Taking into account the nature of the hazard that is to be countered, and without derogating from the general duties imposed on employers and users of machinery by subregulations (1) and (2), the safety equipment and facilities contemplated in subregulation (2) shall include, as may be necessary --

(*a*) suitable goggles, spectacles, face shields, welding shields, visors, hard hats, protective helmets, caps, gloves, gauntlets, aprons, jackets, capes, sleeves, leggings, spats, gaiters, protective footwear, protective overalls, or any similar safety equipment or facility of a type that will effectively prevent bodily injury;

(*b*) waterproof clothing, high-visibility clothing, chemical-resistant clothing, low temperature clothing, chain mail garments, waders, fire retardant or flame-proof clothing, ice-jackets, or any similar safety equipment of a type that will effectively protect the wearer thereof against harm;

(*c*) belts, harnesses, nets, fall arresters, life lines, safety hooks, or any similar equipment of a type that will effectively protect persons against falls;

(*d*) mats, barriers, locking-out devices, safety signs, or any similar facility that will effectively prevent slipping, unsafe entry or unsafe conditions;

(*e*) protective ointments, ear-muffs, ear-plugs, respirators, breathing apparatus, masks; air lines, hoods, helmets, or any similar safety equipment or facility of a type that will effectively protect against harm;

(*f*) suitable insulating material underfoot where persons work on a floor made of metal stone, concrete or other similar material; and1

(*g*) generally, such safety equipment or facilities as may be necessary to render the persons concerned safe.

(4) An employer or a user of machinery, as the case may be, shall take steps to ensure that no safety equipment or facility provided as required by this or any other regulation is removed from a workplace or from premises where machinery is used, except for purposes of cleaning, repair, maintenance, modification, mending or replacement, and no person shall remove any such safety equipment or facility from a workplace or premises where machinery is used, except for the aforesaid purposes.

(5) An employer shall instruct his employees in the proper use, maintenance and limitations of the safety equipment and facilities provided.

(6) An employer shall not require or permit any employee to work unless such an employee uses the required safety equipment or facility provided in terms of this or any other regulation.

(7) The provisions of this regulation shall not be construed as derogating from the provisions of any specific regulation prescribing specific safety equipment or facilities.

2A. Intoxication.-(1) Subject to the provisions of subregulation (3), an employer or a user, as the case may be, shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

(2) Subject to the provisions of subregulation

(3), no person at a workplace shall be under the influence of or have in his or her possession or partake of or offer any other person intoxicating liquor or drugs.

(3) An employer or a user, as the case may be, shall, in the case where a person is taking medicines, only allow such person to perform duties at the workplace if the side effects of such medicine do not constitute a threat to the health or safety of the person concerned or other persons at such workplace.

[R. 2A inserted by GNR.928 of 2003.]

2B. Display of substituted notices and signs.-

If the provisions of any regulation prescribe a particular notice or sign to be displayed by an employer or by a user at a workplace, the employer or user may, in lieu thereof, display a corresponding symbolic sign, as contained in a

safety standard incorporated for this purpose into these regulations under section 44 of the Act, in which case the employer or user shall be deemed to have complied with such provisions.

[R. 2B inserted by GNR.928 OF 2003.]

2C. Admittance of persons.-(1) Subject to section 8 of the Act, an employer or user, as the case may be, shall not permit a person to enter a workplace where the health or safety of such person is at risk or may be at risk, unless such person enters such workplace with the express or implied permission of and subject to the conditions laid down by such employer or user: Provided that such express or implied permission shall not apply in respect of a person entitled by law to enter such workplace or premises.

(2) An employer or a user, as the case may be, shall, if he deems it necessary in the interests of health and safety, post up a notice at every entrance to a workplace prohibiting the entry of unauthorised persons to such workplace and no person shall enter or remain at such workplace without the permission of the employer or user, as the case may be.

[R. 2C inserted by GNR.928 of 2003.]

3. First aid, emergency equipment and procedures.-(1) An employer shall take all reasonable steps that are necessary under the circumstances, to ensure that persons at work receive prompt first aid treatment in case of injury or emergency.

(2) Where more than five employees are employed at a workplace, the employer of such employees shall provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace.

(3) (*a*) Taking into account the type of injuries that are likely to occur at a workplace, the nature of the activities performed and the number of employees employed at such workplace, the employer shall make sure that the first aid box or boxes contemplated in sub-regulation (2) contain suitable first aid equipment which include at least the equipment listed in the Annexure hereto.

(*b*) Such an employer shall make sure that only articles and equipment contemplated in subregulation (*a*) or other similar equipment or medicine is kept in the first aid box or boxes.

(4) Where more than 10 employees are employed at a workplace, the employer of such employees shall take steps to ensure that for every group of up to 50 employees at that workplace, or in the case of a shop or an office as contemplated in the Basic Conditions of employment Act, 1983 (Act No. 3 of 1983), for every group of up to 100 employees, at least one person is readily available during normal working hours, who is in possession of a valid certificate of competency in first aid, issued by -

(*a*) the SA Red Cross Society;
(*b*) the St. John Ambulance;
(*c*) the SA First Aid League; or
(*d*) a person or organisation approved by the chief inspector for this purpose.

(5) An employer shall at a workplace where a high risk substance or toxic, corrosive or similar hazardous substances are used, handled, processed or manufactured, ensure that the first aid worker contemplated in subregulation (4) is trained in the first aid procedures that are necessary for the treatment of injuries that may result from such activities, including the acute detrimental effects of exposure to such substances, and in the emergency procedures which are necessary in the case of accidental leakage or dumping of such substances.

(6) An employer shall affix a prominent notice or sign in a conspicuous place at a workplace, indicating where the first aid box or boxes are kept as well as the name of the person in charge of such first aid box or boxes.

(7) An employee with an open wound, cut, sore or any similar injury, who works in a workplace where a substance contemplated in subregulation 5 is used, handled, processed or manufactured, shall report such injury to his employer forthwith. The employer may not permit such employee to continue working before the injury has been cleaned with soap and water or with a diluted disinfectant.

(8) Where an employee is exposed or can be exposed to a potential hazard of injury to the eye through contact with a biological or chemical substance, the employer concerned shall make sure that there is an eyewash fountain or any similar facilities, in the immediate vicinity of the workplace of such employee and that the employee is trained in the use thereof.

(9) Where an employee at a workplace is exposed or can be exposed to a potential hazard of injury to or absorption through the skin as a result of sudden contact with a large amount of toxic, corrosive, high risk or similar hazardous substance, the employer concerned shall make sure that there is a fast-reacting deluge-shower with clean water or a similar facility in the immediate vicinity of the workplace of such employee and that the employee is trained in the use thereof.

[R. 3 substituted by GNR.2245 of 1992.]

4. Use and storage of flammable liquids.-

(1) No employer shall require or permit any person to work in a place where the vapour of any flammable liquid is generated to such an extent that it constitutes an actual or potential fire or explosion hazard or endangers the safety of any person, unless the provisions of subregulations (2) to (12) of this regulation are complied with.

(2) No employer shall require or permit a flammable liquid to be used or applied other than in a room, cabinet or other enclosure specially constructed for this purpose of fire-resisting material or in a place which, owing to its situation or construction or any other feature or circumstance, is of such a nature that-

(*a*) no fire or explosion hazard is, can or may be created thereat;
(*b*) any vapour resulting from such use or application is efficiently dispersed and diluted into the atmosphere subject to the provisions of the Air Pollution Prevention Act, 1965 (Act 45 of 965); and
(*c*) no other workplace can or may be contaminated by such vapour.

[Sub-r. (2) amended by GNR.1791 of 1988.]

(3) An employer shall cause every room, cabinet or enclosure contemplated in subregulation (2) to be fitted with an efficient intake and exhaust ventilation system to remove any vapour therefrom and to prevent its recirculation in a manner which may lead to the contamination of any other workplace of the creation of a fire or explosion hazard: Provided that, notwithstanding any other provision of this regulation, an employer shall provide every employee doing spraying with a respirator, mask or breathing apparatus of a type approved by the chief inspector, and that any such employee shall while spraying use such apparatus provided to him.

(4) Where spraying is done in any room the employer concerned shall cause the ventilation system contemplated in subregulation (3) to conform to the following requirements:

(*a*) if the air supply and extraction is horizontal, the average air speed measured at a level of 1.5 meters above the floor, or at the level of the platform on which persons stand to work, shall not be less than 0.5 meters per second;
(*b*) if the air supply is vertical and the extraction thereof is done through slits or a grill along the side walls at floor level, the average air speed measured as a level of 1.5 meters above the floor, or at the level of the platform on which persons stand to work, shall not be less than 0.4 meters per second; or
(*c*) if the air supply is vertical and the extraction thereof is done through a grill over the whole of the floor area, the average air speed measured at a level of 1.5 meters above the floor, or at the level of the platform on which persons stand to work, shall not be less than 0.3 meters per second.

(5) Where spraying is done into any cabinet or enclosure as contemplated in subregulation (2), the employer concerned shall cause the ventilation system contemplated in subregulation

(3) to comply with the following requirements:

(*a*) where the area of the open face of the cabinet is not more than one square metre, the average speed of air movement through the said face shall not be less than one metre per second;
(*b*) where the area of the open face is more than one square metre but less than two square meters, the average speed of air movement through the said face shall not be less than 0.75 meters per second; or
(*c*) where the area of the open face is equal to or exceeds two square meters, the average speed of air movement through the said face shall not be less than 0.5 meters per second.

(6) With regard to the ventilation system contemplated in subregulation (3) the employer shall cause --

(*a*) all ducts, trunks and enclosures of the system to be of fire resistant material with a smooth interior finish and to be constructed in such a manner as to facilitate the cleaning thereof;
(*b*) the system to be kept in operation during working hours as well as for at least the period of time thereafter that may be necessary to clear the vapour from the atmosphere of the room, cabinet or enclosure to below 25 per cent of the lower explosive limit of that vapour; and
(*c*) the work to be so organized that the flow of air towards the intake of such ventilation system is not obstructed and draws the spray or vapour of the flammable liquid away from any employee operating the equipment.

(7) With regard to any room contemplated in subregulation (2) the employer shall cause every such room -

(*a*) with a floor area exceeding 20 square meters to have at least two separate entrances at opposite ends of the room, which shall be fitted with doors openings outwards that cannot be locked; and
(*b*) to be fitted with an inspection window of strengthened and shatterproof glass that cannot be opened.

(8) (*a*) An employer shall not permit-

(i) any fire, flame or naked light or anything which may generate static electricity or any other thing which may ignite a flammable liquid or its vapour, to be used in or taken into any room, cabinet or enclosure contemplated in subregulation (2) in which any such flammable liquid is used, sprayed or stored, and shall affix a suitable and conspicuous sign prohibiting any such act at all the entrances to any such room, cabinet or enclosure;
(ii) any person to, and no person shall, smoke in any place in which flammable liquid is used or stored, and such employer shall affix a suitable and conspicuous notice prohibiting such smoking at all the entrances to any such place; and
(iii) any process capable of causing sparks or fire, or the application of any heat for the drying of sprayed or treated articles, to take place in any room, cabinet or enclosure used for spraying, before the space or atmosphere has been cleared of all vapour.

(*b*) No person shall contravene any prohibition made known as contemplated in subparagraph (i) or (ii) of paragraph (*a*).

(9) With respect to any room, cabinet or enclo-

sure contemplated in subregulation (2), the employer concerned shall cause -

(*a*) discarded cotton waste, cleaning rags or similar material to be removed daily and safely disposed of;

(*b*) only that quantity of flammable liquid needed for work on one day to be taken into or kept in such room, cabinet or enclosure: Provided that partially consumed stock may be stored in a properly marked, fireproof wall cabinet inside the work place;

(*c*) all drums, cans, canisters or similar containers holding flammable liquids to be kept tightly closed when not in actual use and, after their contents have been used up, to be removed from the workplace and safety disposed of daily; and

(*d*) every such room, cabinet or enclosure to be kept clean and all fans, ducts, trunks and enclosures of the ventilation system contemplated in subregulation (3) to be kept clean and in good working order: Provided that any cleaning, scraping or scouring shall be done with implements that cannot cause sparking if the concentration of the vapour exceeds 25 per cent of the lower explosive limit of that vapour.

(10) An employer shall cause every flammable liquid store to be --

(*a*) separated by means of fire-resisting material with a fire-resistance of two hours from any room, cabinet or enclosure contemplated in subregulation (2);

(*b*) constructed of fire-resisting material with a fire-resistance of two hours;

(*c*) constructed in such a way that, in case of spillage, a volume of the flammable liquid in question equal to the quantity of flammable liquid ordinarily kept in store plus 10 per cent of that quantity, can be contained;

(*d*) ventilated to the open air in such a manner that vapour cannot accumulate inside the store; and

(*e*) clearly marked with a sign indicating that it is such a store and also indicating the amount of flammable liquid which may be stored therein.

(11) Taking into account the construction and location of the premises in question and the quantity and types of flammable liquids involved, an employer shall install an adequate amount of efficient fire-fighting equipment in suitable locations in and around every building in which such substances are used, handled or stored, or as may be recommended by the fire chief of the local authority concerned.

(12) The provisions of this regulation shall not be construed as applying to the use of flammable liquids in the course of or in connection with building work: Provided that every employer engaged in building work shall ensure that, where flammable liquids are used or applied at the workplace concerned, this is done in such a manner that no fire or explosion hazard is created, and that the workplace is effectively ventilated: Provided further that where the workplace cannot be ventilated effectively the employer shall provide every employee involved with a respirator, mask or breathing apparatus of a type approved by the chief inspector, and shall take steps to ensure that every such employee, while using or applying flammable liquid, uses the apparatus supplied to him.

5. Work in confined spaces.-(1) An employer or a user of machinery shall take steps to ensure that a confined space is entered by an employee or other person only after the air therein has been tested and evaluated by a person who is competent to pronounce on the safety thereof, and who has certified in writing that the confined space is safe and will remain safe while any person is in the confined space, taking into account the nature and duration of the work to be performed therein.

(2) Where the provisions of subregulation (1) cannot be complied with the employer or user of machinery, as the case may be, shall take steps to ensure that any confined space in which there exists or is likely to exist a hazardous gas, vapour, dust or fumes, or which has or is likely to have, an oxygen content of less than 20 per cent by volume, is entered by an employee or other person only when--

(*a*) subject to the provisions of subregulation (3), the confined space is purged and ventilated to provide a safe atmosphere therein and measures necessary to maintain a safe atmosphere therein have been taken; and

(*b*) the confined space has been isolated from all pipes, ducts and other communicating openings by means of effective blanking other than the shutting or locking of a valve or a cock, or, if this is not practicable, only when all valves and cocks which are a potential source of danger have been locked and securely fastened by means of chains and padlocks.

(3) Where the provisions of subregulation (2) (*a*) cannot be complied with, the employer or user of machinery shall take steps to ensure that the confined space in question is entered only when the employee or person entering is using breathing apparatus of a type approved by the chief inspector and, further, that-

(*a*) the provisions of subregulation (2) (*b*) are complied with;

(*b*) any employee or person entering the confined space is using a safety harness or other similar equipment, to which a rope is securely attached which reaches beyond the access to the confined space, and the free end of which is attended to by a person referred to in paragraph (*c*);

(*c*) at least one other person trained in resuscitation is and remains in attendance immediately outside the entrance of the confined space in order to assist or remove any or persons from the confined space, if necessary; and

(*d*) effective apparatus for breathing and resuscitation of a type approved by the chief inspector is available immediately out side the confined space.

(4) An employer or user of machinery shall take steps to ensure that all persons vacate a confined space on completion of any work therein.

(5) Where the hazardous gas, vapour, dust or fumes contemplated in subregulation (2) are of an explosive or flammable nature, an employer or user of machinery shall further take steps to ensure that such a confined space is entered only if-

(*a*) the concentration of the gas, vapour, dust or fumes does not exceed 25 per cent of the lower explosive limit of the gas, vapour, dust or fumes concerned where the work to be performed is of such a nature that it does not create a source of ignition; or

(*b*) such concentration does not exceed 10 per cent of the lower explosive limit of the gas, vapour, dust or fumes where other work is performed.

(6) The provisions of this regulation shall *mutatis mutandis* also apply, in so far as they can be so applied, to any work which is performed in any place or space on the outside of and bordering on or in the immediate vicinity of, any confined space, and in which place or space, owing to its proximity to the confined space, any hazardous article, oxygen-deficient atmosphere or dangerous concentration of gas, vapour, dust or fumes may occur or be present.

6. Work in elevated positions.-No employer shall require or permit any person to work in an elevated position, and no person shall work in an elevated position, unless such work is performed safely from a ladder or scaffolding, or from a position where such person has been made as safe as if he were working from scaffolding.

7. Working in danger of engulfment.-No employer shall require or permit any person to, and no person shall, enter any place from or into which solid or particulate material is being discharged where a danger exists of a person being engulfed by such solid or particulate material, unless-

(*a*) such a person is provided with and properly uses a safety belt and rope;

(*b*) at least one other person who has been properly instructed, is and remains in attendance outside such place to keep the persons therein under continuous observation in order to render assistance in case of emergency; and

(*c*) the precautions prescribed by regulation 5 of these regulations are taken if dangerous gas, fumes, dust or vapour may be present in such a place.

8. Stacking of articles.-(1) No employer shall require or permit the building of stacks which consist of successive tiers, one on top of another, unless -

(*a*) the stacking operation is executed by or under the personal supervision of a person with specific knowledge and experience of this type of work;

(*b*) the base is level and capable of sustaining the weight exerted on it by the stack;

(*c*) the articles in the lower tiers are capable of sustaining the weight exerted on them by the articles stacked above them;

(*d*) all the articles which make up any single tier are consistently of the same size, shape and mass;

(*e*) pallets and containers are in good condition; and

(*f*) any support structure used for the stacking of articles is structurally sound and can support the articles to be stacked on it.

(2) An employer shall not permit -

(*a*) articles to be removed from a stack except from the topmost tier or part of that tier; and

(*b*) anybody to climb onto or from a stack, except if the stack is stable and the climbing is done with the aid of a ladder or other safe facility or means.

(3) An employer shall take steps to ensure that -

(*a*) persons engaged in stacking operations do not come within reach of machinery which may endanger their safety;

(*b*) stacks that are in danger of collapsing are dismantled immediately in a safe manner; and

(*c*) the stability of stacks is not endangered by vehicles or other machinery or persons moving past them.

(4) Unless a stack is otherwise supported an employer shall take steps to ensure that tiers of stacked material consisting of sacks, cases, cartons, tins or similar containers --

(*a*) are secured by laying up articles in a header and stretcher fashion and that corners are securely bonded; and

(*b*) are stepped back half the depth of a single container at least every fifth tier or that, alternatively, successive tiers are stepped back by a lesser amount: Provided that at least the same average angle of inclination to the vertical is achieved: Provided further that where the containers are of a regular shape and their nature and size are such that the stack will be stable, they may be stacked with the sides of the stack vertical if the total height of the stack does not exceed three times the smaller dimension of the underlying base of the stack.

(5) Notwithstanding the provisions of subregulation (4), free-standing stacks that are built with the aid of machinery may, with the approval of an inspector, be built to a height and in a manner permitted by the nature of the containers being stacked: Provided that -

(*a*) the stacks are stable and do not overhang; and

(*b*) the operator of the stacking machinery is rendered safe as regards falling articles.

9. Welding, flame cutting, soldering and similar operations.- (1) No employer or user of machinery shall require or permit welding or flame cutting operations to be undertaken, unless -

(*a*) the person operating the equipment has been fully instructed in the safe operation and use of such equipment and in the hazards which may arise from its use;

(*b*) effective protection is provided and used for the eyes and respiratory system and, where necessary, for the face, hands, feet, legs, body and clothing of persons performing such operations, as well as against heat, incandescent or flying particles or dangerous radiation;

(*c*) leads and electrode holders are effectively insulated; and

(*d*) the workplace is effectively partitioned off where practicable and where not practicable all other persons exposed to the hazards contemplated in paragraph (*b*) are warned and provided with suitable protective equipment.

(2) No employer or user of machinery shall require or permit welding or flame cutting operations to be undertaken in a confined space, unless-

(*a*) effective ventilation is provided and maintained; or

(*b*) masks or hoods maintaining a supply of safe air for breathing are provided and used by the persons performing such operations.

(3) No employer or user of machinery shall require or permit electric welding to be undertaken in wet or damp places, inside metal vessels or in contact with large masses of metal, unless-

(*a*) the insulation of the electrical leads is in a sound condition;

(*b*) the electrode holder is completely insulated to prevent accidental contact with current-carrying parts;

(*c*) the welder is completely insulated by means of boots, gloves or rubber mats; and

(*d*) at least one other person who has been properly instructed to assist the welder in case of an emergency is and remains in attendance during operations:

Provided that the provisions of this sub-regulation shall not apply to a welding process where the maximum voltage to earth does not exceed 50 volts.

(4) No employer or user of machinery shall require or permit welding, flame cutting, grinding, soldering or similar work to be undertaken in respect of any tube, tank, drum, vessel or similar object or container where such object or container-

(*a*) is completely closed, unless a rise in internal pressure cannot render it dangerous; or

(*b*) contains any substance which, under the action of heat, may -

(i) ignite or explode; or

(ii) react to form dangerous or poisonous substances,

unless a person who is competent to pronounce on the safety thereof has, after examination, certified in writing that any such danger has been removed by opening, ventilating or purging with water or steam, or by any other effective means.

(5) Where hot work involving welding, cutting, brazing or soldering operations is carried out at places, other than workplaces which have been specifically designated and equipped for such work, the employer shall take steps to ensure that proper and adequate fire precautions are taken.

10. Operating trains.- (1) An employer or a user of machinery who operates a train or a train of tramway-trucks, as the case may be, shall cause a signalman carrying a red flag or red light to be stationed at every level crossing where a railway line or tramway crosses or joins a railway or a road, or shall provide other adequate means at such crossing to warn-

(*a*) the driver of the train or the train of tramway-trucks of the approach of a train; and

(*b*) traffic on the road of the approach of the train or train of tramway-trucks.

(2) An employer or a user of machinery shall not permit a train or a train of tramway-trucks to be run over a level crossing contemplated in subregulation (1) at a speed in excess of 10 kilometers per hour, and the driver thereof shall not exceed such speed.

(3) No person shall drive or permit any other person to drive a locomotive, unless authorised to do so by his employer or the user of machinery, as the case may be.

(4) An employer or a user of machinery shall not, except as provided for in subregulation (5), authorise any person to drive a locomotive while it is being used for the conveyance of persons other than those required for the working of the locomotive or train, unless such person is the holder of a locomotive engine driver's certificate issued by the South African Transport Services or in terms of regulations made under the Mines and Works Act, 1956 (Act 27 of 1956).

(5) In the case of a locomotive other than a steam locomotive, having a design speed not exceeding 20 kilometres per hour, an employer or user of machinery, as the case may be, may authorize a person who has attained the age of 18 years to drive such a locomotive while it is being used for the conveyance of persons: Provided that -

(*a*) the employer or user of machinery is satisfied that the sight and hearing of any such person are not defective and that he does not suffer from any other physical or mental infirmity which is likely to interfere with the efficient and safe performance of his duties; and

(*b*) the person so authorised is competent to carry out the duties assigned to him.

(6) The provisions of this regulation shall not apply to trains operated by the South African Transport Services.

11 to 13 inclusive

[R. 11 to 13 inclusive repealed by GNR.1010 OF 2003.]

13A. Ladders.-(1) An employee shall ensure that every ladder is constructed of sound material and is suitable for the purpose for which it is used, and -

(*a*) is fitted with non-skid devices at the bottom ends and hooks or similar devices at the upper ends of the stiles which shall ensure the stability of the ladder during normal use; or

(*b*) is so lashed, held or secured whilst being used as to ensure the stability of the ladder under all conditions and at all times.

(2) No employer shall use a ladder, or permit it to be used, if it -

(*a*) (i) has rungs fastened to the stiles only by means of nails, screws, spikes or in like manner; or

(ii) has rungs which have not been properly let into the stiles: Provided that in the case of welded ladder or ladders of which the rungs are bolted or riveted to the stiles, the rungs need not be let into the sides; or

(*b*) has damaged stiles, or damaged or missing rungs.

(3) No employer may permit that -

(*a*) a ladder which is required to be leaned against an object for support be used which is longer than 9 m; and

(*b*) except with the approval of an inspector, the reach of a ladder be extended by fastening together two or more ladders:

Provided that the provisions of this subregulation shall not apply to extension of free-standing lad ders.

(4) In the case of wooden ladders the employer shall ensure that -

(*a*) the ladders are constructed of straight grained wood, free from defects, and with the grain running in the length of the stiles and rungs; and

(*b*) the ladders are not painted or covered in any manner, unless it has been established that there are no cracks or other inherent weaknesses: Provided that ladders may be treated with oil or covered with clear varnish or wood preservative.

(5) When work is done from a ladder, the employer shall -

(*a*) take special precautionary measures to prevent articles from falling off; and

(*b*) provide suitable sheaths or receptacles in which hand tools shall be kept when not being used.

(6) An employer shall ensure that a fixed ladder which exceeds 5 m in length and is attached to a vertical structure with an inclination to the horizontal level of 75° or more-

(*a*) has its rungs at least 150 mm away from the structure to which the ladder is attached; and

(*b*) is provided with a cage which -

(i) extends from a point not exceeding 2.5 m from the lower level to a height of at least 900 mm above the top level served by the ladder; and

(ii) shall afford firm support along its whole length for the back of the person climbing the ladder, and for which purpose no part of the cage shall be more than 700 mm away from the level of the rungs:

Provided that the foregoing provisions of paragraph (*b*) shall nor apply if platforms, which are spaced not more than 8m apart and suitable for persons to rest on, are provided.

13B. Ramps.-(1) An employer shall ensure that every ramp-

(*a*) is constructed in accordance with accepted technical standards;

(*b*) has a safety factor of at least two with respect to the load it is expected to carry: Provided that the design makes sufficient provision for the load on the ramp as a result of the turning, braking and acceleration of vehicles, if the ramp is used for vehicles; and

(*c*) has an inclination to the horizontal level of not more than 34° or one vertical to one and one half horizontal.

(2) An employer shall ensure that every ramp-

(*a*) the inclination of which renders additional foothold necessary, in every case where the inclination is more than 14° or one vertical to four horizontal, is provided with stepping laths which-

(i) are placed at suitable intervals; and

(ii) extend the full width of the ramp: Provided that the stepping laths may be interrupted over a width not exceeding 230 mm to facilitate the movement of barrows; and

(*b*) which is higher than 2m and is provided on both sides with-

(i) substantial guard rails which are at least 900 mm and not exceeding 1 000 mm in height, and

(ii) toe-boards which are at least 150 mm high and so affixed that no open space exists between the toe-board and the ramp.

13C TO 13G inclusive. . . . . .

[R. 13C TO 13G inclusive repealed by GNR.1010 OF 2003.]

14. Offences and penalties.-Any person who contravenes or fails to comply with any provision of regulation 2 (1), 2 (2), 2 (4), 2 (5), 2 (6), 2A, 2C, 3, 4, 5, 6, 7, 8 (1), 8 (2), 8 (3), 8 (4), 9, 10 (1), 10 (2), 10 (3), 10 (4), 11 (1), 12, 13A, 13B, 13C, 13D, 13E, 13F, or 13G shall be guilty of an offence and liable, on conviction to a fine or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence

continues, or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

[R. 14 amended by GRN.1791 of 1998 and by GNR. 928 of 2003.]

15. Withdrawal of Regulations.-The following regulations are hereby repealed:

(*a*) Regulations B.6, B.12 and B.14, published under Government Notice R.929 of 28 June 1963;

(*b*) regulations C.13, C.13B, C.13C, C.13D, C.13E, C.13F, C.14, C.16, C.17, C.20, C.47, C.48 and C.50, published under Government Notice R.929 of 28 June 1963, as amended by Government Notices R.3475 of 9 October 1969 and R.109 of 26 January 1973;

(*c*) regulation C.13A, published under Government Notice R.109 of 26 January 1973; and

(*d*) regulations D.1, D.3, D.5, D.6, D.7, D.8, D.9, D.10, D.11, D.12, D.13, D.14, D.16, D.21 and D.22 published under Government Notice R.1934 of 13 December 1963, as amended by Government Notices R.3475 of 9 October 1969, R.1336 of 21 August 1970 and R.109 of 26 January 1973.

[R. 15 amended by GN 433 of 1986 and by GNR. 1791 of 1988.]

16. Short title.- These regulations shall be called the General Safety Regulations.

Annexure:

MINIMUM CONTENTS OF A FIRST-AID BOX
[REGULATION 3]

In the case of shops and offices, the quantities stated under items 1, 8, 9, 10, 14, 15, 17, and 18 may be reduced by half.

Item 1: Wound cleaner / antiseptic (100m*l*)
Item 2: Swabs for cleaning wounds.
Item 3: Cotton wool for padding (100g).
Item 4: Sterile gauze (minimum quantity 10).
Item 5: 1 pair of forceps (for splinters).
Item 6: 1 pair of scissors (minimum size 100mm).
Item 7: 1 set of safety pins.
Item 8: 4 triangular bandages.
Item 9: 4 roller bandages (75mm x 5m).
Item 10: 4 roller bandages (100mm x 5m).
Item 11: 1 roll of elastic adhesive (25mm x 3m).
Item 12: 1 Non-allergenic adhesive strip (25mm x 3m).
Item 13: 1 Packet of adhesive dressing strips (minimum quantity, 10 assorted sizes).
Item 14: 4 First aid dressings (75mm x 100mm).
Item 15: 4 First aid dressings (150mm x 200mm).
Item 16: 2 Straight splints.
Item 17: 2 Pairs large and 2 pairs medium disposable latex gloves.
Item 18: 2 CPR mouth pieces or similar devices.

[Annexure substituted by GNR.2245 OF 1992.]

GNR.744 of 10 April 1987: Incorporation of Safe ty Standard

Under the powers vested in me by section 36 (1) of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), I, Pieter Thenius Christiaan du Plessis, Minister of Manpower and Public Works, hereby incorporate the Code of Practise entitled 'Fire Resistance Test for Building Elements SABS 0177: Part 11 - 1981" into the General Safety Regulations published by Government Notice R.1031 of 30 May 1986.

P. T. C. DU PLESSIS
Minister of Manpower and Public Works.

GN 283 of 1991: Incorporation of Safety Standards

Under the powers vested in me by section 36 (1) of the Machinery and Occupational Saferty Act, 1983 (Act No. 6 of 1983), I, Eli van der Merwe Louw, the Minister of Manpower, hereby incorporate into the General Safety Regulations, 1986, as amended , the safety standards specified in the Schedule hereto.

E.VAN DER M. LOUW
Minister of Manpower

SCHEDULE

1 Regulation 9 (1) (*e*)

British Standard specifications BS 6158 enti tled "Specification for Safety Devices for Fuel Gases and Oxygen or Compressed Air for Welding, Cutting and Related Processes".

Din Standard specifications Din 8521 entitled "Safety Devices against Flashback Backflow in Welding, Cutting and Allied Processes - Safety Requirements, Testing".

International Standards Organisation specification ISO 5175 entitled "Equipment Used in Gas Welding, Cutting and Allied Processes - Safety Devices of Fuel Gases and Oxygen or Compressed Air- General Specifications, Requirements and Tests".

2 Regulation 13B

The South African Bureau of Standards Code of Practice SABS 085 entitled "The Design, Erection, Use and Inspection of Access Scaffolding".

3 Regulation 13C

The South African Bureau of Standards Code of Practice SABS 087 entitled "Handling, Storage and Distribution of Liquefied Petroleum Gas in Domestic, Commercial and Industrial Installations".

Part I: "Consumer Liquefied Petroleum Gas Cylinder Installations".
Part II: "Installations in Mobile Units and Small Non-Permanent Buildings".
Part III: "Bulk Liquefied Petroleum Gas Storage and Allied Facilities at Consumer's Premises".
Part IV: "Transportation of Liquefied Petroleum Gas in Bulk by Road".
Part V: "Liquefied Petroleum Gas as Engine Fuel".
Part VII: "Retail outlet and similar Liquefied Petroleum Gas Filling Sites for Small Containers".
Part VIII: "The Fuelling of Fork Lift Trucks and Other Liquefied Petroleum Gas Operated Vehicles".

(28 March 1991)

GNR.736 of 1 September 2001: Withdrawal of Government Notice No. R.1847 and Incorporation of Health and Safety Standard: General Safety Regulations

Under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993). I, Membathisi Mphumzi Shepherd Mdladlana, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby-

(1) withdraw Government Notice No. R.1847 as published on 16 September 1988;
(2) incorporate the South African Bureau of Standard's code of practice SABS 0338:99 entitled "Homologation of Respiratory Equipment" into the General Safety Regulation as amended by Government Notice R. 2245 of 7 August 1992; and
(3) require that as from 1 September 2001 all respiratory protective equipment shall be submitted to the South African Bureau of Standards, Pretoria, for homologation.

R.827 of 2017 (G.G. 41037 of 11/08/2017)
R.1463 of 2017 (G.G. 41350 of 22/12/2017)
R.1028 of 2018 (G.G. 41955 of 05/10/2018)

R.328 of 2021
(G.G. 44663 of 04/06/2021)

NOTICE OF DIRECTION IN TERMS OF SECTION 27(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, READ WITH REGULATION 3(4) OF THE GENERAL SAFETY REGULATIONS

I, Tibor Szana, duly designated by Minister of Employment and Labour in terms of section 27(1) of the Occupational Health and Safety Act, Act No. 85 of 1993 as Chief Inspector for the purposes of the aforementioned Act, and acting in terms of the powers and functions conferred upon me by section 27(2), and those assigned to me by provisions of the Act, hereby give **notice that first aid level 1, 2, 3 training conducted by first aid training organizations approved by the Chief Inspector has ceased to exist as from 1 April 2021**. A person or organization who wants to provide First Aid Training approved by the Chief Inspector, as referred to in Regulation 3(4) of the General Safety Regulation published under Government Notice R1031 of 30 May 1986, must be in accordance with a valid accreditation document issued by the **Quality Assurance Body that has been delegated the quality assurance responsibilities for First Aid unit standards by the Quality Council for Trades and Occupations (QCTO),** established in terms of section 26 (1) of the Skills Development Amendment Act, Act No 37 of 2008, as amended.

Signed

Tibor Szana
Chief Inspector OHS

MAJOR HAZARDS INSTALLATION REGULATIONS

GNR.2989 of 31 January 2023

[These regulations were published in GNR.2989 of January 2023]

The Minister of Labour has, after consultation with the Advisory Council for Occupational Health and Safety, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.- In these Regulations, a word or expression to which a meaning has been assigned in the Act has the meaning so assigned and, unless the context otherwise indicates -

"affected or interested party" means a person, group of persons or organisations interested in or affected by an establishment and an organ of state that has jurisdiction over an establishment;

"change" means -

(a) a modification in the methods, equipment or procedures in use or the handling or processing of dangerous substances in the establishment that may increase the establishment's risk profile;

(b) an increase or decrease in the quantity of dangerous substances contemplated in Chapters 1 and 2 that results in the establishment being classified as a major hazard installation where -

(i) a low hazard establishment becomes a medium hazard establishment or vice versa;

(ii) a medium hazard establishment becomes a high hazard establishment or vice versa;

(iii) a low hazard establishment becomes a high hazard establishment or vice versa; or

(iv) an installation below the low hazard establishment threshold becomes a low, medium or high hazard establishment;

(c) when an emergency plan is brought into action for a major incident;

"dangerous substances" means substances or mixtures used or present at the workplace that could, if not properly controlled, cause harm to people, the environment and property as a result of loss of containment, fire or explosion;

"direction" means a notice, or a recommendation an instruction served by an inspector in writing;

"duty holder" means an employer, a self-employed person, a user or a pipeline operator who is in control of an establishment;

"establishment" means a major hazard installation under the control of a duty holder where Chapter 1, 2 or 3 dangerous substances are present;

"emergency plan" means a plan contemplated in regulation 15;

"existing establishment" means an establishment where dangerous substances are present in quantities listed in Chapter 1, 2 or 3;

"high hazard establishment" means -

(a) an establishment where Chapter 1 or 2 dangerous substances are present in quantities equal to or in excess of the quantities listed in column 3 of Chapter 1 or 2; and

(b) pipelines contemplated in Chapter 3;

"impact zone" means the zone where other installations or neighbours could be affected due to a major incident;

"installation" means a technical unit within an establishment, above or below ground level, in which substances are produced, used and stored and which includes all the equipment, structures, pipework, machinery, tools, railway sidings and quays, warehouses and similar structures necessary for the operation of that installation;

"low hazard establishment" means an establishment where Chapter 1 or 2 dangerous substances are present and the quantity is equal to or exceeds the quantity in column 1 but is less than quantities listed in column 2 of Chapter 1 or 2;

"licence to operate" means a licence contemplated in regulation 13;

"major incident prevention policy" means a policy contemplated in regulation 11;

"medium hazard establishment" means an establishment where Chapter 1 or 2 dangerous substances are present and the quantity is equal to or exceeds the quantity in column 2, but is less than the quantity in column 3 of Chapter 1 or 2;

"near miss" means an event (causing damage to property, a negative impact on the environment or loss of human life) or operational interruption that could plausibly have resulted if the circumstances had been slightly different;

"new establishment" means an establishment which, after the date of entry into force of these Regulations, is erected or declared to be an establishment;

"prescribed quantity", in relation to a given dangerous substance or a category or categories, means a quantity equal to the value set out in Annexure A;

"process safety management system" means a system contemplated in regulation 11(3)(h);

"responsible person" means a person designated, in writing, by a duty holder to be responsible, in a full-time capacity, for the premises on which an establishment is operated;

"risk assessment" means the process contemplated in regulation 10;

"the act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"transit" means a time or place in which dangerous substances are transported by rail, road, waterways or airways, which may be between planned points of departure and arrival;

"safety data sheet" means a document aligned to globally harmonised systems, that provides information on the hazard classification, properties of hazardous chemicals and procedures for the handling of, or working with, hazardous chemicals in a safe manner and how hazardous chemicals affect health and safety in the workplace;

"safety report" means a report contemplated in regulation 12;

"sans 1461" means South African National Standard: Major Hazard Installation – Risk Assessments, as amended from time to time;

"sans 1514" means South African National Standard: Major Hazard Installation: Emergency Response Planning, as amended from time to time;

"un number" means the dangerous substance four-figure identification number in the United Nations Transport of Dangerous Goods – Model Regulations, as amended from time to time;

"un trough test" means Part III of the United Nations classification procedures, tests methods and criteria relating to class 2, class 3 and class 4, division 5.1, class 8 and class 9, as amended from time to time;

"United Nations Recommendations on the Transport of Dangerous Goods" means guidance documents developed by the United Nations to harmonise dangerous goods transport regulations, as amended from time to time, commonly known as the UN Orange Book.

2. Scope of Application-(1) These Regulations apply to -

(a) major hazard installations;

(b) establishments with the prescribed quantity of substances listed in Chapter 1 or 2; and

(c) major pipeline establishments.

(2) These Regulations, excluding regulations 11, 12 and 13, apply to low hazard establishments.

(3) These Regulations, excluding regulations 12 and 13, apply to medium hazard establishments.

(4) Regulations 14 and 15 apply to local government.

(5) Regulations 21 and 22 apply to an approved inspection authority.

(6) These Regulations do not apply to nuclear installations registered in terms of the Nuclear Energy Act, 1993 (Act No. 131 of 1993).

3. Management of Establishment-(1) In order to ensure that the provisions of the Act and these Regulations in relation to major hazard installation are complied with, the duty holder must designate a responsible person in writing and in full-time capacity in respect of every premises where an establishment is operated.

(2) Subject to subregulation (1), the chief inspector may require that any high hazard establishment be operated by a designated responsible person who holds a relevant qualification.

(3) A duty holder may appoint, in writing, one or more deputies to assist the responsible person designated in terms of subregulation (1), and must clearly define the duties of such deputies without exempting the responsible person designated in subregulation (1) to properly discharge their duties.

(4) If, in the opinion of the chief inspector, circumstances require the appointment of one or more deputies as contemplated in subregulation (3), the chief inspector may instruct the duty holder to appoint a specified number of deputies.

(5) Every duty holder must on a regular basis consult with the neighbouring establishments and counterparts within the potential impact zone -

(a) to discuss any associated major incident associated with the type of establishment;
(b) to share any changes made to the establishment that alters the risk profile; and
(c) to share alert systems in a case of emergency.

(6) The duty holder must keep a record of all consultations contemplated in subregulation (5).

4. Notification of Establishment - (1) A duty holder must notify the chief inspector, the relevant chief director: provincial operations and the local government on Form A, 90 days -

(a) before the erection of an establishment; or
(b) when there is an anticipated change to an existing establishment.

(2) A duty holder, after the entry into force of these Regulations, must update the notification of an existing establishment and send it to the chief inspector, the relevant chief director: provincial operations and the local government on a prescribed form A, within 24 months.

(3) The notification referred to in subregulation (1) or (2) must be accompanied by -

(a) proof of permission or approval from the relevant local government on land use indicating the exact location of the site;
(b) a letter of designation contemplated in regulation 3(2) and the responsible person's competency profile;
(c) an inventory list and safety data sheets of all the dangerous substances that resulted in the installation being classified as an establishment;
(d) a statement containing the envisaged maximum quantity of all the substances that may be present at the establishment at any one time;
(e) the most recent risk assessment report contemplated in regulation 10;
(f) a site map showing the establishment location and indicating developments around the vicinity of the establishment;
(g) a substance location plan drawn to a scale of not less than 1 to 2 500 which identifies the area on the site where the dangerous substances will be stored, handled, used or processed, showing the location of the major items of plant used in such activities;
(h) information regarding the neighbours or other establishments within the impact zone, including–
    (i) sites that are likely to be affected by a major incident and their exact distances from the establishment;
    (ii) known future development that might increase the risk or consequences of a major incident; and
    (iii) other establishments and their exact distances;
(i) proof of the publication of the advertisement contemplated in subregulation (4); and
(j) where applicable, the latest version of the major incident prevention policy.

(4) A duty holder who erects an establishment or updates a risk assessment or converts an existing installation into an establishment must -

(a) place an advertisement, in English and the predominant language in the area, in at least one newspaper serving the communities in the vicinity of the establishment; and
(b) post notices within those communities, containing at least the–
    (i) name and location of the establishment;
    (ii) name, title and telephone number of the contact person from whom further information can be obtained;
    (iii) nature of the dangerous substances and the major incidents that may occur; and
    (iv) time and place where a risk assessment report will be explained and may be viewed.

(5) Any affected or interested party may make representations, in writing, to the relevant local government and the chief inspector, within 60 days after the publication of an advertisement referred to in subregulation (4), if the establishment is not acceptable and poses a risk to that party.

5. Registration of Establishment-(1) After considering the notification referred to in regulation 4(1) or (2), the chief inspector may on payment of the appropriate registration fee specified in Annexure B -

(a) register the premises as a major hazard installation subject to such conditions as the chief inspector deems fit to impose;
(b) enter into the register, particulars pertaining to the name of the major hazard installation, the premises address and other details as the chief inspector deems fit; and
(c) issue to the duty holder a certificate of registration within 60 days; or
(d) refuse to register the major hazard installation.

(2) Where the chief inspector refuses to register the major hazard installation in respect of which a notification has been made, the chief inspector must notify the duty holder of the reasons for the refusal.

(3) The duty holder must conspicuously display the latest registration certificate received in terms of subregulation (1)(c).

6. Duration of Registration and Renewal-(1) Subject to regulation 5(1), the registration is valid for a period of five years or for such other period as the chief inspector may determine in a particular case, unless the registration is earlier suspended or revoked in accordance with the Regulations.

(2) The chief inspector shall renew the registration upon the updating of a risk assessment and documents as may be required and on payment of the appropriate renewal fee specified.

7. Alteration to Particulars of Registered Establishment

The duty holder must, where there is an alteration in any of the particulars of a major hazard installation, furnish the alterations to the chief inspector, relevant chief director: provincial operations and relevant local government not later than 14 days after such alteration occurs.

8. Revocation or Suspension of Registration-(1) The inspector may issue a direction instructing the duty holder immediately to comply with the requirements specified in the direction, if the premises of the registered major hazard installation become unfit for occupation or use because of a -

(a) failure by the duty holder to ensure that work is carried out safely; or
(b) change effected on the establishment without notifying the chief inspector, the chief director: provincial operations and the local government; or
(c) new hazardous fact or circumstance that was not present when the establishment was registered.

(2) The chief inspector may revoke the registration if -

(a) the duty holder fails to comply with the issued direction;
(b) the chief inspector has established that the duty holder has contravened a condition of registration; or
(c) the inspector has proven that the duty holder has ceased occupation or use of the premises as an establishment.

(3) An inspector must, before advising the chief inspector to revoke or suspend the registration of an establishment as contemplated in subregulations (2) and (3) -

(a) issue to the duty holder a direction, in writing, of the intention to revoke or suspend the registration; and
(b) give the duty holder a reasonable opportunity to submit reasons as to why the registration should not be revoked or suspended.

(4) The revocation or suspension of registration does not take effect -

(a) until the expiration of 21 days after the date on which direction of the chief inspector's intention to revoke or suspend the registration was given to the duty holder as contemplated in subregulation (4)(a); or
(b) where an appeal against the decision of the chief inspector is made to the Labour Court in terms of section 35 of the Act, until the appeal has been determined or withdrawn.

(5) An inspector may advise the chief inspector at any time, and for a valid reason, to shorten the period for which the registration is suspended.

9. Sharing of Information with Adjacent Establishments

The chief inspector may designate one or more registered major hazard installations in a certain location as a group of establishments, and require such establishments to share information, including the -

(a) basic particulars of the establishment;
(b) responsible person for that establishment;
(c) description of major incidents associated with that type of establishment, and consequences of such incidents; and
(d) information on how affected neighbours will be alerted in the event of a major incident.

10. Risk Assessment-(1) A duty holder must, after consultation with the relevant health and safety representative or health and safety committee, ensure that an approved inspection authority carries out a risk assessment in accordance with SANS 1461 at intervals not exceeding five years or when there is a change in the establishment.

(2) Every duty holder must -

(a) inform the relevant health and safety representative or health and safety committee, in writing, of the arrangements made to carry out a risk assessment contemplated in subregulation (1); and
(b) ensure that the results of the risk assessment are made available to the relevant health and safety representative or committee, who may comment thereon.

(3) Where a risk assessment has been reviewed or revised, without a change to the establishment, the duty holder must submit an updated copy of the risk assessment report to the chief inspector, the relevant chief director: provincial operations and the relevant local government within 60 days.

(4) Every duty holder must ensure that a copy of the most recent risk assessment report is available on site for inspection by an inspector or a local government.

(5) Subregulation (1) shall not apply in the case of rolling stock in transit: Provided that the operator of a railway shall ensure -

(a) that a risk assessment applicable to rolling stock in transit is carried out and made available for inspection at the request of an inspector or a local government or both that inspector and that local government, as the case may be; and
(b) that, in the interest of the health and safety of the public, the necessary precautions are taken.

(6) A duty holder shall ensure that the risk assessments contemplated in subregulations (1) and (3) be made available for scrutiny by any affected or interested person that may be affected by the activities of the establishment, at a time and place and in a manner agreed upon between the parties.

11. Major Incident Prevention Policy-(1) The duty holder must prepare and retain a written major incident prevention policy, as contemplated in Annexure C, on the -

(a) construction and building of the establishment;
(b) change in the establishment; or
(c) safe operation of the establishment.

(2) Every duty holder must, within 36 months after the entry into force of these Regulations, establish and have in record a major incident prevention policy.

(3) The major incident prevention policy must provide for a high level of protection for employees and the public and must include at least -

(a) the aims and objectives of the policy;
(b) the roles and responsibilities of the establishment's management;
(c) process safety performance indicators;
(d) commitments towards the maintenance and continual improvement of the policy;
(e) the aims and objectives of the–
    (i) emergency plan;
    (ii) evacuation plan regarding the–
        (aa) speedy evacuation of persons;
        (bb) roll-call after evacuation; and
        (cc) plant shut down;
(f) reasons for revision;
(g) mandatory agreements; and
(h) the process safety management system with principles specified in Annexure D.

(4) A duty holder must review the major incident prevention policy, every five years or when there is a change in the establishment which renders the existing policy inadequate: Provided that an updated copy is available for inspection by an inspector and a local government.

12. Safety Report-(1) The duty holder of a high hazard establishment must prepare a comprehensive, site-specific, safety report, which must be -

(a) developed during the design phase and be continually updated until the start date of operations; and
(b) maintained for the duration of the life of the establishment.

(2) The safety report must demonstrate a suitable and sufficiently documented plan to ensure -

(a) that reliable built-in safety has been incorporated into the -
    (i) design;
    (ii) construction;
    (iii) operation; and
    (iv) maintenance of any equipment and infrastructure used in the establishment; and
(b) the application of -
(i) the major incident prevention policy;
(ii) the process safety management system;
    (iii) the organisational and necessary measures to prevent major incidents and to limit their consequences;
    (iv) the on-site emergency plan.

(3) The safety report must also contain information regarding an off-site emergency plan to take the necessary measures in the event of a major incident.

(4) The duty holder of a proposed high hazard establishment must submit to the chief inspector a -

(a) preliminary safety report at the design stage of that establishment; and
(b) final safety report within a reasonable time before the establishment starts operations.

(5) The duty holder must send a safety report to the chief inspector within 36 months after the entry into force of these Regulations.

(6) Every duty holder must review the safety report -

(a) every five years;
(b) prior to any change to the establishment; or
(c) whenever there is a change in the process safety management system which could have significant repercussions with respect to the prevention of major incidents or the limitation of the consequences of major incidents:

Provided that the updated copy of the safety report, revised under this subregulation, is sent to the chief inspector within 60 days.

13. Licence to Operate-(1) A duty holder who operates a high hazard establishment must apply for a licence to operate such an establishment.

(2) An existing duty holder must apply for a licence not later than 36 months after the entry into force of these Regulations.

(3) The chief inspector, upon receipt of an application in terms of subregulations (1) and (2), with a written proof of occupancy from the local government, may -

(a) issue a licence;
(b) decide not to issue a licence and give reasons for the decision; or
(c) issue a licence subject to any condition that the chief inspector deems reasonable and necessary.

(4) A licence issued under subregulation (3) -

(a) may not be transferred to another establishment; and
(b) lapses after 12 months if the new installation has not started operations or the establishment has not been operated within 12 months after the issue of the licence.

(5) The chief inspector may -

(a) suspend or withdraw a licence if the conditions subject to which the licence was issued are not complied with; or
(b) alter a condition in an existing licence after consultation with the duty holder and the relevant health and safety representative or the relevant health and safety committee.

14. General Duties of Local Government-(1) Without derogating from the provisions of the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and the Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013), a local government must not permit the erection of a new establishment or the expansion of an establishment at a separation distance that poses an unacceptable risk in terms of the risk assessment contemplated in regulation 10.

(2) The local government must -

(a) permit a new development only where there is a separation distance which will not pose an unacceptable risk in terms of the risk assessment contemplated in regulation 10; and
(b) prohibit any new property development adjacent to an establishment that will result in that new development being declared an establishment.

(3) The relevant local government must give consent for the on-site emergency plan and participate in the annual emergency test drill as contemplated in regulation 15(4)(e).

(4) Where a relevant local government does not have the facilities available to control a major incident or to comply with the requirements of these Regulations, that local government must make prior arrangements with a neighbouring local government, the relevant provincial government or the duty holder for assistance.

(5) The relevant local government is responsible for the off-site emergency plan to be followed outside the premises of the establishment.

(6) The relevant local government must prepare an off-site emergency plan in accordance with SANS 1514 and in consultation with the duty holder and interested or affected persons, within 24 months after the entry into force of these Regulations, and thereafter immediately for new establishments, and review the plan when there are significant changes to the hazard profile of the area.

(7) The duty holder must, on written request by, and within the time limits imposed by the local government, furnish the local government with the necessary information needed to prepare the off-site emergency plan.

15. Emergency Plan-(1) A duty holder must, immediately after submission of the notification contemplated in regulation 4, in consultation with the relevant health and safety representatives or health and safety committee, in writing, appoint an emergency coordinating team consisting of at least -

(a) the responsible person contemplated in regulation 3(2); or
(b) a responsible person's deputy contemplated in regulation 3(3); and
(c) a representative from the health and safety committee.

(2) The duty holder must develop and maintain an on-site emergency plan before the establishment commences operations in consultation with the emergency coordinating team and in accordance with SANS 1514.

(3) The on-site emergency plan for an existing establishment must be aligned and updated to SANS 1514 within 12 months after the entry into force of these Regulations.

(4) A duty holder must -

(a) ensure that the manner in which employees, visitors and neighbours will be warned of major incidents is included in the plan;
(b) sign a copy of the on-site emergency plan in the presence of at least two witnesses who have knowledge in emergency planning and who must be satisfied with the content of the emergency plan and attest to the signature of the duty holder;
(c) obtain approval of the on-site emergency plan from the relevant local government;
(d) ensure that the on-site emergency plan is readily available at all times for implementation and use;
(e) cause the on-site emergency plan to be tested or exercised in practice at least once a year and take the necessary steps to arrange for the local government to participate in such tests; and
(f) give an early warning to affected or interested parties in case a major incident is likely to go beyond the borders of the establishment.

(5) The duty holder and the relevant local government must take reasonable steps to activate the on-site emergency plan in case of an incident which may result in–

(a) a major incident; or
(b) an uncontrolled event which may reasonably be expected to lead to a major incident; or
(c) a near miss that could reasonably be expected to have resulted in a major incident.

(6) The duty holder must review the on-site

emergency plan at least once every three years and, if necessary, revise the plan.

(7) The duty holder and the local government must jointly ensure that all first responders at the scene of a major incident have the necessary skill to deal with the dangerous substances and are dressed in the appropriate emergency personal protective equipment as required in their respective emergency plans.

16. Reporting of Risk and Emergency Occurrences-(1) A duty holder must -

(a) subject to regulation 8 of the General Administrative Regulations, published under Government Notice R. 929 in Government Gazette 25129 of 25 June 2003, within 48 hours, inform the chief inspector by means of telephone, facsimile or similar means of communication of -
  (i) a major incident; or
  (ii) an incident that brought the emergency plan into activation;
(b) investigate and submit a written preliminary incident report to the chief inspector within seven days after an emergency occurrence and a major incident;
(c) submit a final report as soon as reasonably practicable but not later than six months after the incident;
(d) investigate and record all near misses in a register which must at all times be available for inspection by an inspector and the local government.

(2) A duty holder must, in the case of an emerging major incident or an emergency occurrence that was or may have been caused by a dangerous substance, inform the supplier of that dangerous substance about the incident.

17. Information and Training- (1) A duty holder must, after consultation with the relevant health and safety representative or health and safety committee, ensure that all employees are adequately trained with regard to -

(a) the scope of these Regulations;
(b) the nature of the establishment;
(c) potential major hazards and associated major incidents;
(d) potential risks to health and safety caused by the identified major hazards;
(e) the practices and control procedures for a major incident;
(f) the content of the emergency plan and that visitors also are conversant with such content; and
(g) the safety protocols and measures to be followed on-site.

(2) The duty holder must ensure that all trained employees undergo refresher training whenever there is a change in the establishment or when the risk assessment has been reviewed.

(3) The duty holder must provide induction orientation about the kept substances, major hazard areas and actions to be follow in case of emergency to all mandatories, visitors and any person who, in any manner, assists in carrying out or conducting allocated duties, before they enter the establishment.

(4) The duty holder must ensure the induction orientation as contemplated in subregulation (3) is refreshed in the event of any change to an establishment which significantly alters the risk associated with the establishment: Provided that the induction training will be valid for periods not exceeding 12 months.

18. General Duties of Suppliers-(1) Every person that supplies a dangerous substance to an establishment must issue a safety data sheet that is supplied with the substance and must also provide basic information for training on the use and handling of the substance.

(2) On receipt of information contemplated in regulation 16(2), a supplier of a dangerous substance involved in an emerging major incident or potential major incident must inform all clients supplied with that substance of the emerging potential dangers surrounding the dangerous substance.

(3) A supplier must, in the event of a major incident with regard to the dangerous substance supplied, provide information and advice that must be readily available on a 24-hour basis to all duty holders, the relevant local government and any other body concerned.

19 Payable Fees-(1) A duty holder must pay a prescribed fee each time a notification, a renewal or a revision of a risk assessment is sent to the chief inspector: Provided that the chief inspector may grant an exemption from payment of such fees or may determine any other fee, if necessary.

(2) The chief inspector may waive but not refund the whole or any part of any fee paid or payable under these Regulations.

20. MHI Advisory Committee-(1) The chief inspector may, with the approval of the Advisory Council for Occupational Health and Safety, establish an MHI Advisory Committee to advise on any matter related to major hazard installations, codes, standards and training requirements: Provided that any accredited or approved training must be in accordance with South African Qualifications Authority standards.

(2) The chief inspector shall appoint members of the MHI Advisory Committee for a period that he may determine at the time of appointment: Provided that the members are approved by the Advisory Council for Occupational Health and Safety.

(3) Any person affected by the decision of the MHI Advisory Committee may appeal to the chief inspector within 60 days of such decision becoming known and the chief inspector shall, after considering the grounds of the appeal and the MHI Advisory Committee's reasons for the decision, confirm or set aside or vary the decision or substitute such decision for any other decision which the MHI Advisory Committee in the chief inspector's opinion ought to have taken.

(4) Any person aggrieved by the decision taken by the chief inspector under subregulation (3) may, within 60 days after the chief inspector's decision, appeal against such decision to the Labour Court.

21. Approved Inspection Authorities-(1) An inspection body accredited in terms of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006), or a foreign inspection body must apply for registration to the chief inspector on Form B.

(2) On receipt of the application contemplated in subregulation (1) the chief inspector must, subject to conditions if deemed necessary, approve the application.

(3) In the event of a dispute between an approved inspection authority (AIA) and a duty holder regarding a technical or safety matter, which cannot be reasonably resolved, the disputing parties may refer the case to the chief inspector in writing for arbitration, setting out the full details of the dispute.

(4) The chief inspector must, upon receiving a dispute contemplated in subregulation (3), appoint an arbitrator mutually agreed upon between the South African National Accreditation System and the parties.

(5) The dispute must be investigated and arbitrated within a maximum of 90 days after the submission of a request for arbitration.

(6) The chief inspector may at any time withdraw any approval granted to an approved inspection authority, subject to section 35 of the Act.

22. Duties of Approved Inspection Authority

(1) An approved inspection authority must ensure that the risk assessment contemplated in regulation 10 is carried out in terms of SANS 1461.

(2) An approved inspection authority must provide results on the classification and acceptability of risk, and make recommendations with regard to the following:

(a) the suitability of the existing emergency procedures for the major risks identified;
(b) any organisational measures that may be required;
(c) risk reduction proposals; and
(d) any other relevant matter.

(3) The approved inspection authority must, after each risk assessment, furnish the duty holder with the latest risk assessment report and attachments as required in terms of SANS 1461: Provided that such reports must be made available upon request by the chief inspector.

(4) An approved inspection authority must, on a monthly basis, submit a list of all major hazard installations assessed, to the chief inspector, in the form contemplated in Annexure E.

23. Closure

A duty holder must notify the chief inspector, the relevant chief director: provincial operations and the local government in writing, not less than 60 days prior to the installation ceasing to be a major hazard installation.

24. Offences and Penalties-(1) A duty holder who contravenes any of the provisions of these Regulations commits an offence and is, on conviction, liable to a fine not exceeding R5 000 000 or to imprisonment for a period not exceeding 24 months.

(2) The maximum permissible fines that may be imposed for contravening the Regulations are set out in the table below:

PREVIOUS CONTRAVENTIONS	CONTRAVENTIONS OF REGULATIONS: 3(1), 4(1), 4(4), 6(3), 7, 10, 11(1), 12(1), 13(1), 15(2), 16, 20(6) and 22
No previous contraventions	R500 000
A previous contravention within 12 months	R1 000 000
A previous contravention in respect of the same contravention within three years	R2 500 000
Three previous contraventions in respect of the same provision within three years	R5 000 000

25. Repeal of Regulations

The Major Hazard Installation Regulations, 2001, published in Government Notice No. R. 692 of 30 July 2001, are hereby repealed.

26. Short Title and Commencement

These Regulations are called the "Major Hazard Installation Regulations, 2022", and come into operation on a date determined by the Minister by notice in the Government Gazette.

ANNEXURE A:

Dangerous substances to which these Regulations apply

This Annexure applies to the presence of dangerous substances at any establishment and determines the application of the relevant regulations in accordance with regulation 2(1). The quantities set relate to each establishment.

Chapter 1

Named Dangerous Substances

Where a substance or group of substances listed in this Annexure also falls within Chapter 2 substances, the qualifying quantities set out in Chapter 1 must be used.

Named substances	UN NUMBER	Quantities in tonnes		
		Column 1 Low Hazard	Column 2 Medium Hazard	Column 3 High Hazard
Ammonia anhydrous	1005	15	50	200
Ammonium nitrate (as described in Note 3)	1438 Fertiliser based 2067 2071	2 000	5 000	10 000
Ammonium nitrate (as described in Note 4)		500	1 250	5 000
Ammonium nitrate (as described in Note 5)		150	350	2 500
Ammonium nitrate (as described in Note 6)		4	10	50
Potassium nitrate (as described in Note 7)	1486	2 000	5 000	10 000
Potassium nitrate (as described in Note 8)	1488	500	1 250	5 000
Arsenic pentoxide, arsenic (V) acid and/or salts	1559	1	1	2
Arsenic trioxide, arsenious (III) acid and/or salts	1561	0,1	0,1	0,1
Bromine	(l) 1701 (a)1744	5	20	100
Chlorine	1017	5	10	25
Nickel compounds in inhalable powder form (nickel monoxide, nickel dioxide, nickel sulphide, tri-nickel disulphide, di-nickel trioxide)	3089	1	1	1
Ethyleneimine	1185	5	10	20
Fluorine	1045	5	10	20
Formaldehyde (concentration ≥ 90%)	1198	2,5	5	50
Hydrogen	1049	2,5	5	50
Hydrogen chloride (liquefied gas)	1050	5	25	250
Hydrogen fluoride	1052	2,5	5	20
Lead alkyls	-	2,5	5	50
Liquefied extremely flammable gases (including LPG) and natural gas (whether liquefied or not)	1075	20	50	200
Acetylene	1001	2,5	5	50
Ethylene oxide	3089	2,5	5	50
Propylene oxide	1280	2,5	5	50
Methanol	1230	50	500	5 000
4,4-Methylenebis (2-chloraniline) and/or salts, in powder form	3077	0,01	0,01	0,01
Methyl isocyanate	2480	0,15	0,15	0,15
Oxygen	(compressed) 1072 (refrigerated) 1073	50	200	2 000
Toluene di-isocyanate	2078	1	10	100

Carbonyl dichloride (phosgene)	1076	0,3	0,3	0,75
Arsenic trihydride (arsine)	2188	0,2	0,2	1
Phosphorus trihydride (phosphine)	2199	0,2	0,2	1
Sulphur dichloride	1828	1	1	1
Sulphur dioxide	1079	2,5	5	20
Sulphur trioxide	1829	7,5	15	75
Polychlorodibenzofurans and polychlorodibenzodioxins (including TCDD), calculated in TCDD equivalent (see Note 8)	-	0,001	0,001	0,001
The following CARCINOGENS at concentrations above 5% by weight:				
4-Aminobiphenyl and/or its salts, Benzotrichloride, Benzidine and/or salts, Bis (chloromethyl) ether, Chloromethyl methyl ether, 1,2-Dibromoethane, Diethyl sulphate, Dimethyl sulphate, Dimethylcarbamoyl chloride, 1,2-Dibromo-3-chloropropane, 1,2-Dimethylhydrazine, Dimethylnitrosamine, Hexamethylphosphoric triamide, Hydrazine, 2-Naphthylamine and/or salts, 4-Nitrodiphenyl and 1,3-Propanesultone	-	0,5	0,5	2
Petroleum products: gasolines, naphthas, kerosenes (including jet fuels), gas oils (including diesel fuels, home heating oils and gas oil blending streams)	Gas (1075) Crude (1275)	250	2 500	25 000
Boron trifluoride	1008	5	5	20
Hydrogen sulphide	1053	5	5	20
Piperidine	2401	20	50	200
Bis(2-dimethylaminoethyl) (methyl)amine	-	20	50	200
3-(2-Ethylhexyloxy) propylamine	-	20	50	200
Propylamine	1277	200	500	2 000
Tert-butyl acrylate	-	100	200	500
2-Methyl-3-butenenitrile	-	200	500	2 000
Tetrahydro-3,5-dimethyl-1,3,5-thiadiazine-2-thione (Dazomet)	1277	50	100	200
Methyl acrylate	1919	200	500	2 000
3-Methylpyridine	2313	200	500	2 000
1-Bromo-3-chloropropane	2688	200	500	2 000

Chapter 2

Categories of Dangerous Substances

This Chapter covers all dangerous substances falling under the hazard categories in column 1 in accordance with the GHS as reflected in the CLP Regulations:

Hazard categories	**Column 1 Low Hazard**	**Column 2 Medium Hazard**	**Column 3 High Hazard**
1. Health Hazards: "H"			
1.1 H1 Acute Toxic Category 1, all exposure routes	5	5	20
1.2 H2 Acute Toxic Category 2, all exposure routes Category 3, inhalation exposure route (see Note 9)	15	50	200
1.3 H3 Specific Target Organ Toxicity (STOT) Category 1, Single Exposure (SE STOT)	15	50	200
2. Physical Hazards: "P"			
2.1 P2 Flammable gases Flammable gases, Category 1 or 2	2,5	10	50
2.2 P3a Flammable aerosols (see Note 10) Flammable aerosols Category 1 or 2, containing flammable gases Category 1 or 2 or flammable liquids Category 1	50 (net)	150 (net)	500 (net)

2.3 P3b Flammable aerosols (see Note 11) Flammable aerosols Category 1 or 2, not containing flammable gases Category 1 or 2 or flammable liquids category 1 (see Note 12)	1 250 (net)	5 000 (net)	50 000 (net)
2.4 P4 Oxidising gases Oxidising gases, Category 1	20	50	200
P5a Flammable liquids Flammable liquids, Category 1 maintained at a temperature above their boiling point, or Flammable liquids Category 2 or 3 maintained at a temperature above their boiling point, or Other liquids with a flash point ≤ 60°C, maintained at a temperature above their boiling point (see Note 12)	5	10	50
2.6 P5b Flammable liquids Flammable liquids Category 2 or 3 where particular processing conditions, such as high pressure or high temperature, may create major accident hazards, or Other liquids with a flash point ≤ 60°C where particular processing conditions, such as high pressure or high temperature, may create major accident hazards (see Note 13)	20	50	200
2.6 P5c Flammable liquids Flammable liquids, Categories 2 or 3 not covered by P5a and P5b	1 250	5 000	50 000
2.7 P6a Self-reactive substances and mixtures and organic peroxides Self-reactive substances and mixtures, Type A or B or organic peroxides, Type A or B	5	10	50
2.8 P6b Self-reactive substances and mixtures and organic peroxides Self-reactive substances and mixtures, Type C, D, E or F or organic peroxides, Type C, D, E or F	20	50	200
2.9 P7 Pyrophoric liquids and solids Pyrophoric liquids, Category 1 Pyrophoric solids, Category 1	20	50	200
2.10 P8 Oxidising liquids and solids Oxidising liquids, Category 1, 2 or 3, or Oxidising solids, Category 1, 2 or 3	20	50	200
3. Other Hazards: "O"			
3.1 O1 Substances or mixtures that react violently with water. Examples: acetyl chloride, alkali metals and titanium tetrachloride	40	100	500
3.2 O2 Substances and mixtures which in contact with water emit flammable gases, Category 1	40	100	500
3.3 O3 Substances or mixtures that liberate toxic gas when in contact with water. Examples: aluminium phosphide and phosphorus pentasulphide	20	50	200

Net: indicates the flammable content and not the full gross mass, thus the mass of the containers is ignored.

Chapter 3

Classification of pipelines as major hazard establishment

A pipeline is considered an establishment if it contains any of the following:

(1) A fluid which -

(a) is flammable in air;

(b) has a boiling point below 5°C at 1 bar absolute; and

(c) is or is to be conveyed in a pipeline as a liquid.

(2) A fluid which is or is to be conveyed in a pipeline as a gas which is -

(a) at pressures at above 8 bar absolute*;

(b) flammable in air**.

(3) Pressurised substances:

(a) Mixtures of gas and liquid which have a vapour pressure in excess of 0,5 bar above atmospheric pressure when in equilibrium with its vapour included;

(b) A liquid which has a vapour pressure greater than 1,5 bar absolute when in equilibrium with its vapour at either the actual temperature of the liquid or at 20°C.

(4) A very toxic fluid which–

(a) at 20°C has a saturated vapour pressure greater than 0,001 bar; or

(b) is or is to be conveyed in the pipeline as a liquid at a pressure greater than 4,5 bar absolute.

(5) A very toxic or toxic fluid which -

(a) is a gas at 20°C and 1 bar absolute; and

(b) is or is to be conveyed as a liquid or a gas, i.e. ammonia.

(6) A toxic fluid which -

(a) at 20°C has a saturated vapour pressure greater than 0,4 bar; and

(b) is or is to be conveyed in the pipeline as a liquid.

(7) An oxidising fluid which is or is to be conveyed as a liquid.

(8) A fluid which reacts violently with water.

(9) Acrylonitrile.

(10) Carbon dioxide.

(11) Gasoline. (Note14)

* Paragraph 2(a) also covers liquefied gases which are flammable in air when they are conveyed as a liquid. This includes butane and propane when conveyed in a pipeline as a liquid.

** Paragraph 2(b) is applicable to flammable gases conveyed as a gas. In such cases the additional duties only apply when the flammable gas is conveyed at a pressure in excess of 8 bars absolute. This covers such fluids as methane, butane and propane when conveyed as a gas.

NOTES

(1) The quantities set in Chapters 1 and 2 relate to each establishment.

(2) Mixtures and preparations must be treated in the same way as pure substances, provided they remain within the concentration limits set according to their properties under the CLP Regulations (EC 1272\2008, as amended), unless a percentage composition or other description is specifically given.

(3) Ammonium nitrate: fertilisers capable of self-sustaining decomposition.

This applies to ammonium nitrate-based compound/composite fertilisers (compound or composite fertilisers containing ammonium nitrate with phosphate and/or potash) which are capable of self-sustaining decomposition according to UN Trough Test (Part III, subsection 38.2) and in which the nitrogen content as a result of ammonium nitrate is -

(a) between 15,75% and 24,5% by weight and either with not more than 0,4% total combustible or organic materials or which satisfies the requirements of United Nations Recommendations on the Transport of Dangerous Goods: Manual of Tests and Criteria (3rd revised Edition, or as amended from time to time), Ammonium Nitrate Materials (High Nitrogen Content) Safety Regulations 2003,as amended, "the detonation resistance test"; or

(b) 15,75% or less by weight and unrestricted combustible materials.

(4) Ammonium nitrate: fertiliser grade.

This applies to straight ammonium nitrate-based fertilisers and to ammonium nitrate-based compound/composite fertilisers which satisfies the requirements of UN TDG and in which the nitrogen content as a result of ammonium nitrate is -

(a) more than 24,5% by weight, except for mixtures of ammonium nitrate with dolomite,

limestone and/or calcium carbonate with a purity of at least 90%;
(b) more than 15,75% by weight for mixtures of ammonium nitrate and ammonium sulphate;
(c) more than 28% by weight for mixtures of ammonium nitrate with dolomite, limestone and/or calcium carbonate with a purity of at least 90%, and which satisfy the detonation resistance test.

(5) Ammonium nitrate: technical grade.
This applies to -
(a) ammonium nitrate and preparations of ammonium nitrate in which the nitrogen content as a result of the ammonium nitrate is–
  (i) between 24,5% and 28% by weight, and which contain not more than 0,4% combustible substances; or
  (ii) more than 28% by weight, and which contain not more than 0,2% combustible substances;
(b) aqueous ammonium nitrate solutions in which the concentration of ammonium nitrate is more than 80% by weight.

(6) Ammonium nitrate (10/50): "off-specs" material not satisfying the detonation test.
This applies to -
(a) material rejected during the manufacturing process and to ammonium nitrate and preparations of ammonium nitrate, straight ammonium nitrate-based fertilisers and ammonium nitrate-based compound/composite fertilisers referred to in Notes 2 and 3, that are being or have been returned from the final user to a manufacturer, temporary storage or reprocessing plant for reworking, recycling or treatment for safe use, because they no longer comply with the specifications of Notes 4 and 5; or
(b) fertilisers which do not fall within Notes 3(a) and 5 because they do not satisfy the detonation resistance test, other than fertilisers which -
  (i) at the time of delivery to a final user satisfied the detonation resistance test; but
  (ii) later became degraded or contaminated; and
  (iii) are temporarily present at the establishment of the final user prior to their return for reworking, recycling or treatment for safe use or to their being applied as fertiliser.

*15,75% nitrogen content by weight as a result of ammonium nitrate corresponds to 45% ammonium nitrate.
**24,5% nitrogen content by weight as a result of ammonium nitrate corresponds to 70% ammonium nitrate.
***28% nitrogen content by weight as a result of ammonium nitrate corresponds to 80% ammonium nitrate.

(7) Potassium nitrate:
(a) Potassium nitrate (5 000/10 000): composite potassium nitrate-based fertilisers composed of potassium nitrate in prilled/granular form.
(b) Potassium nitrate (1 250/5 000): composite potassium nitrate-based fertilisers composed of potassium nitrate in crystalline form.

(8) Polychlorodibenzofurans and polychlorodibenzodioxins. The quantities of polychlorodibenzofurans and polychlorodibenzodioxins are calculated using the following factors:

TABLE 8.1 ITEF

International Toxic Equivalent Factors (ITEF) for the congeners of concern (NATO/CCMS)*			
2, 3, 7, 8-TCDD	1	2, 3, 7, 8-TCDF	0,1
1, 2, 3, 7, 8-PeCDD	0,5	2, 3, 4, 7, 8-PeCDF	0,5
		1, 2, 3, 7, 8-PeCDF	0,05
1, 2, 3, 4, 7, 8-HxCDD	0,1		
1, 2, 3, 6, 7, 8-HxCDD	0,1	1, 2, 3, 4, 7, 8-Hx-CDF	0,1
1, 2, 3, 7, 8, 9-HxCDD	0,1	1, 2, 3, 7, 8, 9-Hx-CDF	0,1
		1, 2, 3, 6, 7, 8-Hx-CDF	0,1
1, 2, 3, 4, 6, 7, 8-HpCDD	0,01	2, 3, 4, 6, 7, 8-Hx-CDF	0,1
		1, 2, 3, 4, 6, 7, 8-HpCDF	0,01
OCDD	0,001	1, 2, 3, 4, 7, 8, 9-HpCDF	0,01
		OCDF	0,001

* (T = tetra, Pe = penta, Hx = hexa, Hp = hepta, O = octa)

(9) In a case where dangerous substances fall within category P5a flammable liquids or P5b flammable liquids, then for the purposes of these Regulations the lowest qualifying quantities apply.

(10) Dangerous substances that fall within the Acute Toxic Category 3 via the oral route (H 301) fall under entry H2 Acute Toxic in those cases where neither acute inhalation toxicity classification nor acute dermal toxicity classification can be derived, for example, due to lack of conclusive inhalation and dermal toxicity data.

(11) Flammable aerosols classified in accordance with the Classification and Labelling of Chemicals (GHS) classification criteria for substances and mixtures, physical hazards, and flammable gases and aerosols.

(12) In order to use paragraph (11), the aerosol dispensers must not contain flammable gas Category 1 or 2 nor flammable liquid Category 1.

(13) In accordance with CLP Regulation, the liquids with a flash point of more than 35°C need not be classified in Category 3 if negative results have been obtained in the sustained combustibility test L.2, Part III, section 32 of the UN Manual of Tests Criteria. This is, however, not valid under elevated conditions such as high temperature or pressure and therefore such liquids are included in this categories.

(14) "Gasoline" means any petroleum derivative, other than liquefied petroleum gas, with a flash point between -51°C and -40°C and which is suitable for use in motor vehicles.

(15) The following examples are for illustrative purposes only and each situation should be considered carefully. In case of any doubt, the individual situation should be discussed with the approved inspection authority.

(16) The substances present at an establishment only in quantities equal to or less than 2% of the relevant qualifying quantity must be ignored for the purposes of calculating the total quantity present if their location within an establishment is such that it cannot act as an initiator of a major incident elsewhere on site.

(16.1) Application of the aggregation of substances

Example 1

A site with 4 tonnes of hydrogen (medium hazard threshold 5 tonnes) and 1 500 tonnes of flammable liquids meeting Category 6 of Chapter 3 of Annexure A (medium hazard threshold 5 000 tonnes).

The aggregation rule gives: (4/5) + (1 500/5 000) = 0,8 + 0,3 = 1,1

As this result is greater than 1, medium hazard category applies.

Example 2

A site with 150 tonnes of toxic substances meeting Category 2 of Chapter 2 of Annexure A (high hazard threshold 200 tonnes) and 1 tonne of arsenic pentoxide (high hazard threshold 2 tonnes).

The aggregation rule gives: (150/200) + (1/2) = 0,75 + 0,5 = 1,25

As this result is greater than 1, high hazard category applies.

(17) In the case of an establishment where no individual substance or preparation is present in a quantity above or equal to the relevant qualifying quantities, the following rules must be applied to determine if the establishment is covered by the relevant requirements of these Regulations:

(17.1) Application of the aggregation of categories

1. High Hazard Category:

If the sum - q1/QU1 + q2/QU2 + q3/QU3 + q4/QU4 + q5/QU5 + ... is greater than or equal to 1, where -
(a) qx = the quantity of dangerous substance x (or category of dangerous substances) falling within Chapter 1 or 2; and
(b) QUX = the relevant qualifying quantity for substance or category x from column 5 of Chapter 1 or 2, then these Regulations shall apply.

2. Medium Hazard Category:

If the sum - q1/QM1 + q2/QM2 + q3/QM3 + q4/QM4 + q5/QM5 + ... is greater than or equal to 1, where–
(a) qx = the quantity of dangerous substance x (or category of dangerous substances) falling within Chapter 1 or 2; and
(b) QMX = the relevant qualifying quantity for substance or category x from column 4 of Chapter 1 or 2, then these Regulations shall apply.

3. Low Hazard Category:

If the sum - q1/QL1 + q2/QL2 + q3/QL3 + q4/QL4 + q5/QL5 + ... is greater than or equal to 1, where–
(c) qx = the quantity of dangerous substance x (or category of dangerous substances) falling within Chapter 1 or 2; and
(d) QLX = the relevant qualifying quantity for substance or category x from column 3 of Chapter 1 or 2, then these Regulations shall apply.

(18) These rules must be used to assess the overall hazards associated with toxicity, flammability and eco-toxicity. They must therefore be applied three times–
(a) for the addition of substances and preparations named in Annexure A and classified as toxic or very toxic, together with substances and preparations falling into Category 1 or 2 in Chapter 2;
(b) for the addition of substances and preparations named in Annexure A and classified as oxidising, explosive, flammable, highly flammable or extremely flammable, together with substances and preparations falling into Category 3, 6, 7a, 7b or 8 of Chapter 2; and
(c) for the addition of substances and preparations named in Annexure A1 and classified as Annexure A for the environment (toxic to aquatic organisms), together with substances and preparations falling into Category 7(a) or 9(b) in Chapter 2, and the relevant provisions of these Regulations shall apply if any of the sums thereby obtained is greater than or equal to 1.

The relevant provisions of these Regulations apply where any of the sums obtained by (a), (b) or (c) is greater than or equal to 1, stated in material

safety data sheets of substances as per Dangerous Substances Directive (67/548/EEC).

(18.1) Application of the 2% rule

The 2% rule should be applied as follows:

1. The substances present at an establishment only in quantities equal to or less than 2% of the relevant qualifying quantity must be ignored for the purposes of calculating the total quantity present if their location within an establishment is such that it cannot act as an initiator of a major incident elsewhere on site.
2. This allows for some quantities of substances to be ignored when deciding whether the Regulations apply. Individual quantities of dangerous substances can be ignored if they fulfil the following criteria:

(a) the quantity is 2% or less of its threshold quantity; and
(b) its location means that it cannot start a major incident elsewhere on site.

3. Note that -

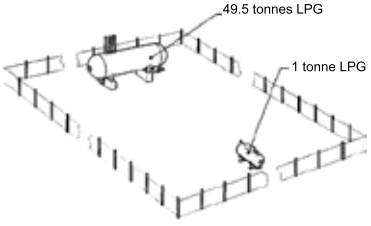
(a) both criteria must be met;
(b) the quantity involved may be capable of producing a major incident by itself;
(c) it may be capable of starting a major incident off site; and
(d) if it meets the criteria, it can be ignored only when determining whether the establishment is within the scope of these Regulations. If the establishment is subject to the Regulations because of the presence of other dangerous substances, any quantity of 2% or less must be taken into account when considering the sources and consequences of major incidents.

The diagram below does not depict an approved installation but it is meant for illustrative purposes only.

Example 1

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG; and
(b) a small tank containing 1,0 tonne of LPG.



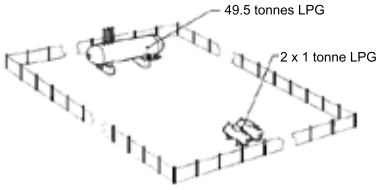
The small tank = 2% of medium hazard threshold (50 tonnes), but the separation from the large tank is sufficient to prevent the small tank starting a major incident at the large tank. It can therefore be ignored in terms of the 2% rule.

The result is that medium hazard category does not apply, even though the total quantity of 50,5 tonnes is above the medium hazard threshold, which places it in the low hazard category.

Example 2

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG; and
(b) two small tanks each containing 1,0 tonne of LPG.



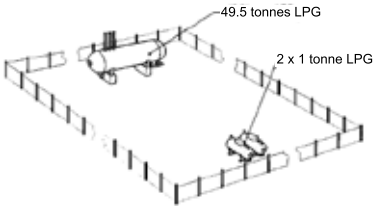
Each small tank = 2% of medium hazard threshold (50 tonnes), but their separation from the large tank and from each other is sufficient to prevent either of them starting a major incident at the other small tank or the large tank. Therefore, each can be ignored in terms of the 2% rule.

The result is that medium hazard category does not apply, even though the total quantity of 51,5 tonnes is above the medium hazard threshold, which places it in the low hazard category.

Example 3

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG; and
(b) two small tanks each containing 1,0 tonne of LPG.



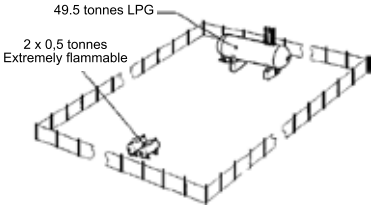
The small tanks are adjacent to each other but their separation from the large tank is not sufficient to prevent the small tanks starting a major incident at the large tank.

Both small tanks = 2% of threshold (50 tonnes), but as they are adjacent they should be regarded as one quantity of more than 2%; therefore, the 2% rule does not apply. As the total quantity of 51,5 tonnes exceeds the medium hazard threshold, the medium hazard threshold applies to this establishment.

Example 4

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG; and
(b) two small tanks each containing 0,5 tonnes of LPG.



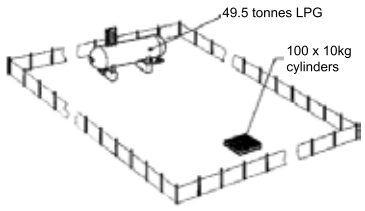
The small tanks are adjacent to each other but well separated from the large tank.

Both small tanks = 1% of threshold (50 tonnes), but as they are adjacent they should be regarded as one quantity of 1 tonne which = 2%. As this cannot start a major incident elsewhere on site, the 2% rule applies and the medium hazard category does not apply even though the total quantity is greater than the medium hazard threshold, which places it in the low hazard category.

Example 5

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG; and
(b) a compound containing 100 x 10 kg cylinders of LPG, i.e. 1 tonne in total.



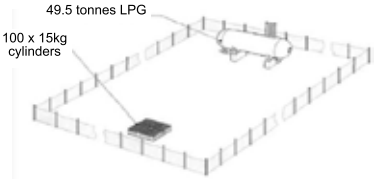
The separation between the compound and the large tank is sufficient to prevent the cylinders starting a major incident at the large tank.

Each cylinder contains less than 2% of the medium hazard threshold (50 tonnes) and the total quantity in the cylinders is 1 tonne, which is 2% of the medium hazard threshold. The cylinder compound cannot start a major incident elsewhere on site, so the 2% rule applies. Therefore, the medium hazard category does not apply, which places it in the low hazard category.

Example 6

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG; and
(b) a compound containing 100 x 15 kg cylinders of LPG, i.e. 1,5 tonnes in total.



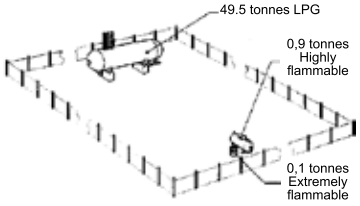
The separation between the compound and the large tank is sufficient to prevent the cylinders starting a major incident at the large tank.

Each cylinder contains less than 2% of the medium hazard threshold (50 tonnes) but as they are adjacent to each other they should be treated as one quantity of 1,5 tonnes, which is greater than 2% of the medium hazard threshold. Therefore, the medium hazard category applies to this establishment.

Example 7

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG;
(b) a tank containing 0,9 tonnes of highly flammable liquid (medium hazard threshold 50 tonnes); and
(c) a tank containing 0,1 tonnes of extremely flammable liquid (medium hazard threshold 10 tonnes).



The small tanks are adjacent, but their separation from the large tank is enough to prevent the small tanks starting a major incident at the large tank. The total quantity for application purposes is determined by the aggregation rules, but first it is necessary to determine if the small tanks together exceed 2% of their threshold.

To do this, each one is expressed as a percentage of its own threshold and added together:

1. Small tanks

(0,9/50) + (0,1/10) = 0,018 + 0,01 = 1,8% + 1,0% = 2,8%. As this is greater than 2%, they cannot be ignored for application purposes.

The aggregation rule gives:

(49,5/50) + (0,9/50) + (0,1/10)
= 0,99 + 0,018 + 0,01
= 1,018

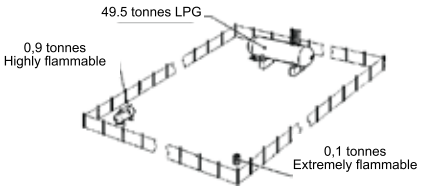
1,018 is greater than 1, so the medium hazard category applies to the establishment.

Example 8

An establishment with -

(a) a large tank containing 49,5 tonnes of LPG;

(b) a tank containing 0,9 tonnes of highly flammable liquid (medium hazard threshold 50 tonnes); and
(c) a tank containing 0,1 tonnes of extremely flammable liquid (medium hazard threshold 10 tonnes).



The separation is sufficient that neither small tank can start a major incident at either the other small tank or the large tank.
Because neither small tank exceeds 2% of its threshold, they can both be ignored for application purposes and the total quantity for application purposes is, therefore, the 49,5 tonnes of LPG. This is below its medium hazard threshold, so the medium hazard category does not apply to the establishment, which places it in the low hazard category.

ANNEXURE B

The fees for the registration and renewal of a certificate of registration are set out in the third and fourth columns of the table below:

CATEGORY OF MHI	CLASSES OF MHI	REGISTRATION FEE	RENEWAL FEE
Considered an MHI	-	R350	R350
Storage, use, handling, manufacturing and processing of one or more dangerous substances	LOW	R350	R350
	MEDIUM	R400	R400
	HIGH	R450	R450

ANNEXURE C

Major Incident Prevention Policy

The following principles should be taken into account when preparing a major incident prevention policy:

(1) For the purpose of implementing the duty holder's major incident prevention policy and process safety management system, the following elements must be considered:
(a) the requirements laid down in the major incident prevention policy document must be proportionate to the hazards associated with major incidents present in the establishment;
(b) the major incident prevention policy must include the duty holder's aims and principles of action with respect to the control of hazards associated with major incidents.
(c) the process safety management system must include resources for determining and implementing the major incident prevention policy.
(2) The following issues must be addressed by the process safety management system:
(a) organisation and personnel – the roles and responsibilities of personnel involved in the management of major hazards at all levels in the organisation. The identification of training needs of such personnel and the provision of the training so identified. The involvement of employees and, where appropriate, subcontractors;
(b) identification and evaluation of major hazards – adoption and implementation of procedures for systematically identifying major hazards arising from normal and abnormal operation and the assessment of their likelihood and severity;
(c) operational control – adoption and implementation of procedures and instructions for safe operation, including maintenance of plant, processes, equipment and temporary stoppages;
(d) management of change – adoption and implementation of procedures for planning modifications to, or the design of, new installations, processes or storage facilities;
(e) planning for emergencies – adoption and implementation of procedures to identify foreseeable emergencies by systematic analysis and to prepare, test and review emergency plans to respond to such emergencies;
(f) monitoring performance – adoption and implementation of procedures for the ongoing assessment of compliance with the objectives set by the duty holder major incident prevention policy and process safety management system, and the mechanisms for investigation and taking corrective action in the case of non-compliance. The procedures must cover the employer, self-employed person or user's system for reporting major incidents or near misses, particularly those involving failure of protective measures, and their investigation and follow-up on the basis of lessons learnt;
(g) audit and review – adoption and implementation of procedures for periodic systematic assessment of the major incident prevention policy and the effectiveness and suitability of the process safety management system; the documented review of performance of the policy and process safety management system and its updating by senior management.

ANNEXURE D

SAFETY REPORTS

MINIMUM INFORMATION TO BE INCLUDED IN SAFETY REPORT

The information referred to in regulation 12(1), (5) and (7) is as follows:
(1) Information on the management system and on the organisation of the establishment with a view to major incident prevention.
(2) A process safety management system must–
(a) be proportionate to the hazards, industrial activities and complexity of the organisation in the establishment;
(b) be based on assessment of the risks;
(c) include within its scope the general management system, including the organisational structure, responsibilities, practices, procedures, processes and resources for determining and implementing the major incident prevention policy.
(3) The following matters must be addressed by the process safety management system:
(a) in relation to the organisation and personnel–
  (i) the roles and responsibilities of personnel involved in the management of major hazards at all levels in the organisation, together with the measures taken to raise awareness of the need for continuous improvement;
  (ii) the identification of the training needs of such personnel and the provision of the training;
  (iii) the involvement of employees and of subcontracted personnel working in the establishment, who are important from the point of view of safety;
(b) the identification and evaluation of major hazards: the adoption and implementation of procedures for systematically identifying major hazards arising from normal and abnormal operation, including subcontracted activities where applicable, and the assessment of their likelihood and severity;
(c) in relation to operational control–
  (i) the adoption and implementation of procedures and instructions for safe operation, including maintenance of plant, processes and equipment, and for alarm management and temporary stoppages;
  (ii) the taking into account of available information on best practices for monitoring and control, with a view to reducing the risk of system failure;
  (iii) the management and control of the risks associated with ageing equipment installed in the establishment and its corrosion;
  (iv) the inventory of the establishment's equipment, and the strategy and methodology for the monitoring and control of the condition of the equipment;
  (v) appropriate follow-up actions and any necessary countermeasures;
(d) the management of change: the adoption and implementation of procedures for planning modifications to, or the design of, new installations, processes or storage facilities;
(e) in relation to planning for emergencies -
  (i) the adoption and implementation of procedures to identify foreseeable emergencies by systematic analysis;
  (ii) the preparation, testing and review of emergency plans to respond to emergencies and the provision of specific training for staff, such training to be given to all personnel working in the establishment, including relevant subcontracted personnel;
(f) in relation to monitoring performance -
  (i) the adoption and implementation of procedures for the ongoing assessment of compliance with the objectives set by the operator's major accident prevention policy and safety management system, and the mechanisms for investigation and taking corrective action in case of non-compliance;
  (ii) the procedures must cover the operator's system for reporting major incidents or 'near misses', particularly those involving failure of protective measures, and their investigation and follow-up on the basis of lessons learned;
  (iii) the procedures could also include performance indicators such as safety performance indicators and/or other relevant indicators;
(g) in relation to audit and review -
  (i) the adoption and implementation of procedures for periodic systematic assessment of the major accident prevention policy and the effectiveness and suitability of the process safety management system;
  (ii) the documented review of performance of the policy and process safety management system and its updating by senior management, including consideration and incorporation of necessary changes indicated by the audit and review.

The information in the safety report must contain the elements set out in Annexure C.
(4) Presentation of the site and surrounding area of the establishment:
(a) description of the site and its surrounding area, including the geographical location,

meteorological, geographical and hydrographic conditions and, if necessary, its history;
(b) identification of installations and other activities of the establishment which could present a major incident hazard;
(c) description of areas where a major incident may occur.

(5) Description of the establishment:
(a) description of the main activities and products of the parts of the establishment which are important from the point of view of safety, sources of major incident risks and conditions under which such a major incident could happen, together with a description of proposed preventive measures;
(b) description of processes, in particular the operating methods;
(c) description of dangerous substances:
(i) inventory of dangerous substances, including -
(aa) the identification of dangerous substances: chemical name, the UN number;
(bb) the maximum quantity of dangerous substances present;
(ii) physical, chemical, toxicological characteristics and indication of the hazards, both immediate and delayed for people;
(iii) physical and chemical behaviour under normal conditions of use or under potential incidental conditions.

(6) Identification and incidental risks analysis and prevention methods:
(a) detailed description of the possible major incident scenarios and their probability or the conditions under which they occur, including a summary of the events which may play a role in triggering each of these scenarios, the causes being internal or external to the establishment;
(b) assessment of the extent and severity of the consequences of identified major incidents;
(c) description of technical consideration, methods and tools used for the safety evaluation of the establishment.

(7) Measures of protection and intervention to limit the consequences of an incident:
(a) description of the equipment installed in the plant to limit the consequences of major incidents;
(b) organisational alert and intervention;
(c) description of internal or external resources that can be mobilised;
(d) summary of elements described in subparagraphs (a), (b) and (c);
(e) necessity for drawing up the on-site emergency plan.

ANNEXURE E

Monthly AIA Reports: _____ : _____

AIA number: _____

Name of MHI	Physical Address	Type	Responsible person	Assessor	Type of assessment	Date of previous assessment	Date of assessment	LG contact details

FORM A
NOTIFICATION OF AN ESTABLISHMENT

(Regulation 4)
Detailed guidance can be obtained from the Major Hazard Installation Regulations, 2022, which is available on the Department of Employment and Labour's website, www.labour.gov.za.

The completed form must be hand-delivered to the Department of Employment and Labour's offices.

Physical address:
215 Francis Baard Street
Laboria House Building
Pretoria
0001

Or, alternatively, you may make enquiries by email to webmail@labour.gov.za. As electronic communication cannot be guaranteed to be secure, you may decide not to use this means if you regard any of the information as confidential.

A determination must be made by the applicant who the correct recipient at the local government is. This recipient must be an appropriate member from the relevant section or senior management at the local government.

2. BASIC PARTICULARS OF THE ESTABLISHMENT

Name of the establishment:	
Registered name of the business:	
Company Registration No.:	
Chief Executive Officer:	
CEO's physical address:	
CEO's telephone number:	
Name of the responsible person and contact:	
Physical address of the establishment:	
Telephone number of the establishment:	
Email:	
Industry sector:	
Brief description of activity or proposed activity concerned:	
Health and safety representative(s). (At least two, where applicable)	
Trade Union	

2. CLASSIFICATION
2.1 Type of hazard of the establishment (mark with an X)

Low	…..	Medium	…..	High	…..

2.2 Type of notification

Proposed	…..	Renewal	…..	Review due to changes	…..

Comment on the lifetime of the establishment:
_____
_____
_____

2.3 When did the assessment expire? _____
_____
2.4 Age of the establishment _____
_____
2.5 Subsequent risk assessments

DATE OF MHI RISK ASSESSMENT	TYPE OF MHI RISK ASSESSMENT	AIA

2.6 Date of evaluation of current risk assessment:
2.7 Were the employees consulted and informed of the status of the establishment?

Yes	…..	No	…..

Attach proof, If not, provide a reason:
_____
_____
_____

3. PUBLIC AWARENESS
3.1 Were the neighbours and public notified?

Yes	…..	No	…..

Attach proof, If not, provide a reason:

3.2 Were there any objections?

Yes	…..	No	…..

Attach proof, If yes, provide a reason:

3.3 Were the objections regarding health and safety of the public?

Yes	…..	No	…..

Attach proof, If yes, provide a reason and resolutions:

4. INVENTORY OF SUBSTANCES

Provide an inventory list of all substances that will be present, their physical form and quantity.

Physical form includes gas, liquid, powder and solids. Quantity is the maximum which is anticipated will be present. The information as in Annexure A must be used.	**Name of substance**	**Physical form**	**Maximum quantity**

Details of the elements of the immediate environment liable to cause a major incident or aggravate the consequences thereof:

Describe other establishments or features of environment which could lead to a major incident on your site. Describe elements of surrounding environment which could make the consequences of a major incident worse (e.g. nearby housing, other occupied buildings, farming and sewage works)	Neighbouring establishments
	Surrounding vulnerabilities
	Other

5. DETAILS OF APPROVED INSPECTION AUTHORITY (AIA)

5.1 Name of the AIA (as relevant):

5.2 AIA number:

(Attach certificate)

5.3 SANAS certificate number:

(Attach certificate and schedule)

5.4 Name of assessor:

(Attach competency records)

5.5 Telephone number:

6. SITE MAPS

Attach proof

7. LOCAL GOVERNMENT

7.1 Name of local government:

7.2 Contact person:

7.3 Contact details:

7.4 Province:

Attach proof of advertisement of the status

7.5 Land use approval status

Yes	…..	No	…..

Attach proof,

If not, state the reasons and attach proof of when the permit will be submitted:

7.6 Acknowledgement by local government, Official Stamp

Received by:

DESIGNATION:

Contact:

Signature:

8. EMERGENCY PREPAREDNESS

8.1 Emergency preparedness plans

(a) On-site plan

Yes	…..	No	…..

Attach proof,

If not yet concluded, attach action plan with clear target dates of not more than six months and comment below:

(b) Off-site plan

Yes	…..	No	…..

Attach proof,

If not yet concluded, attach action plan with clear target dates of not more than six months and comment below:

8.2 Relevant local government responsible for activating emergency plans

Name:

Contact Person:

Designation:

Was there an agreement between the establishment and the local government?

Yes	…..	No	…..

Attach proof,

If no, comment and attach certificate of designation:

8.3 What is the upcoming revision period (maximum of three years)?

8.4 Were employees consulted?

Yes	…..	No	…..

Attach proof,

Attach consent statement from relevant health and safety representative(s) or health and safety committee.

8.5 Were employees trained on emergency preparedness and procedures to follow during all types of emergencies?

Yes	…..	No	…..

Attach proof,

9. SIGNATURES

9.1 Establishment Representative

Name and Surname:

Position:

Date:

Attach letterhead of the establishment

9.2 Responsible Person

Name and Surname:

Position:

Date:

Attach appointment letter

FORM B

APPLICATION FOR REGISTRATION AS APPROVED INSTALLATION INSPECTION AUTHORITY

DEPARTMENT OF EMPLOYMENT AND LABOUR
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

The Chief Inspector Department of Employment and Labour Private Bag X117 PRETORIA, 0001	

The Chief Inspector
I hereby apply to be registered as an approved inspection authority for major hazard establishments in terms of regulation 19 of the Major Hazard Installation Regulations, 2022. I declare that the particulars given below are, to the best of my knowledge and belief, correct.

1. PARTICULARS OF INSPECTION BODY
Registered name of Inspection Body:
Trading name:
State whether you are a sole proprietor/partnership/company/close corporation (delete which is not applicable)
Business registration number:
Chief Executive Officer:
Partners:
Province:
Physical Address:

2. SCOPE OF APPLICATION (Tick appropriate block(s))

TYPE A	3rd party	
TYPE B	In-house	
TYPE C	Manufacturer	

3. SIGNATORIES:
3.1
3.2

4. SPECIMEN SIGNATURE OF THE SIGNATORIES:

1		2	3	4
3.1				
3.2				

Attach more if there are many

SUPPORTING DOCUMENTS
(a) Certified copy of IDs
(b) Certified copy of business registration
(c) Organogram of the inspection body
(d) Certified copy of accreditation certificate and schedule from the accredit body

Signature of the applicant _____
Date of application: _____

FOR OFFICE USE

Application : APPROVED/NOT APPROVED
REASON FOR REFUSAL:
_____
_____
_____

COMMENTS:
_____
_____
_____
_____
_____
_____
_____
_____

Allocated Registration Number: _____
Approving Official: _____
Signature: _____
Date: _____

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

GNR. 1887 of 16 March 2022

[These regulations were published in GNR. 1887 of 16 March 2022]

The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.- In these Regulations any word or expression to which a meaning has been assigned in the Act has the meaning so assigned and, unless the context indicates otherwise-

"biohazard" means any potential laboratory source of harm caused by biological agents, microbial by-products or metabolites;

"biological agent" means any microorganism, microbial by-products or metabolites, cell or organic material with plant, animal or human origin, including any which have been genetically modified;

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training, experience and, where applicable, qualifications specific to HBAs;

"control measures" means measures that remove, prevent or reduce the exposure of persons to HBAs at the workplace;

"decontamination" means the procedure that eliminates or reduces biological agents to a level that does not cause harm with respect to the transmission of infection or other adverse effects;

"disinfect" means to render non-viable virtually all recognised pathogenic microorganisms, but not necessarily all microbial forms;

"Facilities Regulations" means the Facilities Regulations, 2004, as published in Government Notice No. R. 924 of 3 August 2004;

"HBA" means a hazardous biological agent which may cause an infection, allergy or toxicity or otherwise create a risk to human health, subdivided into the following groups:

(a) Group 1 HBA, an HBA that is unlikely to cause human disease;
(b) Group 2 HBA, an HBA that may cause human disease and be a hazard to exposed persons, which is unlikely to spread to the community and for which effective prophylaxis and treatment is usually available;
(c) Group 3 HBA, an HBA that may cause severe human disease, which presents a serious hazard to exposed persons and which may present a risk of spreading to the community, but for which effective prophylaxis and treatment is available; and
(d) Group 4 HBA, an HBA that cause severe human disease and is a serious hazard to exposed persons and which may present a high risk of spreading to the community, but for which no effective prophylaxis and treatment is available;

"laboratory" means a room or part of a building equipped for experimentation, research, testing or manufacture of drugs or chemicals or which may manipulate microbiological agents;

"microorganism" means a microbiological entity, cellular or non-cellular, capable of replication or transferring genetic material;

"monitoring" means the planning and carrying out of a measurement programme and the recording of the results thereof;

"respiratory protective equipment" means a device which is worn over at least the mouth and nose to prevent the inhalation of airborne HBAs, and which conforms to a standard, acceptable to the chief inspector;

"**safety equipment**" means equipment which is designed to prevent exposure to HBAs;

"standard precautions" means a synthesis of the major features of Universal
Precautions (UP) and Body Substances Isolation (BSI) and applies to all persons coming into contact with potentially infected persons, animals or animal products and potentially contaminated blood and other fluids in the workplace and-

(a) apply to-
  (i) all blood;
  (ii) all body fluids, secretions and excretions, except sweat, regardless of whether they contain visible blood or not;
  (iii) non-intact skin;
  (iv) mucous membrane; and
  (v) tissues; and
(b) are designed to reduce the risk of transmission of HBAs from both recognised and unrecognised sources of exposure to HBAs in the workplace;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"Universal Precautions" means an approach to infection control to treat all human blood and certain human body fluids as if they were known to be infectious for HIV, HBV and other blood-borne pathogens;

"ventilation" means the process of supplying or removing air to or from an indoor space for the purpose of controlling air contaminants level, humidity or temperature within the space; and

"verification" means the process of establishing the accuracy or validity of something.

2. Scope of application - (1) Subject to sub regulation (2), these Regulations apply to every employer or self-employed person at a workplace where-

(a) an HBA is produced, processed, used, handled, stored or transported; or
(b) exposure to an HBA may occur.

(2) Regulations 8, 14, 15, 16 and 17 do not apply to an employer or self-employed person at a workplace where the exposure is restricted to a Group 1 HBA.

3. Classification of biological agents - (1) Biological agents must be assigned a classification of Group 1, Group 2, Group 3 or Group 4 according to hazard and categories of contaminant by the chief inspector in consultation with the HBAs health and safety technical committee.

(2) Where a biological agent has not been assigned a classification as contemplated in sub-regulation (1), the employer or self-employed person must provisionally classify that biological agent in accordance with sub-regulation (3), having regard to the nature of the biological agent and the properties of which he or she may reasonably be expected to be aware and must without delay notify the chief inspector of the provisional classification and the reason therefor. The chief inspector may make a decision based on the recommendation of the HBAs technical committee.

(3) When provisionally classifying a biological agent, the employer or self-employed person must conduct a risk assessment and assign that biological agent to one of the groups and if there is doubt according to its level of risk of infection as to which of two alternative groups would be most appropriate, the biological agent must be assigned to the higher of the two.

4. Information, instruction and training -

(1) An employer who undertakes work which exposes an employee to HBAs must inform the relevant health and safety representative or the health and safety committee established for that workplace of the-

(a) intention to conduct-
  (i) a risk assessment contemplated in regulation 6;
  (ii) exposure monitoring contemplated in regulation 7;
  (iii) medical surveillance contemplated in regulation 8; and
  (iv) training contemplated in subregulation (2);
(b) documented outcomes of the-
  (i) risk assessment contemplated in regulation 6;
  (ii) exposure monitoring contemplated in regulation 7; and
  (iii) medical surveillance contemplated in regulation 8.

(2) An employer must ensure that any employee at risk of being exposed or exposing others to HBAs is comprehensively informed, instructed and trained in both the practical aspects and theoretical knowledge with regard to-

(a) the contents and scope of these Regulations;
(b) the potential risks to health caused by the exposure;
(c) the measures to be taken by the employer to protect an employee against any risk of being exposed;
(d) the importance of good housekeeping at the workplace and personal hygiene requirements;
(e) the precautions to be taken by an employee to protect him or her against the health risks

associated with the exposure, including the wearing and use of protective clothing and respiratory protective equipment;
(f) the necessity, correct use, maintenance and potential limitation of safety equipment, facilities and engineering control measures provided;
(g) the necessity of risk-based medical surveillance;
(h) the safe working procedures regarding the use, handling, storage, labelling, and disposal of HBAs at the workplace; and
(i) the procedures to be followed in the event of exposure, spillage, leakage, accidental release, injury or any similar emergency situation, and decontaminating or disinfecting contaminated areas.

(3) The employer must ensure that the information, instruction and training referred to in subregulation (1) are provided before an employee is potentially exposed to HBAs.

(4) The employer must conduct refresher training annually or at intervals that may be recommended by the health and safety committee or the health and safety representative.

(5) An employer or self-employed person must give instructions in writing of the procedures contemplated in sub regulation (1)(a) to the drivers of vehicles carrying HBAs.

(6) Every employer or self-employed person must ensure that he or she or any person who in any manner assist him or her in the carrying out or conducting of the business duties has the necessary information and has undergone instruction and training in order for him or her to identify potential risks and the precautions that should be taken.

5. **Duties of persons who might be exposed to HBAs** - (1) Any person who is or might be exposed to HBAs must obey any lawful instruction given by or on behalf of the employer or a self-employed person regarding-
(a) the prevention of an uncontrolled release of an HBA;
(b) the adherence to instructions regarding environmental and health practices, personal hygiene and good housekeeping;
(c) the approwpriate use of personal protective equipment and clothing as prescribed by these Regulations and the documented risk assessment;
(d) the appropriate wearing of personal samplers, when necessary, to measure personal exposure to airborne HBAs;
(e) the disposal of materials containing HBAs and the disinfection and decontamination of any workplace contaminated by an HBA;
(f) the reporting during normal working hours for such medical examination or tests as contemplated in regulation 8(1); and
(g) information, instruction and training as contemplated in regulation 4.

(2) Any person must immediately report to the employer, the health and safety representative or self-employed person any possible exposure to an HBA at the workplace.

6. Risk assessment for HBAs - (1) A self-employed person must conduct and document the risk assessment to determine if any person could be exposed to an HBA.

(2) An employer must-
(a) conduct and document the risk assessment to determine if any person could be exposed to an HBA; and
(b) ensure that the HBA risk assessment contemplated in paragraph (a) is conducted by a competent person.

(3) When conducting the risk assessment, as contemplated in subregulation (1) and (2), the employer or self-employed person must take into account, as a minimum, the following matters:
(a) The nature of the HBA and the possible route of exposure;
(b) where the HBA might be present and in what form it is likely to be;
(c) the nature of the work and work processes;
(d) current control measures in place, effectiveness of control measures and any reasonable deterioration in, or failure thereof; and
(e) what effects the HBA can have on an employee, including pregnant, immunocompromised and vulnerable employees.

(4) An employer or a self-employed person must conduct the risk assessment on the basis of all available information, including-
(a) classification of the HBA into the relevant risk group according to its level of risk of infection as contained in Annexure A;
(b) recommendations from the manufacturer, supplier or a competent person regarding additional control measures necessary in order to protect the health of persons against such agents as a result of their work;
(c) information on diseases that may be contracted as a result of the activities at the workplace;
(d) potential allergenic, infectious or toxic effects that may result from the activities at the workplace; and
(e) knowledge of diseases from which employees might be suffering and which may be aggravated by conditions at the workplace.

(5) An employer must, in terms of the risk assessment-
(a) consider the recommendations identified in the risk assessment;
and
(b) develop a documented action plan for the implementation of the recommendations.

(6) An employer must review the assessment required by subregulation (1)-
(a) at intervals not exceeding 24 months;
(b) forthwith, if-
(i) the previous assessment is no longer valid;
(ii) there has been a change in a process involving an HBA;
(iii) there has been a change in the methods, plant or machinery, procedures in the use, handling, control or processing of an HBA;
(iv) an incident occurs involving an HBA; or
(vi) medical surveillance reveals an adverse health effect, where an HBA is identified as a contributing factor.

(7) The employer must ensure that all employees, the relevant health and safety representative and health and safety committee are informed of the results of the risk assessment, who may comment thereon.

7. Exposure monitoring of HBAs - (1) An employer must establish and maintain an exposure monitoring programme at the workplace which is representative of the employees' exposure to HBAs.

(2) The exposure monitoring programme must be-
(a) in accordance with a validated procedure, sufficiently sensitive and of proven effectiveness;
(b) conducted by a competent person;
(c) conducted at intervals determined in the risk assessment but not exceeding 24 months; and
(d) conducted when any change occurs which may affect the exposure.

(3) An employer must, in terms of exposure monitoring-
(a) consider the recommendations identified in the exposure monitoring report; and
(b) develop a documented action plan for the implementation of the recommendations.

8. Medical surveillance - (1) An employer must establish and maintain a documented system of medical surveillance of employees, which is overseen by an occupational health practitioner, if
(a) the results of the HBA risk assessment contemplated in regulation 6 indicate that an employee is at risk of exposure to HBAs;
(b) the exposure of the employee to the HBA is hazardous to his or her health and is such that-
(i) an identifiable disease or adverse effect to his or her health may be related to the exposure;
(ii) there is a reasonable likelihood that the disease or effect may occur under the particular conditions of his or her work; and
(iii) there are techniques such as preclinical biomarkers, where appropriate, for detecting sensitisation to allergens or an inflammatory response associated with exposure to diagnose indications of the disease or the effect as far as is reasonably practicable; or
(c) an occupational health practitioner recommends that the relevant employee should be under medical surveillance, in which case the employer may call upon an occupational health practitioner to confirm the appropriateness of such recommendation.

(2) In order to comply with the provisions of subregulation (1), the employer must, after in-depth counselling and education, ensure that the medical surveillance consists of-
(a) an initial health evaluation, which should be carried out by an occupational health practitioner immediately before or within 14 days after a person commences employment where risk of exposure exists, which comprises-
(i) an evaluation of the employee's medical and occupational history;
(ii) a physical examination; and
(iii) any biological tests and other appropriate medical tests or any other essential examination that in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation;
(b) periodic medical examinations and tests which should be carried out by an occupational health practitioner at intervals specified by him or her but not exceeding 24 months and which consists of-
(i) a physical examination; and
(ii) any biological tests and other appropriate medical tests or any other essential examination that in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation;
(c) exit medical examinations and tests which should be carried out by an occupational health practitioner and which consists of-
(i) a physical examination; and
(ii) any biological tests and other appropriate medical tests or any other essential examination that in the opinion of the occupational health practitioner is desirable in order to enable the practitioner to do a proper evaluation.

(3) All tests and examinations as contemplated in subregulation (2) must be conducted according to a written medical protocol following current best practice, national or international guidelines.

(4) All occupational health practitioners must submit to the employer for approval a written protocol for procedures to be followed when dealing with abnormal results.

9. Records-- (1) An employer must-
(a) keep records of all training, exposure assessments, exposure monitoring reports and medical surveillance reports required by regulations 4, 6, 7 and 8 respectively;
(b) make the records contemplated in paragraph (a), excluding personal medical re-

cords, available for inspection by an inspector, a health and safety representative or a health and safety committee;
(c) make the records contemplated in regulation 8(2)(b) available to any person subject to the formal written consent of the employee concerned;
(d) keep all records of risk assessments, medical surveillance and exposure monitoring reports for a minimum period of 40 years;
(e) keep all records of the examinations and tests carried out in terms of regulation 12(c) and of any repairs resulting from the investigations and tests for a minimum period of five years;
(f) keep all records of training given to an employee in terms of regulation 4 for as long as the employee remains employed at that particular workplace; and
(g) if the employer or self-employed person ceases activities, hand over all the records to the relevant Chief Director: Provincial Operations.

(2) A self-employed person must keep records of all risk assessments for a minimum period of 40 years, and if the self-employed person ceases activities, all those records must be handed over to the relevant Chief Director: Provincial Operations.

10. Prevention and control of exposure to HBAs - (1) A self-employed person must ensure that the risk of exposure of persons to HBAs is reduced through biological containment and where this is not reasonably practicable, control the exposure to as low as possible.

(2) An employer must ensure that the risk of exposure of persons to HBAs is reduced through biological containment and medical fitness restrictions in the workplace or, where this is not reasonably practicable, control the exposure to as low as possible.

(3) The employer or self-employed person must ensure that the standard precautions are implemented to reduce the risk of transmission of HBAs in a workplace, which may include-
(a) hand hygiene;
(b) gloves;
(c) face or eye protection;
(d) protective clothing;
(e) respiratory protective equipment; and
(f) other relevant process safety equipment.

(4) Where reasonably practicable, the employer or self-employed person must control the exposure to an HBA in the workplace by-
(a) implementing measurers identified in the documented risk assessment;
(b) limiting the amount of HBAs used which might contaminate the workplace to the minimum quantity required for the task;
(c) limiting the number of employees;
(d) limiting the duration of exposure of employees;
(e) introducing measures for the control of exposure, which must include any combination of the following contamination control measures:
    (i) Separation of different infectious processes from each other and from persons;
    (ii) barrier isolation of a process or agent;
    (iii) local exhaust ventilation;
    (iv) general ventilation;
    (v) air and surface disinfection;
    (iv) positive static air pressure differential from infectious process to human occupied zones;
    (vii) suppression of emissions of an airborne HBA;
    (viii) access control to prevent unauthorised access; and
    (ix) immediately accessible emergency personal or environmental disinfection;
(f) introducing appropriate work procedures that employees must follow where HBAs are handled, used and processed that could give rise to the exposure of an employee to HBAs, and such procedures must include documented instructions to ensure-
    (i) the safe handling, use and disposal of HBAs;
    (ii) the proper use and maintenance of machinery, installations, equipment, tools and local exhaust and general ventilation systems;
    (iii) the regular cleaning of machinery and work areas with vacuum cleaners fitted with air filters with an arrestance of not less than 99,95%;
    (iv) a system is in place that identifies the need for early corrective action from changes to work procedures and practices; and
    (v) the decontamination and disinfection of the affected workplace;
(g) making available effective vaccines for those employees who are not immune to the biological agent to which they are exposed or are liable to be exposed;
(h) specifying procedures for taking, handling and processing samples that might contain HBAs; and
(i) displaying the biohazard sign as depicted in Annexure B and other relevant information.

11. Personal protective equipment and facilities - (1) If it is not reasonably practicable to ensure that the exposure of an employee is controlled as contemplated in regulation 10, the employer must, in the case of-
(a) airborne, ingestion and contact transmission, provide the employee with suitable protective equipment and protective clothing; and
(b) HBAs that can be absorbed through the skin, provide the employee with suitable impermeable personal protective clothing.

(2) Where respiratory protective equipment is provided, the employer must ensure that-
(a) the relevant safety equipment is capable of preventing the exposure to the HBA concerned;
(b) the relevant safety equipment is correctly selected, fitted and properly used;
(c) information, instructions, training and supervision which would be necessary with regard to the use and disposal of the safety equipment are known to the employees; and
(d) the reusable safety equipment is kept in hygienic condition and efficient working order.

(3) An employer must, as far as is reasonably practicable-
(a) not issue personal protective equipment which has been used to an employee unless it is capable of being decontaminated and disinfected prior to use;
(b) provide separate containers or storage facilities for protective equipment and protective clothing when not in use; and
(c) take steps to ensure that all protective equipment and protective clothing not in use are stored in a demarcated area with proper access control.

(4) An employer must, as far as is reasonably practicable, ensure that all contaminated reusable personal protective clothing issued is cleaned and handled in accordance with the following procedures:
(a) Where such clothing is cleaned on the premises of the employer, care must be taken to prevent contamination during handling, transporting and cleaning;
(b) where clothing is sent off the premises to a contractor for cleaning purposes, the contractor must place the clothing in impermeable, tightly sealed colour coded containers and such containers must be clearly identified with a biohazard label as depicted in Annexure B;
(c) where clothing from facilities handling HBA Risk Group 3 and Risk Group 4 agents is sent off the premises for any purposes, it must first be decontaminated; and
(d) it must be ensured that the contractor as contemplated in subregulation (4)(b) is fully informed of the requirements of these Regulations and the precautions to be taken regarding the handling of contaminated clothing.

(5) Subject to the provisions of the Facilities Regulations, an employer must, where reasonably practicable, provide employees using personal protective equipment and clothing as contemplated in subregulation (1) with-
(a) adequate washing facilities which are readily accessible and located in an area where the facilities will not become contaminated, in order to enable the employees to meet the standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of HBAs;
(b) two separate lockers labelled “protective clothing” and “general clothing” respectively, and ensure that the general and protective clothing is kept separately in the lockers concerned; and
(c) separate “clean” and “contaminated” change rooms if the employer uses or processes HBAs to the extent that the HBA could endanger the health of persons outside the workplace.

12. Maintenance and verification of control measures, plant machinery and facilities

The employer must ensure that-
(a) documented risk-based protocols are developed, maintained by a competent person and made available at the workplace for all control measures, plant machinery and facilities provided in terms of regulations 6, 10 and 11, which include-
    (i) performance parameters and minimum acceptance criteria;
    (ii) performance verification methodology and intervals;
    (iii) routine maintenance requirements, specifications and intervals;
    (iv) relevant standards, regulations and manufacturer’s requirements; and
    (v) minimum competency and training required to perform verification and maintenance activities;
(b) all control measures, plant machinery and facilities provided in terms of regulations 6, 10 and 11 are maintained in good working order and in accordance with the protocols referred to in paragraph (a);
(c) thorough examination and tests of control measures, plant machinery and facilities provided in terms of regulations 6, 10 and 11 are carried out in accordance with the protocols referred to in paragraph (a), but at intervals not exceeding 24 months;
(d) outcomes of tests of control measures are documented and available for inspection; and
(e) the protocols referred to in paragraph (a) comply with any applicable guideline issued by the chief inspector.

13. Prohibitions - (1) No person may-
(a) use compressed air to remove HBAs from any surface or person;
(b) eat, drink, smoke, keep food or beverages or apply cosmetics where an HBA is handled or require or permit any other person to eat, drink, smoke, keep food or beverages or apply cosmetics in such a workplace; or
(c) leave a controlled area without prior removal of potentially contaminated protective clothing and safety equipment.

(2) An employer or self-employed person must cause a notice and/or signage to be posted at a

conspicuous place containing the provisions of subregulation (1).

14. Labelling, packaging, transporting and storage

An employer or self-employed person must, as far as is reasonably practicable, take steps to ensure that-

(a) all HBAs under his or her control in storage, transit or being distributed are properly contained and controlled to prevent the spread of contamination from the workplace;
(b) the colour coded containers in which HBAs are transported are clearly marked with a biohazard sign as depicted in Annexure B and other relevant warning signs that identify the contents;
(c) transport of HBAs is performed with due consideration of Chapter VIII of the National Road Traffic Act, 1996 (Act No. 93 of 1996), and the International Air Transport Association (IATA) Infectious Substances Shipping Regulations; and
(d) authorisations for the transport and storage of biological agents as required by the National Health Act, 2003 (Act No. 61 of 2003): Regulations Relating to the Registration of Microbiological Laboratories and the Acquisition, Importation, Handling, Maintenance and Supply of Human Pathogens, 2012, as published in Government Notice No. R. 178 of 2 March 2012, the NonProliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993), the Animal Health Act, 2002 (Act No. 7 of 2002), and the Genetically Modified Organisms Act, 1997 (Act No. 15 of 1997), are adhered to where applicable.

15 Disposal of HBAs

An employer or self-employed person must-

(a) lay down written procedures for appropriate decontamination and disinfection;
(b) implement written procedures enabling infectious waste to be handled and disposed of without risk;
(c) provide sufficient hazardous waste containers for disposal of used personal protective equipment;
(d) ensure that all fixtures, plant and machinery including vehicles, reusable containers and covers which have been in contact with HBA waste are disinfected and decontaminated after use in such a manner that it does not cause a hazard inside or outside the workplace concerned;
(e) ensure that all employees involved in the collection, transport and disposal of HBA waste and who may be exposed to that waste are provided with suitable personal protective equipment;
(f) ensure that if the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor must comply with the provisions of these Regulations; and
(g) ensure that HBA waste that can cause exposure is treated and disposed of only on sites specifically designated and authorised for this purpose in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in such a manner that it does not cause a hazard inside or outside the site concerned.

16. HBAs health and safety technical committee - (1) The chief inspector must establish an HBAs health and safety technical committee which must consist of-

(a) a person who is to be the chairperson;
(b) two persons designated by the chief inspector from the employees of the Department of Employment and Labour;
(c) three persons designated by employers' organisations to represent employers;
(d) three persons designated by employees' organisations representing the federation of unions;
(e) one representative of each of the professional bodies recognised by the chief inspector; and
(f) one person from the field of HBAs representing a higher educational institution.

(2) The chief inspector may-

(a) authorise the HBAs health and safety technical committee to coopt persons who have specialised knowledge of the matters dealt with by the HBAs health and safety technical committee; and
(b) appoint members of the HBAs health and safety technical committee for a period that he or she may determine at the time of appointment.

(3) The HBAs health and safety technical committee must-

(a) advise the chief inspector on HBA related matters, including but not limited to codes, standards and training requirements;
(b) make recommendations and submit reports to the chief inspector regarding any matter to which these Regulations relate;
(c) advise the chief inspector regarding any matter referred to the HBAs health and safety technical committee by the chief inspector;
(d) perform any other function for the administration of a provision of these Regulations that may be requested by the chief inspector; and
(e) conduct its work in accordance with the instructions and rules of conduct framed by the chief inspector.

17. Offenses and penalties

Any person who contravenes or fails to comply with any provision of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 or 15 will be guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

18. Withdrawal of regulations

The Regulations for Hazardous Biological Substances, 2001, published as Government Notice No. R. 1390 of 27 December 2001, are hereby withdrawn.

19. Short title

These Regulations are called the Regulations for Hazardous Biological Agents.

Annexure A - CATEGORISATION OF BIOLOGICAL AGENTS ACCORDING TO RISK GROUP

INTRODUCTION

1. The attached list must be read in conjunction with the Hazardous Biological Agents Regulations, and in particular regulation 3.
2. Biological agents listed are categorised into the following risk groups on the basis of their ability to cause human disease by infection, allergy and/or toxicity, potential to cause epidemics or pandemics, endemicity in South Africa and availability of curative or prophylactic treatment:
   Risk group 1: a microorganism known not to or unlikely to cause human disease.
   Risk group 2: a pathogen that may cause human disease but unlikely to pose serious hazard to laboratory workers, the community and the environment. Specific treatment or vaccines may be available to manage or prevent infection with these pathogens.
   Risk group 3: a pathogen that may cause serious human disease but does not typically spread from human to human. Treatment and vaccines may be available to manage or prevent infection with these pathogens.
   Risk group 4: a pathogen that may cause serious human disease and may be readily transmissible from human to human. Specific treatment and preventative measures are typically not available for the diseases caused by these pathogens.
3. In allocating biological agents to a risk group, account is not taken of effects on those whose susceptibility may be affected for one or other reason such as pre-existing disease, medication, compromised immunity, pregnancy or breastfeeding. Workplace specific risk to such workers should be considered per risk assessment as in regulation 6.
4. Biological agents that have not been classified for inclusion in groups 2 to 4 of the list are not implicitly classified as Group 1. All viruses that have been isolated in humans and that have not been assessed and allocated to a group in the list are to be classified in group 2 as a minimum, except where there is evidence that they are unlikely to cause disease in humans.
5. If more than one species of any particular agent is known to be pathogenic to humans, the most prominent of these is generally named, together with the wider reference "species" (spp.) to indicate the fact that the other species of the same genus may be hazardous. If a whole genus is mentioned in this way, it is implicit that species and strains that are non-pathogenic to humans are excluded.
6. When a strain is attenuated or has lost known virulence genes, then the containment required by the classification of its parent strain need not necessarily apply, subject to risk assessment as per regulation 6, for example, when such strain is used as a product or as part of a product for prophylactic or therapeutic purposes (see point 2).
7. The requirements as to containment consequent upon the classification of parasites apply only to stages in the life cycle of the parasite in which it is liable to be infectious, allergic or toxic to humans.
8. The list also gives a separate indication where biological agents are capable of causing allergic or toxic reactions, and where a registered vaccine is available for use in the Republic of South Africa.
   The indications are identified by the following notations:
   - A: possible allergic effects;
   - T: toxin production; and
   - V: vaccine available.
9. The selection of control measures for biological agents should take into account the fact that there are no exposure limits for them. Their ability to replicate and to infect, cause allergic or toxic effects, at very low doses, means that exposure may have to be reduced to levels that are diminishingly low.
   For each activity the first consideration should be whether it can be carried out in a way that involves exposure to a less harmful biological agent. This may be practicable, for example, in teaching and some types of research. If there is more than one way of carrying out the activity, then the method carrying the least risk should be chosen.
   If the least harmful alternative still involves exposure or potential exposure to a biological agent, or the nature of the activity is such that there is no choice, and it is not reasonably practicable to prevent exposure by some other means, then exposure should be adequately controlled.
10. Agents with reduced virulence may be used at a lower than normal level of containment if the alteration has effectively changed their

classification.
A biological agent that falls or is treated as falling into hazard Group 1 may be a Group 3 genetically modified organism because of environmental risks associated with it or because, though now unlikely to cause human disease, it is derived by genetic modification from a pathogenic parental organism. In the latter case, the selection of containment measures appropriate to the agent's reduced virulence and corresponding group may be permitted. Where there is a mismatch, as in the case of a genetically modified organism or biological agent that is non-hazardous to humans but environmentally harmful, the more stringent requirements should be followed.
Where the rules set out lead to a particular containment level for an activity, all the measures appropriate to that level should normally be used. Some selection may be done, however, to suit individual circumstances, provided that by doing so the risk is not increased. Regulation 11 sets out additional requirements in respect of personal protective equipment used to protect employees against biological agents. The objective of these requirements is to prevent the equipment itself from acting as the means by which agents are transmitted, and they should be followed accordingly.
Where workers are exposed to biological agents, the information and instruction given to them, if applicable, should be set down in the form of written instructions, outlining procedures to be followed after a serious incident involving the handling of a biological agents as well as the procedure for handling any Group 4 agent.
If the nature of the workplace and the activity are such that employees may need instant access to this information, or where a reduction in risk may be expected by having the information conspicuously displayed in the workplace then it should also be set out on notices displayed in the workplace.

Table 1:
Prescribed risk groups for parasitic agents (in alphabetic order)

BIOLOGICAL AGENT	*RISK GROUP*	*BIOLOGICAL AGENT*	*RISK GROUP*
Helminths			
Ancylostoma spp.	2	Hymenolepis spp.	2
Angiostrongylus spp.	2	Loa spp.	2
Anisakis spp.	2	Mansonella spp.	2
Ascaris lumbricoides.	2 (A)	Metagonimus spp.	2
Bruaia spp.	2	Necator spp.	2
Capillaria spp.	2	Onchocerca spp.	2
Clonorchis spp.	2	Opisthorchis spp.	2
Contraceacum osculatum	2	Paragonimus spp.	2
Dicrocoelium dendriticum	2	Pseudoterranova decipiens	2
Dipetalonema spp.	2	Schistosoma spp.	2
Diphyllobothrium spp.	2	Strongyloides spp.	2
Dipylidium caninum	2	Taenia spp.	2
Dracunculus medinesis	2	Taenia solium	3
Echinococcus spp.	3	Ternidens deminutus	2
Enterobius spp.	2	Toxocara spp.	2
Fasciola gigantica	2	Trichinella spp.	2
Fasciola hepatica	2	Trichostrongylus spp.	2
Fasciolopsis buski	2	Trichuris trichiura	2
Heterophyes spp.	2	Wuchereria spp.	2
Protozoa			
Acanthamoeba spp.	2	Leishmania spp.	2
Babesia spp.	2	Leishmania brasiliensis	3
Balantidium spp.	2	Leishmania donovani	3
Blastocytis hominis	2	Linguatula spp.	2
Coccidia spp.	2	Macracanthorhynchus spp.	2
Cochliomyia hominivorax	2	Microsporidia spp.	2
Cryptosporidium spp.	2	Naegleria fowleri	3
Cyclospora spp.	2	Naegleria spp. (other than fowleri)	2
Cysticerus cellulosae	2	Oesophagostomum dentalum	2
Dientamoeba fragilis	2	Plasmodium spp. (human and simian)	2
Encephalitozoon spp.	2	Plasmodium falciparum	3
Entamoeba spp.	2	Pneumocystis carinii	2
Enterocytozoon bieneusi	2	Sarcocystis spp.	2
Giardia spp.	2	Toxoplasma spp.	2
Gnathostoma spinigerum	2	Trichomonas vaginalis	2
Gongylonema pulchrum	2	Trypanosoma spp.	2
Haemonchus contortus	2	Trypanosoma brucei qambiense	3
Isospora spp.	2	Trypanosoma brucei rhodesiense	3

Table 2:
Prescribed risk groups for fungal agents (in alphabetic order)

BIOLOGICAL AGENT	*RISK GROUP*	*BIOLOGICAL AGENT*	*RISK GROUP*
Absidia spp.	2	Lacazia loboi	3
Acremonium spp.	2	Leptosphaeria spp.	2
Ajellomyces spp.	3	Lichtheimia corymbifera	2

Arthroderma spp.	2	Madurella spp.	2
Aspergillus spp.	2	Malassezia spp.	2
Basidiobolus haptosporus	2	Microsporum spp.	2
Blastomyces dermatitidis	3	Mucor spp.	2
Candida spp.	2	Neotestudina rosatii	2
Cladophialophora bantiana	3	Paecilomyces variottii	2
Other Cladophialophora spp.	2	Paracoccidioides brazilensis	3
Cladosporium spp.	3	Penicillium marneffei	3
Coccidioides and Paracoccidioides spp.	3	Pseudallescheria boydii	2
Cryptococcus spp.	2	Rhinocladiella mackenziei	3
Dermatophilus congolensis	2	Rhizomucor pusillus	2
Emmonsia crescens	2	Rhizopus spp.	2
Emmonsia parva	2	Saksenaea vasiformis	2
Epidermophyton spp.	2	Scedosporium spp.	2
Exophiala spp.	2	Scopulariopsis brevicaulis	2
Filobasidiella spp.	2	Sporothrix schenckii	2
Fonsecaea spp.	2	Stachybotrys chartarum	2
Fusarium spp.	2	Trichophyton spp.	2
Geotrichum spp.	2	Trichosporon spp.	2
Histoplasma spp.	3	Xylohypha bantiana	3

Table 3:
Prescribed risk groups for bacteria, rickettsiae and mycoplasmas (in alphabetic order)

BIOLOGICAL AGENT	*RISK GROUP*	*BIOLOGICAL AGENT*	*RISK GROUP*
Abiotrophia spp.	2	Kingella spp.	2
Achromobacter spp.	2	Klebsiella spp.	2
Acidaminococcus fermentans	2	Kluyvera spp.	2
Acidovorax spp.	2	Koserella trabulsii	2
Acinetobacter spp.	2	Lactobacillus spp.	2
Actinobacillus spp.	2	Lactococcus garvieae	2
Actinobaculum schaalii	2	Leclercia adecarboxylata	2
Actinomadura spp.	2	Legionella spp.	2
Actinomyces spp.	2	Leptospira spp.	2
Aeromonas spp.	2	Levinea malonatica	2
Afipia spp.	2	Liberobacter spp.	2
Alcaligenes spp.	2	Listeria spp.	2
Alloiococcus otitis	2	Mannheimia spp.	2
Allomonas enterica	2	Megasphaera elsdenii	2
Alteromonas haloplanktis	2	Melissococcus pluton	2
Amycolata autotrophica	2	Microvirgula aerodenitrificans	2
Anaerobiospirillum spp.	2	Mima polymorpha	2
Anaerorhabdus furcosus	2	Mitsuokella multacida	2
Anaplasma spp.	2	Mobiluncus spp.	2
Arachnia spp.	2	Moraxella spp.	2
Arcanobacterium spp.	2	Morganella morganii	2
Arcobacter butzleri	2	Morococcus cerebrosus	2
Arizona spp.	2	Mycobacterium africanum	3 (V)
Arsenophonus nasoniae	2	Mycobacterium avium/intracellulare	2
Arthrobacter spp.	2	Mycobacterium bovis	3 (V)
Atopobium spp.	2	Mycobacterium bovis (BCG strain)	2
Bacillus anthracis	3 (V)	Mycobacterium chelonae	2
Bacillus cereus	2	Mycobacterium fortuitum	2
Bacteroides spp.	2	Mycobacterium kansasii	2
Balneatrix alpica	2	Mycobacterium leprae	3 (V)
Bartonella spp. (except B bacilliformis)	2	Mycobacterium malmoense	3
Bartonella pertussis	2 (V)	Mycobacterium marinum	2
Bartonella bacilliformis	3	Mycobacterium microti	3*
Beneckea spp.	2	Mycobacterium paratuberculosis	2
Bergeyella zoohelcum	2	Mycobacterium scrofulaceum	2
Bifidobacterium dentium	2	Mycobacterium simiae	2
Bilophila wadsworthia	2	Mycobacterium szulgai	3
Bordetella spp.	2	Mycobacterium tuberculosis	3 (V)

Borrelia spp.	2	Mycobacterium ulcerans	3*
Brachyspira spp.	2	Mycobacterium xenopi	2
Brevibacterium spp.	2	Mycoplasma spp.	2
Brevinema andersonii	2	Myroides spp.	2
Brevundimonas diminuta	2	Neisserria spp.	2
Brucella spp.	3	Neisseria meningitidis	2 (V)
Burkholderia spp. (except B. mallei)	2	Nocardia spp.	2
Burkholderia mallei	3	Nocardiopsis dassonvillei	2
Burkholderia pseudomallei	3	Ochrobactrum anthropi	2
Calymmatobacterium granulomatis	2	Oligella spp.	2
Campylobacter spp.	2	Orientia tsutsugamushi	3
Capnocytophaga spp.	2	Pasteurella spp.	2
Cardiobacterium hominis	2	Peptococcus spp.	2
Catonella morbi	2	Peptostreptococcus spp.	2
Cedecea spp.	2	Photobacterium spp.	2
Cellulomonas hominis	2	Plesiomonas shigelloides	2
Centipeda periodontii	2	Porphyromonas spp.	2
Chlamydia spp. (except C psittaci, avian strains)	2	Prevotella spp.	2
Chlamydia psittaci (avian strains)	3	Propionibacterium spp.	2
Chlamydophila spp.	2	Proteus spp.	2
Chromobacterium violaceum	2	Providencia spp.	2
Chryseobacterium spp.	2	Pseudomonas spp.	2
Citrobacter spp.	2	Pseudoramibacter alactolyticus	2
Clavibacter michiganensis	2	Psychrobacter phenylpyruvicus	2
Clostridium spp.	2	Rhodococcus spp.	2
Clostridium botulinum	2 (T,V)	Rickettsia spp.	3
Clostridium tetani	2 (T,V)	Riemerella columbina	2
Clostridium diphtheria	2 (T,V)	Rochalimaea spp.	2
Comamonas terrigena	2	Saccharopolyspora rectivirgula	2
Corynebacterium spp.	2 (T,V)	Salmonella spp.	2
Coxiella burnetii	3	Salmonella Paratyphi A	3*
Curtobacterium flaccumfaciens	2	Salmonella Paratyphi B/java	3*
Dermatophilus congolensis	2	Salmonella Paratyphi C/Choleraesuis	3*
Dialister pneumosintes	2	Salmonella typhi	3 (V)*
Dichelobacter nodosus	2	Selenomonas spp.	2
Dolosigranulum pigrum	2	Serpulina spp.	2
Edwardsiella spp.	2	Serratia spp.	2
Ehrlichia spp.	2	Serratia liquefaciens	2
Ehrlichia sennetsu	3	Shewanella algae	2
Eikenella corrodens	2	Shigella spp.	2
Empedobacter brevis	2	Shigella dysenteriae (type 1)	3 (T)
Enterobacter spp.	2	Sphaerophorus necrophorus	2
Enterococcus spp.	2	Sphingobacterium spp.	2
Eperythrozoon spp.	2	Sphingomonas spp.	2
Erwinia spp.	2	Spiroplasma mirum	2
Erysipelothrix spp.	2	Sporichthya brevicatena	2
Escherichia spp.	2	Staphylococcus spp.	2
Escherichia coli verocytotoxigenic strains (e.g. O157:H7)	3 (T)	Staphylococcus aureus	2 (T)
Eubacterium spp.	2	Stenotrophomonas spp.	2
Ewingella americana	2	Streptobacillus spp.	2
Facklamia hominis	2	Streptococcus spp.	2
Faenia rectivirgula	2	Streptomyces somaliensis	2
Falcivibrio spp.	2	Sutterella wadsworthensis	2
Elizabethkingia meningoseptica	2	Suttonella indologenes	2
Flexibacter spp.	2	Tatlockia spp.	2
Fluoribacter spp.	2	Tatumella ptyseos	2
Francisella tularensis	3 (Type A, V)	Tissierella praeacuta	2
Fusobacterium spp.	2	Treponema spp.	2
Gardnerella vaginalis	2	Tsukamurella spp.	2

Gemella spp.	2	Turicella otitidis	2
Globicatella sanguinis	2	Ureaplasma spp.	2
Gordonia spp.	2	Veillonella parvula	2
Haemophilus spp.	2	Vibrio spp.	2
Hafnia alvei	2	Vibrio cholera	2 (T,V)
Hallella seregens	2	Waddlia chondrophila	2
Helcococcus spp.	2	Yersinia spp. (except Y. pestis)	2
Helicobacter spp.	2	Yersinia pestis	3 (V)
Johnsonella ignava	2		
Jonesia denitrificans	2		

**Routine diagnosis of M. tuberculosis infection based on microscopy, PCR and primary culture can be conducted under level 2 conditions, whereas culture manipulation for identification, drug-susceptibility testing and line probe assays on cultured isolates should be conducted under level 3 conditions.*

Table 4:
Prescribed risk groups for viruses. This list pertains primarily to human pathogens, but also includes other viruses that may be frequently used in experimentation (for example baculovirus for protein expression) or veterinary pathogens that will be likely processed in medical laboratories (for example BSL 4 agents) (*unassigned species refer to species not specifically listed here) (in alphabetic order per family).

BIOLOGICAL AGENT	***RISK GROUP***	***BIOLOGICAL AGENT***	***RISK GROUP***
Adenoviridae (human, all types)	2	Lymphocytic choriomeningitis (non-neurotropic)	2
Alphaviridae:		Machupo	4
Chikungunya	3	Mopeia	3
Middelburg	3	Mobala	3
Ndumu	3	Oliveros	4
O'nyong-nyong	3	Parana	4
Semliki forest	3	Pichinde	4
Shuni	3	Tamiami	4
Sindbis	3	Sabia	4
Ross river	3	Putative arenaviridae species or unassigned species	4
Eastern equine encephalitis	4	Astroviridae	
Western equine encephalitis	4	Baculoviridae	2
Venezuelan equine encephalitis	4	Birnaviridae	2
Putative alphaviridae species or unassigned species*	3	Bornaviridae	2
Arenaviridae (mammarenaviruses):		Bunyaviridae:	
Amapari	2	Bunyamwera	3
Guanarito	4	California encephalitis	3
Flexal	3	Crimean-Congo Haemorrhagic fever	3**
Ippy	3	Hanta (all species)	4
Junin	4	Nairobi sheep disease	3
Lassa	4	Rift Valley fever	3
Lujo	4	Sandfly fever	3
Lymphocytic choriomeningitis (neurotropic)	3	St Floris	3
		Putative bunyaviridae species or unassigned species (not Hanta)	3
Caliciviridae:		Japanese encephalitis	3
Hepatitis E	2	Kadam	3
Noro	2	Koutango	3
Sapo	2	Kokobera	3
Putative caliciviridae species or unassigned species	2	Kumlinge	4
Coronaviridae (human)	2	Kyasanur Forest	4
Severe acute respiratory syndrome-2 (SARS CoV2)	3*(V)		
Severe acute respiratory syndrome (SARS) (or SARS-like) Middle Eastern respiratory syndrome *(MERS) (or MERS-like)*	3	Langat	4
Putative coronaviridae species or unassigned species	2	Louping ill	4
Filoviridae: Murray Valley encephalitis:	3		
Ebola	4	Ntaya	3

Marburg	4	Negishi	3
Putative filoviridae species or unassigned species	4	San Perlita	3
Flaviviridae: Spondweni	3		
Absettarov	4	Omsk	4
Bagaza	3	Uganda S	3
Banzi	3	Usutu	3
Bouboui	3	Powassan	3
Central European encephalitis	4	Rocio	3
Dengue	3	Russian spring-summer encephalitis	4
Hanzalova	4	St Louis encephalitis	3
Hepatitis C	2	Tick-borne encephalitis	4
Hepatitis G	3	Wesselsbron	3
Hypr	4	West Nile (including Kunjin)	3
Israel turkey meningoencephalitis	4	Yellow fever, wild type Vaccine strain	3(V), 2
Zika	3	Human metapneumo	2
Putative flaviviridae species or unassigned species	3	Hendra	4
Hepadnaviridae:		Measles	2 (V)
Hepatitis B	2 (V)	Menangle	2
Hepatitis D	2	Mumps	2 (V)
Herpesviridae:		Nipah	4
Cytomegalo	2	Parainfluenza	2
Epstein-Barr		Respiratory syncytial	2
Herpes simplex	2	Rinderpest	4
Herpes 6-8	2	Sendai	2
Herpes simiae (Herpes B)	4	Parvoviridae:	
Varicella-zoster	2 (V)	Parvovirus (Human B-19)	2
Human B-lymphotropic	2	Picornaviridae:	
Pseudorabies	4	Acute haemorrhagic conjunctivitis	2
Putative herpesviridae species or unassigned species	2	Coxsackie	2
Orthomyxoviridae:		Echo	2
Influenza (human)	2 (V)	Entero	2
Avian influenza	3	Encephalomyocarditis	2
Dhori	3	Hepatitis A	2 (V)
Tick-borne orthomyxo	2	Polio (Type 1, 3) (Type 2)	2 (V), 3
Thogoto	3	Poxviridae:	2
Papovaviridae:		Buffalopox	2
JC/BK	2	Camelpox	2
Papilloma	2 (V)	Cowpox/Milker's nodule virus	2
Polyoma	2	Elephantpox	2
Simian virus 40 (SV40)	2	Horsepox	2
Paramyxoyiridae:		Goatpox	2
Avian paramyxo	2		

BIOLOGICAL AGENT	***RISK GROUP***	***BIOLOGICAL AGENT***	***RISK GROUP***
Molluscum contagiosum	2	*Rhabdoviridae:*	
Monkeypox	4	Bovine ephemeral fever	3
Orf	2	Rabies	2 (V)
Rabbitpox	2	Rabies related (including new, unassigned species)	3
Variola (minor and major)	4	Vesicular stomatitis	3
Pseudopox	2	Putative rhabdoviridae species or unassigned species	3
Yatapox (Tana- and Yabapox)	3	*Togaviridae:*	
Reoviridae:		See alphaviruses	
Bluetonque	2	Rubella	2 (V)
Colti	2		
Orbi (including Colorado tick fever)	3		
Reo	2		

Rota	2 (V)		
Putative reoviridae species or unassigned species	3		
Retroviridae:			
Human immunodeficiency	3*		
Human T-cell lymphotropic	3		
Simian Immunodeficiency	3		

*Biosafety level 2 conditions are applicable to clinical specimens and non-culture procedures. Biosafety level 3 conditions are required for all culture procedures.
**Biosafety level 3 conditions are applicable to clinical specimens and non-culture procedures. Biosafety level 4 conditions are required for all culture procedures.

ANNEXURE B
[Regulations 10(2)(f), 11(4)(b) and 14(b)]

BIOHAZARD SIGN

Explanatory notes to the Regulations for Hazardous Biological Agents
The purpose of this document is to provide guidance to all employers and employees who are responsible for or concerned with the control and prevention of hazardous biological agent risks in the workplace.
This guide does not replace the Hazardous Biological Agents Regulations of 2021. It is intended to give practical insight into the applications of the Regulations. It should always be read in conjunction with the HBA regulations and the Occupational Health and Safety Act of 1993.

Wearing and use of protective clothing and respiratory protective equipment.
(1). Where the HBA exposure cannot be prevented by other means, individual protection measures including PPE must be used. Workers have to be provided with appropriate protective clothing or other appropriate special clothing (ref: Directive 2000/54/EC of 18 September 2000 of the European Parliament on the protection of workers from risks related to exposure to biological agents at work). According to standard EN 14126, protective clothing against biological hazards is classified in accordance with leak tightness and is recognised by the suffix B, e.g. type 3-B.
(2). In the selection of the protective clothing, one should note that the efficacy offered by the protection. The larger the number of the protection class, the better is the clothing for that specific property.
(3). The user has to be able to perform all the movements, assume the working positions he or she will have when performing the work, and be able to use the working tools. In order to ease the work load, the clothing should be selected so that its donning and removal are easy. The removal has to be straightforward also since different kind of emergencies may arise, and the clothing may need to be taken off quickly. A poor fit of the clothing may result in reduced efficacy of the clothing.
(4). If other PPE are needed together with the protective clothing, the efficacy of the entire PPE has to be ensured. Special care has to be taken to ensure that the wearer, who has to wear hearing protection will be protected and be able to communicate and hear warning signals. Wearer trials are needed to ensure the usability of the protective clothing. An evaluation of the maintainability of the clothing is also needed before the selection. The purchase of protective clothing should always be based on a risk assessment.
(5). User training must include donning and removal of the protective clothing. Also, pre-use checks (e.g. checking for defects in ensemble assembly, garment and components, accessory, interface (closure, zippers), sufficiency of ventilation rate (gas-tight clothing)), safe work methods and monitoring the clothing while in use. The training should be carried out under realistic conditions and with actual equipment following the same procedures as in the real work task. In user training, the final check of size, fit, and compatibility must be investigated.
(6). Decontamination permits the reuse of the types of protective clothing and equipment that are reusable. It can be made through physical or chemical methods to inactivate the contaminant or by using combination of these techniques. The decontamination procedure should not put other people or the environment at risk or damage the PPE. The effectiveness of decontamination should be checked e.g. visually searching for signs of discolorations, swelling, corrosive effects, stiffness or degradation of the material. Single use clothing is used when the contamination cannot be effectively removed from the clothing. Single use clothing is commonly used against microbiological agents.
(7). The storage must be arranged to prevent damage to the protective clothing and equipment. Exposure to sunlight, dust, moisture, chemicals, extreme temperatures and mechanical damages e.g. folding must be prevented. Potentially contaminated protective clothing and equipment must be stored separately from unused protective clothing.
(8). Regular inspection is necessary and should include inspection when the protective clothing and equipment is first received, inspection when it is selected for a particular task, inspected after use and previous maintenance. Records must be kept of all inspection procedures containing item identification number, date of inspection, person conducting the inspection, results, and unusual findings.
(9). In all repair work, the manufacturer's instruction must be followed or the personal protective clothing and equipment must be sent to repair location authorised by the manufacturer.

The emergency preparedness plan
(1). The development of an emergency preparedness plan should be based on all-hazards and assessments of risks, and of the available capacity to manage the priority risks. The objective of an emergency response plan is to provide practical ways

to reduce the risk of employee's exposure to the disease in the workplace and to deal with any unforeseen situations. The plan should outline actions that employers and employees must take in the event of an emergency situation to ensure their health and safety. The plan should be communicated to all employees, contractors and suppliers. Everyone must be aware of what they should do - or not do - based on the plan, including their duties and responsibilities.

(2). The plan must clearly outline the procedures to be followed in the event of an emergency. Such procedures should include:
- risk assessment;
- ways to alert employees;
- evacuation;
- emergency response;
- designated assembly locations;
- contact people and their telephone numbers;
- first aid and medical assistance;
- clean-up and business resumption;
- reporting emergencies (reporting exposures, incidents, accidental release);
- employee training;
- exposure control procedures (engineering controls, employee training and workplace practices, personal protective equipment)
- ways of testing the plan (drills).

Duties of persons who might be exposed to HBA

(1). In addition to the duties indicated in the regulation 5, employees' must report any deviations in the adherence to control measures put in place by the employer to mitigate exposure of a medical nature. This allows employees exposed to HBA to take responsibility to inform the employer of any challenges experienced with control measures put in place as opposed to employee not adhering to measures or being subjected to ill effects of measures without the employer's knowledge.

Competent person

(1). Is a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications specific to hazardous biological agents: Provided that, where appropriate qualifications and training are registered in terms of the National Qualifications Framework Act, 2008 (Act No. 67 of 2008), Skills Development Act, (Act No 97 of 1998) Chapter 6C as well as the Continuing Education and Training Act 16 of 2006, those qualifications and that training must be regarded as the required qualifications and training; and

(2). is familiar with the Act and the applicable regulations made under the Act;

(3). In general, for people to be competent in the health and safety aspects of their work, they will have a combination of the following requirements:
- be qualified because of knowledge, training, and experience to do the assigned work;
- have knowledge about the hazards and risks associated with the job or task to be performed (e.g., knows what hazards and risks are present);
- know how to recognize, evaluate and control these hazards and risks (e.g., knows what precautions to take or controls to use/are in place for the different hazards or risks);
- have the ability to work so that their health and safety and the health and safety of others is not in danger;
- have knowledge of the laws and regulations that apply to the work being done.

(4). The level of competence required will depend on the complexity of the situation and the task involved.

(5). In all cases, it is the employer who should be able to justify the basis on which a worker is considered to be "adequately qualified", "suitably trained" or "sufficient experience". It is not possible to provide a general list of the exact knowledge, training and experience required. Every organisation must determine the requirements for each position or task to be done. Frequency of competency assessment will depend on the trends of risk outcomes (e.g. incidents), changes in technology or contraventions by the inspectorate which may indicate a need to increase the level of competency.

Confidentiality in relation to records

(1). Confidentiality is the right of an individual to have personal, identifiable medical information kept private.

(2). Health records are different to medical records in that they should not contain confidential medical information. Health records and medical records must therefore be kept separate to avoid any breaches of medical confidentiality. Any personal medical information should be kept in confidence and held by the occupational health professional responsible for the health surveillance programme. The doctor or nurse should only provide employers with information on fitness to work and any restrictions that may apply in that respect.

(3). Medical records can only be released to third parties, such as the employer, in accordance with the Protection of Personal Information (POPI) Act and constitution is also applicable.

Biological containment and medical fitness restrictions

(1). Biocontainment is a component of biorisk management. The overall objective of biological containment is to confine a hazardous biological agent, thereby reducing the potential for exposure to workers or other persons, and the likelihood of accidental release to the environment.

(2). A medical fitness certificate is a document completed by a qualified occupational health practitioner or an occupational medical practitioner. The employee fitness certificate is to ensure that the employee is fit for the task or job he or she is to perform according to his job specification

Safety equipment (Primary Barriers and Personal Protective Equipment)

(1). The primary means of physical containment include the use of containment equipment including safety equipment includes biosafety cabinets (BSCs), personal protective equipment (PPE), enclosed containers, and other controls designed to remove or minimise exposures to hazardous biological materials.

(2). Personal protective equipment is specialised clothing or equipment worn by workers to provide another layer of protection while handling hazardous biological agents. PPE may include respirators, gloves, safety glasses, lab coats or gowns, and other protective clothing. Biosafety Cabinets are primary containment devices designed to contain hazardous biological agents.

Facility Design and Construction (Secondary Barriers)

(1). The facility design and physical features should provide primary barrier protection from the accidental release of hazardous biological agents outside the facility or to the environment. The design and construction of the facility contribute to the laboratory workers' protection. It also provides a barrier to protect people, animals, and the environment outside of the facility from hazardous biological agents that may be accidentally released from the facility. Small and large animal laboratories require additional design considerations to allow for feeding, housing, handling, and containment.
These facilities are defined by Animal Biosafety Levels (ABSL) or Biosafety Level - Agriculture (BSL-Ag).

(2). The use of specific containment equipment and procedures is determined through risk assessments conducted at individual institutions. Important differences exist between risk assessment criteria for public health and worker protection, and requirements for animal, wildlife, plant, and agricultural containment.

Control measures related to appropriate disinfection

Disinfectants must be appropriate for the relevant biological agents or hazards identified and must be used in accordance with the manufacturer's instructions to ensure adequate contact time. Always refer to the safety data sheets to ensure safe use of the product. The following documents will provide further information:

(1). Practical Manual for Implementation of the National Infection Prevention and Control Strategic Framework, NDOH, March 2020.

(2). COVID-19 Disease: Infection Prevention and Control Guidelines, NDOH, April 2020

Fit testing of Personal Protective Equipment

(1). To ensure that a respirator is effective at reducing risk, it is important to conduct respirator fit testing in order to match the user according to their facial characteristics with the correct size and style of the respirator, especially for those working in high risk environments. Respirator fit testing can be either qualitative or quantitative and it is an important element of a respiratory protection programme. Fit testing forms a key part of achieving the objective filtration of hazardous biological agents in protecting the user.

(2). Quantitative fit testing is defined in ANSI Z88.2-1992 as "A fit test that uses an instrument to measure the challenge agent inside and outside the respirator." This procedure is more precise than the qualitative fit test. Qualitative fit testing is defined in ANSI Z88.2-1992 as "a pass/fail test that relies on the subject's response to detect the challenge agent.' Since this test relies on the subjective response of the user, the reproducibility and accuracy may vary.

(3). Fit testing should be performed at least once annually for workers who are required to wear a particular respirator per specific respirator brand and size. It is also recommended immediately if the user experiences a weight change of 10kg or more, has significant dental changes, or has reconstructive surgery or a facial disfigurement (scarring).

(4). Fit testing should not be confused with a respirator fit check. ANSI 288.2-1992 defines a fit check as "a test by the user to determine if the respirator is properly sealed to the face." It is recommended that a fit check be performed each time the respirator is donned or adjusted. The fit check is a quick method to determine if the respirator is properly sealed to the face. Under part A.6 of ANSI 288.2-1992, procedures for conducting a fit check are described. The two most commonly performed methods are the positive and negative pressure tests.

(5). The positive pressure check requires the user to cover the exhalation valve (if present

in the case of elastomeric filtered respirators suggested in times of extremely constrained supply) of the tight-fitting respirator (placing the palm over the valve is usually sufficient) and exhale. If there is no indication of air escaping, the fit is considered satisfactory. The wearer then inhales. If no leakage is detected, the face piece seal is satisfactory.

(6). For valved masks during a negative pressure fit check, the inlet opening of the respirator's cartridges or filters are covered prior to inhalation. Fit checking requires exposing the wearer to a challenge agent (isoamyl acetate, saccharin mist, irritant fume). If the wearer does not detect the challenge agent, the fit check is successful. This method is the only way respirators without valves can be effectively tested.

Reference: NDOH. Policy for the regulation of quality respiratory protective equipment (RPE) supply in healthcare. 2020.

Transport of HBA

In addition to the legislation mentioned in the regulations, the employer shall ensure that transport of biological materials internally or externally is in accordance with the organization's risk assessments. The employer shall address all applicable international, national and local transportation requirements and ensure that a system is in place to maintain appropriate controls on shipping packages and transport containers that contain biological materials in accordance with the organization's risk assessments.

Indications Concerning Containment Measures and Containment Levels

For group 1 biological agents, including life-attenuated vaccines, no physical containment measures are prescribed below. For work with group 1 biological agents the principles of good occupational safety and hygiene should be observed. Where hazardous biological agents can be transmitted through suspended aerosols over long distances they are classified as airborne spread in the table below. Mechanism of transmission including contact, droplet and vector spread are considered as non-airborne spread below.

Containment measures	***Containment levels + Mandatory for animal containment facilities ► Mandatory for industrial processes 0 Mandatory for Suite Laboratories***			
	2	**3 (HBA Not Airborne Spread)**	**3 (HBA Airborne Spread)**	**4**
1. Viable microorganisms should be contained in a system which physically separates the process from the environment (closed system).	► Yes	► Yes	► Yes	► Yes
2. The workplace is to be separated from other areas of the same building.	No	Yes	Yes	Yes
3. Exhaust and vent gasses, vapours or air should be treated so as to -	Minimise release	Prevent release	Prevent release	Prevent release
4. Sample collection from a closed system, addition of materials to a closed system and transfer of viable microorganisms to another closed system, should be performed so as to-	► Minimise release	► Prevent release	► Prevent release	► Prevent release
5. Bulk culture fluids should not be removed from the closed system unless viable microorganisms have been-	► Inactivated by validated means	► Inactivated by validated chemical or physical means	► Inactivated by validated chemical or physical means	► Inactivated by validated chemical or physical means
6. Equipment seals should be designed so as to-	Minimise release	Prevent release	Prevent release	Prevent release
7. Closed and potentially contaminated systems should be located within controlled areas	Optional	Yes	Yes	Yes, and purpose-built
8. Biohazard signs should be posted (SANS 1186-1);	Yes	Yes	Yes	Yes
9. Personnel should wear protective clothing;	Yes, work clothing	Yes	Yes	Yes Complete change of positive pressure protective suits
10. Decontamination and washing facilities should be provided for personnel (e.g. hand and eye wash, safety showers)	Yes	Yes	Yes Suite decontamination at containment perimeter	Yes Suite decontamination at containment perimeter
11. Personnel should shower before leaving the controlled area;	No	Optional	Optional +Yes	Yes
12. Effluent from sinks and showers should be collected and inactivated before release;	No	Optional	+ Yes	Yes
13. The controlled area should be adequately ventilated to minimise air contamination;	Optional	Optional	Yes	Yes
14. The controlled area should be maintained at an air pressure negative to atmosphere;	No	Optional	Yes	Yes
15. Air supplied to the controlled area should be HEPA filtered;	No	Optional	Optional ► Prevent backflow	Yes
16. All air extracted from the controlled area should be HEPA filtered;	No	Optional	Yes	Yes (Double HEPA Filtered)

17. The controlled area should be designed to contain spillage of the entire contents of closed system;	Optional	Yes	Yes	Yes
18. The controlled area should be sealable to permit fumigation.	No	Optional	Optional +Yes	Yes
19. Effluent treatment before final discharge.	Inactivated by validated means	Inactivated by validated chemical or physical means	Inactivated by validated chemical or physical means	Inactivated by validated chemical or physical means
20. Access is to be restricted to authorised persons only	Yes	Yes	Yes, via air lock	Yes, via air lock key procedure
21. The workplace is to be sealable to permit disinfection.	No	Yes	Yes	Yes
22. Specified disinfection procedure.	Yes	Yes	Yes	Yes
23. The workplace is to be maintained at an air pressure negative to atmosphere.	No	Yes	Yes	Yes
24. Efficient vector control, eg rodents and insects.	Recommended +Yes	Recommended +Yes	Yes	Yes
25. Surfaces impervious to water and easy to clean.	Yes, for bench	Yes, for bench, and floor (and walls for animal containment)	Yes	Yes, for bench, floor, walls and ceiling
26. Surfaces resistant to acids, alkalis, solvents, disinfectants.	Yes, for bench	Yes, for bench and floor (and walls for animal containment)	Yes	Yes, for bench, floor, walls and ceiling
27. Safe and secure storage of biological agents.	Yes	Yes	Yes	Yes, secure storage
28. An observation window, or alternative, is to be present, so that occupants can be seen.	No	Yes	Yes	Yes
29. A laboratory is to contain its own equipment.	No	Yes	Yes, so far as is reasonably practicable	Yes
30. Infected material including any animal, is to be handled in a safety cabinet or isolator or other suitable containment.	Yes, where aerosol produced	Yes	Yes, where aerosol produced	Yes
31. Incinerator for disposal of animal carcases.	Accessible service	Accessible service	Accessible service	Yes, on site

EXPLOSIVES REGULATIONS

GNR.109 of January 2003

[These regulations were published in GNR.109 of 17 January 2003]

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations "the Act " means the Occupational Health and Safety Act, 1993(Act NO. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"ammonium nitrate" as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport and classified by the inspector of explosives;

"authorized explosive" means any substance or mixture that has the properties of an explosive and is approved by the Minister for Safety and Security and published by notice in the *Government Gazette* as an explosive;

"burning grounds" means a fenced-in area with a controlled entrance where explosives may be exposed to a naked flame under safe controlled conditions;

"certificated person" means any competent person to whom a certificate of competency has been granted by an approved inspection authority, accredited by the National Explosives Council or any other organization acceptable to and approved by the chief inspector of occupational health and safety:

"chief inspector of explosives" means the chief inspector of explosives appointed by the Minister for Safety and Security;

"class 1.1" means a class of explosives as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport ;

"class. 1.2" means a class of explosives as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport:

"class 1.3" means a class of explosives as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport:

"class 1.4" means a class of explosives as defined in the South African Code of Practice SABS 0228, The Identification and Classification

of Dangerous Goods for Transport;

"class1.5" means a class of explosives as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport;

"class1.6" means a class of explosives as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport;

"competent person" means a person with sufficient training and experience in, and knowledge of, the health and safety aspects of explosives deemed appropriate by the National Explosive Council or any other organization approved by the chief inspector of occupational health and safety;

"complex" means a group of danger buildings in the same danger area;

"danger area" means an area surrounded by a fence provided with a guarded entrance in which are situated explosives testing, manufacturing and storage buildings, and as much of the land surrounding them as is shown on the official explosives workplace site plan;

"danger building or room" means any licensed building or room used as an explosives workplace or explosives magazine;

"danger zone" means the region inside the area encompassed by the larger safety distance applicable to a danger building in terms of the safety distances stipulated in Annexure 1 ;

"explosives groups" means explosives grouped together for their safe storage and transportation as defined in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport:

"explosives magazine" means any building licensed under these regulations for the storage of explosives;

"explosives manager" means a person appointed in terms of regulation 12 (1);

"explosives workplace" means any workplace licensed under these regulations for the manufacture, testing, use and storage of explosives, together with every mound, building and works therein or thereon for whatever purpose used;

"explosives workplace licence" means a licence referred to in regulation 4 (2) or issued in terms of regulation 4 (3) in respect of an explosives workplace for the manufacture, testing, use and storage of explosives:

"from magazines" means from one danger building where explosives are stored to another danger building where explosives are stored;

"guarded entrance" means an entrance through which no person, equipment or material can pass without the approval of the explosives manager or a person authorized by him and the monitoring by a guard or guarding system approved by the explosives manager;

"loose article" means any tool, furniture, cleaning material, handling equipment or stationery which may be used in a danger building where explosives are present;

"loose article list" means a list approved by the explosives manager and posted in a conspicuous position in a building or room specifying the number and types of loose articles allowed and present in that building or room;

"magazine licence" means a license referred to in regulation 4 (2) or issued in terms of regulation 4 (3) in respect of a magazine for the storage of explosives;

"manufacture" means the making or processing of any explosive including the division of any explosive from or into its component parts by any process, and the conversion of an explosive of one kind into an explosive of another kind, including the alteration, fitting for use, testing, on-site manufacture, repair or destruction of any explosive;

"mobile workplace" means any mobile workplace licensed under these regulations for the manufacture, testing, use and storage of explosives:

"National Explosives Council" means a council established under regulation 17;

"non-danger building or room" means any building or room within the danger area which is used in connection with the manufacture, testing or storage of explosives, but in which no explosives are kept, used, tested or manufactured;

"non-detonatable explosive" means an explosive that needs extreme conditions to initiate:

"non-explosives worker" means an employee in an explosives workplace who normally performs his or her duties outside a danger area;

"non-sensitised explosive" means any explosive or substance that needs to be sensitised by the addition of a gassing agent, chemical sensitiser, gas bubbles, organic fuel or micro balloons , or the like , for it to be used as an explosive;

"official explosives workplace site plan" means a plan as contenlplated in regulation 4 (5) (*b*) ;

"operating instruction" means a document approved by the explosives manager setting out in detail the methods, materials, equipment, tools and precautions to be used in a given operation;

"plant office" means an office for the exclusive use of personnel for the direct control of the operations in the danger area and so situated that exposure to explosions is minimised;

"plant workshop" means a workshop used exclusively to maintain equipment and buildings in the danger area;

"private use" means the legal use of explosives by individuals for a specific purpose not connected with any other person, trade or business;

"process building" means a danger building where work on explosives takes place;

"process magazine" means a magazine within the safety circle of a process building in which explosives for one day's use are kept;

"professional engineer" means an engineer who has received professional status from the Engineering Council of South Africa;

"public building" means a structure beyond the danger zone to which members of the public have access and in which non-explosives workers are stationed;

"schedule licence" means a licence categorised as -

(*a*) a schedule I explosives workplace licence, which is a schedule to the explosive workplace licence, in a format acceptable to the chief inspector of occupational health and safety, certified by the explosives manager and approved by the chief inspector of occupational health and safety, in which a description is given of all explosives that may be manufactured, tested, stored or used in a danger area, specifying nominal formulas, with tolerances, components, construction and packaging;

(*b*) a schedule I1 explosives workplace licence, which is a schedule to the explosives workplace licence pertaining to each danger building or room in the danger area, in a format acceptable to the chief inspector of occupational health and safety, certified by the explosives manager and approved by the chief inspector of occupational health and safety, specifying the name and number of the building or room, the maximum number of persons and the maximum mass of explosives allowed in the building or room, the operations authorized and which of these operations may be carried out simultaneously; or

(*c*) a schedule I11 explosives workplace licence, which is a schedule to the explosives workplace 'licence for a non-danger building or room in a danger area, in a format acceptable to the chief inspector of occupational health and safety, certified by the explosives manager and approved by the chief inspector of occupational health and safety, specifying the name and number of the building or room, the purpose of the building or room and the number of persons allowed therein:

"to magazines" means from an explosives process building to any danger building where explosives are stored;

"to public buildings" means from a danger building to public buildings as defined in these regulations, and includes main offices, main workshops and dwelling houses other than those defined under "to railways, roads, etc;

"to railways, roads, etc" means from a danger building to railways, roads or open sports grounds, or to dwelling houses under the same ownership as the explosives factory and occupied by the owner or an employee;

"unauthorised explosive" means any substance or mixture that has the properties of an explosive but has not been approved and published as an authorised explosive.

2. Scope of application.-(1) Subject to subregulation (2), these regulations shall apply to any employer, self-employed person or user who operates an explosives workplace for the purpose of manufacturing, testing, storing or using explosives.

(2) These regulations shall not apply to explosives workplaces where the loading or reioading of cartridges for small arms is being carried out for private use and is not offered for sale, trade or any other use: Provided that these Regulations do not detract from the requirements of the Arms and Ammunition Act, 1969 (Act No. 57 of 1969) or the Firearms Control Act, 2000 (Act No. 60 of 2000).

3. Classification of explosives for manufacturing.-(1) The chief inspector of explosives shall classify all explosives and make this classification available to the chief inspector of occupational health and safety.

(2) The chief inspector of occupational health and safety may classify any chemical combination as an explosive or reclassify any explosive for the purposes of these regulations.

(3) No person shall manufacture or use any explosives that are not classified in terms of subregulations (1) and (2).

4. Licensing of explosives workplaces.-(1) Any person who desires to erect or operate a new explosives workplace for the manufacture, testing, use or storage of explosives shall apply for a licence in writing to the chief inspector of occupational health and safety.

(2) The licence of any explosives workplace which is in force at the time of the promulgation of these regulations shall be deemed valid: Provided that the Licensing conditions as contemplated in these regulations shall be complied with within twelve months of promulgation of these regulations.

(3) The chief inspector of occupational health and safety-

(*a*) may issue a licence subject to compliance with these regulations and after consultation with the relevant employer, self-employed person or user and local government: Provided that such licence shall lapse after twelve months if the erection of the building has not started within that period;

(*b*) may attach any condition to the licence that he or she deems reasonably necessary;

(*c*) may alter the condition of an existing licence after consultation with the employer, self-employed person, user and employees;

(*d*) shall not issue a licence where a competent

explosives manager has not been appointed in terms of regulation 12 (1) or where the prescribed requirements have not been met;

(*e*) may upon application in writing transfer a licence into the name of another person: Provided that the application shall be made prior to the transfer and the transferee shall appoint a competent explosives manager; and

(*f*) may revoke any licence issued in terms of this regulation if the prescribed conditions are no longer being complied with or where no competent explosive manager is appointed.

(4) Any person applying for a magazine or explosives workplace licence shall attach to such application-

(*a*) written authorization from the relevant local government for the proposed new magazine or workplace;

(*b*) written approval from the chief inspector of explosives concerning security aspects for the area and buildings of the proposed workplace or magazine;

(*c*) the letter of appointment of the competent explosives manager, including the acceptance of the appointment;

(*d*) the physical address of the explosives workplace or magazine;

(*e*) documentary proof of the explosives manager's competency; and

(*f*) a full written report on the risk assessment compiled by an approved inspection authority.

(5) Any person applying for a licence to manufacture, use, test or store explosives in the proposed explosives workplace or magazine shall submit draft schedule licences, certified by the explosives manager, and drawings in duplicate setting forth the following:

(*a*) an area plan of the proposed site indicating the danger zone;

(*b*) a site plan, which is drawn to scale, is easily readable and clearly indicates the complete layout of the site and the danger zone;

(*c*) the safety distances, as contemplated in Annexure 1, which are to be maintained between danger buildings, and between danger buildings and other buildings or works used in connection with the explosives workplace;

(*d*) the compatibility of materials to be used in the construction of danger buildings;

(*e*) building plans for all danger buildings or works as designed and approved by a professional engineer;

(*f*) the nature of the process to be used in the workplace and the place at or in which he or she intends to implement each manufacturing process, activity and type of work;

(*g*) the places at or in which he or she proposes to store, destroy or test-

(i) any ingredient of explosives;

(ii) other articles or substances which are liable to spontaneous ignition; and

(iii) articles which are otherwise dangerous;

(*h*) the quantity of explosives, or any other partly or wholly mixed ingredients thereof, which he or she intends to use simultaneously in any danger room, danger building or complex:

(*i*) the maximum number of persons which he or she intends to employ in each danger room, danger building or complex; and

(*j*) any additional information that may be required by the chief inspector of occupational health and safety.

(6) Any person who desires to erect or operate a magazine for the storage of explosives shall apply in writing to the chief inspector of occupational health and safety for written approval.

(7) No person shall erect burning grounds within or near a danger area without an appropriate safe separation.

(8) Any person who desires to use explosives in a workplace for any purpose shall apply in writing to the chief inspector of occupational health and safety for written approval.

5. Non-detonatable and non-sensitised explosives.-(1) Ammonium nitrate fertilizers shall be manufactured in such a way that the constituents cannot be separated mechanically from one another.

(2) Mixtures of ammonium nitrate with calcium carbonate, or dolomite, or calcium carbonate and dolomite, shall be manufactured in such a way that the calcium carbonate or dolomite is incorporated in the prills or granules of the mixture and shall be approved, in writing, by the chief inspector of explosives.

(3) Every person or concern manufacturing non-detonatable or non-sensitised explosives may apply to the chief inspector of occupational health and safety for exemption from these regulations with the exception of regulation 5.

(4) Application for exemption from these regulations is subject to the conditions that the chief inspector of occupational health and safety may stipulate for the safe manufacture, storage, testing and handling of non-detonatable or non-sensitised explosives.

(5) The basis for the safe manufacture of non-detonatable or non-sensitised explosives referred to in subregulation (4) shall include provision for the following safety measures:

(*a*) access control measures and equipment at the entry to the workplace area where the non-detonatable or non-sensitised explosives are manufactured, tested or stored shall restrict access to the manufacturing, testing and storage areas to authorised persons only:

(*b*) unauthorized access to manufacturing operations shall not be allowed, and measures and equipment to prevent access to potentially hazardous areas shall be provided;

(*c*) the following controls shall be in place at the separator stage in non-detonatable or non-sensitised explosives manufacture:

(i) temperature control;

(ii) pH control;

(iii) an inventory dumping system;

(iv) control of process steam temperature and pressure; and

(v) procedures to prevent unsafe confinement of non-detonatable or non-sensitised explosives during operation or cleaning activities:

(*d*) the following controls shall be in place at the storage and pumping stage in non-detonatable or non-sensitised explosives manufacture:

(i) Interlocks that are able to trip;

(ii) temperature control in heated storage tanks; and

(iii) Tank level control;

(*e*) the following controls shall be in place during evaporation and heating of non-detonable or non-sensitised explosives for prilling and granulation:

(i) temperature control;

(ii) pH control;

(iii) an inventory dumping system; and

(iv) control of process steam temperature and pressure;

(*f*) procedures to manage unsafe confinement of non-detonatable or nonsensitised explosives during operation or cleaning activities shail be in place;

(*g*) control of contaminants and additives and unsafe accumulation of such substances shall be prevented;

(*h*) controls of contaminants shall be in place during prilling or granulation;

(*i*) control of reducing components in the drying air shall be in place;

(*j*) the construction materials in all processes shall be checked for compatibility with non-detonatable or non-sensitised explosives with respect to corrosion and potential sensitising effects in the process;

(*k*) the following control during the storage and packing stages of non-detonatable or non-sensitised explosives shall be in place:

(i) control over use of combustible materials inside and close to storage areas;

(ii) control over use of liquid fuels and vehicles in storage areas;

(iii) control of mechanical condition of non-detonatable or non sensitised explosives transport and storage equipment;

(iv) control of potential contamination in non-detonatable or non-sensitised explosives transport containers;

(v) controls for appropriate fire-fighting equipment;

(vi) control of pH in solution storage; and

(vii) prevention of unsafe confinement of non-detonatable or non-sensitised explosives.

6. Danger area.-(1) An employer, self-employed person or user shall ensure that entry and exit from danger areas is only permitted-

(*a*) at the permanent authorised point of entry or exit: Provided that entry or exit at any other point may be authorised by the explosives manager or a person authorised by him if the authorized gatekeeper has been informed thereof;

(*b*) for persons and vehicles authorized thereto by the explosives manager or a person authorized by him; and

(*c*) to visitors under escort by an authorized person who is aware of the hazards attached to the danger area.

(2) An employer shall keep a register of the entries and exits contemplated in subregulation (1) and that register shall be available on the premises for inspection by an inspector.

(3) No person shall-

(*a*) enter or exit the danger area through an unauthorized point of entry or exit;

(*b*) enter or exit the danger area without first submitting themselves to a search by the authorised gatekeeper;

(*c*) enter the danger area with-

(i) tobacco;

(ii) matches, cigarette lighters or other devices capable of generating heat or spark sources;

(iii) intoxicating liquor or narcotics;

(iv) food, medicine or drinkable fluids: Provided that authorisation to enter with such articles may be granted by the explosives manager for purposes of consumption in licensed mess rooms and smoking areas: Provided further that special rules for the control of such consumption and smoking, approved by the chief inspector of occupational health and safety shall be made in writing and shall be enforced by the employer, self-employed person or user; or

(v) radio transmitters or cellular telephones; or

(*d*) perform any act or deed that will increase the risk attached to work being performed in a danger area.

(4) An employer, self-employed person or user shall not erect any buildings in the danger zone without first obtaining written approval from the chief inspector of occupational health and safety and complying with regulation 4 (5).

(5) An employer, self-employed person or user shall fence-in the danger area in accordance with the South African Police Services Code of Prac-

tice SAP 412:
Fencing Specifications.

(6) An employer, self-employed person or user shall ensure that hazard warning signs are clearly displayed at the entrance to any danger area, magazine or workplace.

7. Danger buildings.-(1) An employer, self-employed person or user shall ensure without derogating from the requirements of the Fire Brigade Services Act, 1987 (Act NO. 99 of 1987), that all fire-fighting appliances and emergency equipment provided in the danger building or room are so placed and kept that they are readily visible, accessible and available for use when required,

(2) No person shall discharge any fire extinguisher or tamper with any equipment without thereafter informing the explosives manager.

(3) An employer, self-employed person or user shall ensure that no danger building is used unless the ambient temperature and relative humidity inside the building and the temperature of the explosives in the building are within the limits prescribed by the explosives manager.

(4) An employer, self-employed person or user shall-

(*a*) take all reasonable precautions to prevent foreign materials such as grit, stones or similar objects from entering danger buildings;

(*b*) ensure that no charcoal, whether ground or otherwise, oily rag or other article susceptible to spontaneous ignition is taken into any danger buiiding, unless such article is required for immediate use in a specified place and, upon cessation of such use, is removed forthwith: and

(*c*) not permit any article not listed on the loose article list to be used or to be present in a danger building.

(5) An employer, self-employed person or user shall ensure that-

(*a*) every danger building is protected against lightning in accordance with South African Bureau of Standards Code of Practice SABS 0313, The Protection of Structures against Lightning;

(*b*) every lightning protection system is examined and tested by a person with sufficient knowledge, training and experience in lightning protection:

(*c*) the examination and testing contemplated in paragraph (*b*) is carried out at least every 12 months in the month of September for summer rainfall areas and in January for winter rainfall areas;

(*d*) the results of every examination and testing contemplated in paragraph (*b*) are recorded in a register and are made available on the premises for inspection by an inspector; and

(*e*) all danger buildings with metal walls or roofs, and all plant and machinery in such buildings, are adequately earthed and bonded in accordance with South African Bureau of Standards Code of Practice SABS 0142, The Wiring of Premises, Part 1, Low Voltage Installations, and SABS 0108, The Classification of Hazardous Locations and the Selection of Apparatus for Use in Such Locations.

(6) An employer, self-employed person or user shall ensure that -

(*a*) the official number of the building is affixed on the outer wall near the main door to every building within the danger area;

(*b*) a copy of the schedule licence is permanently affixed in a conspicuous position inside every building in the danger area; and

(*c*) a loose article list, approved by the explosives manager, is permanently affixed in a conspicuous position inside every danger building: Provided that all such numbering and documentation shall be printed or typed.

(7) An employer, self-employed person or user shall ensure that -

(*a*) all danger buildings are maintained in good order and that the interior, including benches, shelves and fittings, of every building in which any manufacturing process takes place or which may, at any stage of the process of manufacture, contain explosives or any ingredients thereof, either mixed or partially mixed, is kept clean and free from foreign materials to the extent that is reasonably practicable;

(*b*) before any maintenance, repairs or new installations are done to or in any danger building, that building is cleaned to the extent that is reasonably practicable, by the removal of all explosives and ingredients thereof, whether mixed or otherwise, and, if necessary, by the thorough washing out of the building or part of the building to or in which such maintenance, repairs or new installations is required;

(*c*) a work permit, approved by the explosives manager is issued prescribing the procedures to be followed for maintenance, repairs or new installations;

(*d*) all the doors of the danger building remain unlocked while persons are present during operations;

(*e*) steps are taken to ensure that doors to danger buildings do not slam; and

(*f*) all machinery and fittings are maintained and operated in accordance with the design specifications of the manufacturer and any other specifications prescribed by the explosives manager.

8. Safeguarding of explosives workplace.-

(1) An employer, Self-employed person or user shall ensure that -

(*a*) an explosives workplace is established, erected, operated and maintained in such a manner as to prevent the exposure of persons to hazardous or potentially hazardous conditions or circumstances;

(*b*) no part of the explosives workplace is used for any other purpose not authorized by the explosives workplace licence;

(*c*) all materials used in the construction of a danger building are of a design approved by a professional engineer and acceptable to the chief inspector of occupational health and safety;

(*d*) provision has been made for-
- (i) escape routes;
- (ii) the prevention of confined spaces;
- (iii) the safety of electrical appliances;
- (iv) lightning protectors; and
- (v) vertical clearance between buildings and overhead power lines of not less than 30 meters;

(*e*) a copy of the special rules, regulations and operating instructions is made readily available to all employees within the danger area; and

(*f*) a maintenance and inspection schedule is prepared and implemented by the explosives manager in respect of all danger buildings, fittings, plant and machinery in use in the danger area.

(2) An employer, self-employed person or user shall -

(*a*) in the event of any abnormal conditions being discovered or any unusual occurrence taking place, cause operations to be stopped immediately: Provided that where this is not possible, owing to the nature of the process, emergency procedures shall be laid down and immediate action taken in terms of those procedures; and

(*b*) notwithstanding authorised licence limits, reduce the quantity of explosives, or raw materials, or the number of persons at any one workplace whenever this is reasonably practicable.

(3) No person shall manufacture explosives in any manner not provided for in these regulations unless written permission for such manufacture has been obtained from the chief inspector of occupational health and safety.

9. Design, construction and manufacture.-
No employer shall use or require or permit the use of any building, installation, room, machine or equipment unless -

(*a*) it has been designed and constructed in accordance with health and safety standards incorporated in these regulations in terms of section 44 of the Act;

(*b*) it has been approved by an approved inspection authority contemplated in regulation 18 or any foreign inspection authority recognized by the chief inspector of occupational health and safety; and

(*c*) the employer, self-employed person or user is in possession of a certificate issued by the manufacturer of the machines or equipment: Provided that such certificate shall be countersigned by an approved inspection authority.

10. Importation of explosives.-Subject to any applicable law, any person intending to import explosives to be used in *manufacturing or testing* shall obtain permission from the chief inspector of occupational health and safety in writing, specifying the kinds and quantities thereof prior to importation.

11. Safety distances.-(1) An employer, self-employed person or user shall -

(*a*) apply the safety distances for the respective categories of explosives as stipulated in Annexure 1 to these regulations;

(*b*) where less than five kilograms of explosives is used, apply to the chief inspector of occupational health and safety for a determination of a safety distance which the employer shall enforce;

(*c*) in the case of quantities of class 1.1 and 1.5 explosives exceeding five kilograms, ensure that the structures or areas where they are manufactured, stored, tested or handled in any manner, are mounded: Provided that where, with the permission of the chief inspector of occupational health and safety, mounds are dispensed with, the distances given in columns (1), (2) and (3) of Annexure 1 shall be doubled.

(2) An employer, self-employed person or user may reduce the distances in column (1) of Annexure 1 where ground-covered magazines are used in explosives workplace magazine areas: Provided that the doors of the magazines do not face each other -

(*a*) between magazines: by half the distance; or

(*b*) for magazines behind each other: by three-quarters of the distance.

12. Supervision of explosives workplace.-

(1) In order to ensure that the provisions of the Act and these regulations in relation to explosives workplaces are complied with, an employer, self-employed person or user shall, subject to this regulation, in writing appoint a competent and certificated person in a full-time capacity to be explosives manager in respect of every workplace where explosives are being used, tested, stored or manufactured: Provided that the appointment of an explosives manager shall not exempt the employer, selfemployed person or user from any liability or responsibility contemplated in section 16 of the Act.

(2) The chief inspector of occupational health and safety may, subject to the conditions that he or she may impose, permit an employer or user to appoint more than one person in terms of sub-

regulation (1).

(3) An employer or user shall appoint one or more persons, who are suitably qualified and experienced, as authorized supervisors to assist the explosives manager appointed in terms of subregulation (1).

(4) An employer, self-employed person or user shall ensure that-

(*a*) the explosives manager, without derogating from any other duties imposed on him or her by the Act and these regulations-
  (i) approves in writing the rules, methods, materials, equipment and tools to be used in the danger area;
  (ii) ensures that all persons under his or her control are informed of the hazards related to their tasks and are thoroughly trained in safe work procedures, in particular with respect to shock, friction risk of fire, or static electricity, and are familiar with the requirements of these regulations;
  (iii) prescribes all protective clothing and equipment to be used in the danger area; and
  (iv) ensures that the processes and equipment specified in schedule licences are safe and appropriate for the manufacturing processes envisaged for the workplace;

(*b*) the supervising official, without derogating from any other duties imposed on him or her by the Act and these regulations-
  (i) is at all times in a position to exercise control over the operations in the danger building;
  (ii) reports without delay to the explosives manager any plant or equipment under his or her control that has or may have posed a risk:
  (iii) ensures that all rules implemented in the interest of health and safety are at all times complied with; and
  (iv) stops all explosives manufacturing or any work involving explosives if he or she becomes aware of any risk posed to the health and safety of persons.

13. Safe handling of explosives.-(1) An employer, self-employed person or user shall ensure that-

(*a*) all explosives or ingredients thereof are at all times free of foreign material;

(*b*) all reasonable precautions are taken to prevent the spillage of explosives;

(*c*) cleaning procedures in the case of a spillage of explosives are prescribed in writing by the explosives manager: Provided that where no cleaning procedures have been prescribed any unusual spillage of explosives shall be reported immediately to the supervising official;

(*d*) all waste, paper, timber, rags, cotton and similar materials that have been in contact with explosives or an ingredient of an explosive are disposed of in a manner prescribed in writing by the explosives manager: Provided that at the end of the working day all waste and floor sweepings from danger buildings shall be deposited in the designated places;

(*e*) the explosives or partly mixed explosives are conveyed as soon and as carefully as possible and taking such precautions and in such a manner as will effectively guard against any accidental ignition or explosion;

(*f*) only containers provided for the conveyance of explosives are used for transporting explosives or partly mixed explosives and that such containers are at all times kept clean, free from grit and in a good state of repair;

(*g*) vehicles containing explosives are left unattended only in designated places;

(*h*) except for drying purposes, preparation on burning grounds or testing, explosives are not exposed to direct rays of the sun or to rain, whether being transported or not; and

(i) manufactured explosives are removed as soon as is reasonably possible from the process building to an explosives workplace magazine or that they are immediately dispatched.

(2) An employer, self-employed person or user shall ensure that -

(*a*) all material, equipment, tools or similar articles used in a danger area are decontaminated after such use, and that no person makes use of any such article that has not been decontaminated after use in a contaminated area; and

(*b*) the certification of the decontamination process contemplated in paragraph (*a*) is certified and approved by the explosives manager or a person authorised by the explosives manager.

(3) Unless permission has been granted by the chief inspector of occupational health and safety, no person shall use-

(*a*) explosives in workplaces other than explosives workplaces approved by the chief inspector of occupational health and safety; and

(*b*) any explosives for which no provision is made in these regulations.

(4) An employer, self-employed person or user shall ensure that-

(*a*) explosives are transported and stored together or separately in the explosives workplace in accordance with the compatibility group assignments given in the South African Code of Practice SABS 0228, The Identification and Classification of Dangerous Goods for Transport; and

(*b*) when explosives can be categorised in more than one group, they are deemed to belong exclusively to the higher risk compatibility group given in the South African Code of Practice SABS 0228: The Identification and Classification of Dangerous Goods for Transport.

(5) No person shall-

(*a*) by leaving explosives unattended allow unauthorized access to such explosives; and

(*b*) bury, dump, hide or abandon any explosives.

(6) No person shall use any explosive material for blasting purposes unless-

(*a*) he or she is in possession of a written permission issued by or under the authority of the chief inspector of occupational health and safety;

(*b*) he or she is undergoing training while using such blasting material under the immediate and constant supervision of a person who is in possession of a permission contemplated in paragraph (*a*);

(*c*) he or she is trained and is authorised by the chief inspector of occupational health and safety to destroy or test explosives in a licensed workplace; or

(*d*) if the blasting material is used in a workplace other than a manufacturing or testing workplaces he or she-
  (i) informs the provincial director not less than 24 hours prior to such use; and
  (ii) is in possession of written permission issued by or under the authority of the chief inspector of explosives.

(7) No person shall permit any other person who is not in possession of such a permission to use any blasting material unless such other person is, while using such blasting material, under the immediate and constant supervision of a person who is in possession of such permission.

(8) Any explosives for which provision is not made in these regulations, shall be used only in such manner and under such conditions as may be prescribed, in writing, by the chief inspector of occupational health and safety.

(9) Any permission issued prior to the date of promulgation of these regulations shall be deemed valid: Provided that the conditions for obtaining a permission as determined in these regulations shall be complied with within six months of promulgation of these regulations.

14. Emergencies.-(1) An employer, self-employed person or user shall ensure that -

(*a*) an emergency plan is established and implemented;

(*b*) the emergency plan is tested in practice at least once every 12 months: and

(*c*) in the event of a dangerous gas escaping or being emitted all persons evacuate the area immediately.

15. Incidents.-(1) An employer, self-employed person or user shall -

(*a*) notwithstanding the requirements of section 24 of the Act or any other legal requirements, whenever an incident involving explosives occurs, forthwith inform the explosives manager and by means of telephone, facsimile or any other method of communication the chief inspector of occupational health and safety, and shall confirm this report in writing stating full particulars of the incident within seven days of the incident; and

(*b*) where there was a possibility of risk to the health and safety of persons, whether or not persons or property sustained injury or damage as a result, inform the chief inspector of occupational health and safety in writing every month of incidents involving the accidental ignition or detonation of explosives or a danger of such accidental ignition or detonation.

16. Closure of explosives workplaces.-(1) An employer, self-employed person or user shall -

(*a*) whenever he or she intends to close an explosives workplace for an indefinite period, or permanently, where reasonably practicable, give at least three months' notice of such intention to the chief inspector of occupational health and safety;

(*b*) ensure that the relevant explosives and ingredients are disposed of in a manner approved by the explosives manager;

(*c*) submit a proof of return of all explosives and ingredients of explosives that had been in the explosives workplace;

(*d*) submit a decontamination and safety certificate to the chief inspector of occupational health and safety prior to the delicensing of the building and danger area; and

(*e*) ensure that no explosives or ingredients of explosives are kept on the premises of an explosives workplace after delicensing.

17. National Explosives Council.-(1) The chief inspector of occupational health and safety may establish a National Explosives Council consisting of-

(*a*) a person who shall be the chairperson;

(*b*) two persons from the Department of Labour;

(*c*) one person to represent the Department of Minerals and Energy;

(*d*) two persons to represent employers;

(*e*) one person to represent the South African Police Service;

(*f*) two persons to represent the mining houses;

(*g*) two persons to represent the mining unions:

(*h*) one person to represent the South African National Defence Force: and

(*i*) two persons to represent employees:

Provided that the chief inspector of occupational health and safety may authorize the National Explosives Council to co-opt persons who are knowledgeable about the matters to be dealt with by the council.

(2) The chief inspector of occupational health and safety shall appoint the members of the National Explosives Council for the period that he or

she may determine at the time of appointment: Provided that the chief inspector of occupational health and safety may discharge a member at any time, for reasons that are fair and just, and appoint a new member in his or her place.

(3) The National Explosives Council shall-

(*a*) advise the chief inspector of occupational health and safety on explosives codes, standards and training requirements;

(*b*) designate persons to examine explosives managers and workers: Provided that any accredited or approved training shall be in accordance with South African Qualifications Authority standards;

(*c*) make recommendations and submit reports to the chief inspector of occupational health and safety regarding any matter to which these regulations relate;

(*d*) advise the chief inspector of occupational health and safety regarding any matter referred to the National Explosives Council by the chief inspector of occupational health and safety;

(*e*) perform any other function that may be requested by the chief inspector of occupational health and safety;

(*f*) refer appeals against decisions of the National Explosives Council to the chief inspector of occupational health and safety; and

(*g*) conduct its work in accordance with the instructions and rules of conduct framed by the chief inspector of occupational health and safety.

(4) A person affected by any decision of the National Explosives Council may appeal against such decision to the chief inspector of occupational health and safety.

18. Approved inspection authorities.-(1) The chief inspector of occupational health and safety may approve as an inspection authority any organization that has been accredited in terms of the provisions of the Act and these Regulations.

(2) The chief inspector of occupational health and safety may at any time withdraw any approval of an approved inspection authority, subject to section 35 of the Act.

19. Standards of training.-Any accredited or approved training shall be in accordance with the South African Qualifications Authority standards.

20. Offences and penalties.-Any person who contravenes or fails to comply with the provisions of regulation 3 (3), 4 (1), 5, 6, 7, 8, 9 (1), 10, 11, 12, 13 14,15 or 16 shall be guilty of an offence and liable, on conviction, to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or to additional imprisonment of one day for each day the offence continues: Provided that the period of such imprisonment shall in no case exceed 90 days.

21. Short title.-These regulations shall be known as the Explosives Regulations, 2002.

ANNEXURE 1

EXPLOSIVES REGULATIONS

Table of safety distances (in metres)

(a) Classes 1.1 and 1.5

Quantity of explosives (Kg)	From magazines (1)	To process buildings and magazines (2)	To railways, roads etc.* (3)	To Public buildings (4)
5 to 50	9	18	20	24
100	11	22	24	32
200	14	27	29	50
300	16	30	34	68
400	18	33	41	82
500	19	36	47	94
750	22	46	62	124
1 000	24	56	75	150
1 500	27	72	95	190
2 000	30	85	115	230
2 500	32	96	130	260
3 000	35	106	140	280
4 000	38	121	160	320
5 000	40	135	180	360
7 500	45	155	210	420
10 000	50	175	235	470
15 000	58	200	270	540
20 000	65	225	300	600
25 000	70	240	320	640
30 000	75	255	345	690
40 000	80	285	380	760
50 000	85	305	400	800
75 000	100	350	470	940
100 000	110	380	510	1 020
150 000	125	440	590	1 180
200 000	140	480	640	1 280
250 000	150	520	700	1 400

* Applicable for magazines only.

Table of safety distances (in metres)

(*b*) Classes 1.3

Quantity of explosives (Kg)	From magazines (1)	To process building and magazines (2)	To railways, roads etc.* (3)	To Public buildings (4)
5 to 50	9	10	12	23
100	9	15	16	30
200	9	18	19	37
300	10	21	22	42
400	11	23	24	47
500	13	25	25	50
750	14	29	29	57
1 000	14	32	32	63
1 500	15	36	36	72
2 000	17	40	40	80
2 500	18	43	43	86
3 000	19	46	46	91
4 000	20	50	50	100
5 000	21	54	54	108
7 500	25	61	61	122
10 000	28	68	68	136
15 000	33	78	78	156
20 000	27	85	85	170
25 000	40	90	90	180
30 000	45	100	100	200
40 000	50	110	110	220
50 000	55	115	115	230
75 000	65	135	135	270
100 000	75	15	15	290
150 000	90	170	170	340
200 000	95	180	180	360
250 000	105	200	200	400

* Applicable for magazines only.

ANNEXURE 1 - *continued*
EXPLOSIVE REGULATIONS

Table of safety distances (in metres)

(a) Classes 1.2 and 1.4

Quantity of explosives (Kg)	From magazines (1)	To process building and magazines (2)	To railways, roads etc.* (3)	To Public buildings (4)
5 to 50	9	9	9	15
100	9	9	9	18
200	9	9	11	22
300	9	9	13	25
400	9	9	15	29
500	9	9	15	31
750	9	9	17	33
1 000	9	10	18	36
1 500	11	16	19	38
2 000	12	19	20	40
2 500	13	21	21	42
3 000	14	22	22	43
4 000	16	24	23	45
5 000	17	25	23	46
7 500	19	26	24	48
10 000	21	27	25	50
15 000	23	27	27	54
20 000	25	27	28	55
25 000	26	27	29	57
30 000	27	27	30	60
40 000	27	27	30	60
50 000	27	27	30	60
75 000	27	27	32	65
100 000	27	27	33	65
150 000	27	27	35	70
200 000	27	27	35	70
250 000	27	27	35	70

* Applicable for magazines only.

CONSTRUCTION REGULATIONS

GNR.84 of 7 February 2014

[These regulations were first published in GNR.1010 of 18 July 2003 and replaced by GNR.84 of February 2014.]

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"agent" means a competent person who acts as a representative for a client;

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;

"client" means any person for whom construction work is being performed;

"competent person" means a person who-

(*a*) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2008 (Act No.67 of 2008), those qualifications and that training must be regarded as the required qualifications and training; and

(*b*) is familiar with the Act and with the applicable regulations made under the Act;

"construction manager" means a competent person responsible for the management of the physical construction processes and the co-ordination, administration and management of resources on a construction site;

"construction site" means a work place where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work;

"construction work" means any work in connection with-

(*a*) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or

(*b*) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;

"design" in relation to any structure, includes drawings, calculations, design details and specifications;

"designer" means-

(*a*) a competent person who-
  (i) prepares a design;
  (ii) checks and approves a design;
  (iii) arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
  (iv) designs temporary work, including its components;

(*b*) an architect or engineer contributing to, or having overall responsibility for a design;

(*c*) a building services engineer designing details for fixed plant;

(*d*) a surveyor specifying articles or drawing up specifications;

(*e*) a contractor carrying out design work as part of a design and building project; or

(*f*) an interior designer, shop-fitter or landscape architect;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guardrails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for-

(*a*) all risks relating to working from a fall risk position, considering the nature of work undertaken;

(*b*) the procedures and methods to be applied in order to eliminate the risk of falling; and

(*c*) a rescue plan and procedures;

"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file" means a file, or other record containing information in writing required by these Regulations;

"health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7 (8);

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"National Building Regulations" means the National Building Regulations made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R.2378 of 30 July 1990, as amended by Government Notices No's R.432 of 8 March 1991, R.919 of 30 July 1999 and R. 547 of 30 May 2008;

"person day" means one normal working shift of carrying out construction work by a person on a construction site;

"principal contractor" means an employer appointed by the client to perform construction work;

"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as a Professional Engineering Technologist in terms of the Engineering Profession Act, 2000;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"shoring" means a system used to support

the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

"structure" means-

(*a*) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;

(*b*) any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or

(*c*) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"suspended platform" means a working platform suspended from supports by means of one or more separate ropes from each support;

"temporary works" means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"tunneling" means the construction of any tunnel beneath the natural surface of the earth for a purpose other than the searching for or winning of a mineral.

2. Scope of application.-(1) These Regulations are applicable to all persons involved in construction work.

(2) Regulations 3 and 5 are not applicable where the construction work carried out is in relation to a single storey dwelling for a client who intends to reside in such dwelling upon completion thereof.

3. Application for construction work permit.- (1) A client who intends to have construction work carried out, must at least 30 days before that work is to be carried out apply to the provincial director in writing for a construction work permit to perform construction work if the intended construction work starts from the 7th August 2018 and will -

(*a*) exceed 365 days and will involve more than 3600 person days of construction work; or

(*b*) the tender value limit is grade 7, 8 or 9 of the Construction Industry Development Board (CIDB) grading.

(2) An application contemplated in subregulation (1) must be done in a form similar to Annexure 1.

(3) The provincial director must issue a construction work permit in writing to perform construction work contemplated in subregulation (1) within 30 days of receiving the construction work permit application and must assign a site specific number for each construction site.

(4) A site specific number contemplated in subregulation (3) must be conspicuously displayed at the main entrance to the site for which that number is assigned.

(5) A construction work permit contemplated in this regulation may be granted only if-

(*a*) the fully completed documents contemplated in regulation 5 (1) (*a*) and (*b*) have been submitted; and

(*b*) proof in writing has been submitted-

(i) that the client complies with regulation 5 (5)

(ii) with regard to the registration and good standing of the principal contractor as contemplated in regulation 5 (1) (*j*); and

(iii) that regulation 5 (1) (*c*), (*d*), (*e*), (*g*) and (*h*) has been complied with.

(6) A client must ensure that the principal contractor keeps a copy of the construction work permit contemplated in subregulation (1) in the occupational health and safety file for inspection by an inspector, the client, the client's authorised agent, or an employee.

(7) No construction work contemplated in subregulation (1) may be commenced or carried out before the construction work permit and number contemplated in subregulation (3) have been issued and assigned.

(8) A site specific number contemplated in subregulation (3) is not transferrable.

4. Notification of construction work.-(1) A contractor who intends to carry out any construction work other than work contemplated in regulation 3 (1), must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will-

(*a*) includes excavating work;

(*b*) include working at a height where there is risk of falling;

(*c*) include the demolition of a structure; or

(*d*) include the use of explosives to perform construction work.

(2) A contractor who intends to carry out construction work that involves construction of a single storey dwelling for a client who is going to reside in such dwelling upon completion, must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2

5. Duties of client.-(1) A client must-

(*a*) prepare a baseline risk assessment for an intended construction work project;

(*b*) prepare a suitable, sufficiently documented and coherent site specific health and safety specification for the intended construction work based on the baseline risk assessment contemplated in paragraph (*a*);

(*c*) provide the designer with the health and safety specification contemplated in paragraph (*b*);

(*d*) ensure that the designer takes the prepared health and safety specification into consideration during the design stage;

(*e*) ensure that the designer carries out all responsibilities contemplated in regulation 6;

(*f*) include the health and safety specification in the tender documents;

(*g*) ensure that potential principal contractors submitting tenders have made adequate provision for the cost of health and safety measures;

(*h*) ensure that the principal contractor to be appointed has the necessary competencies and resources to carry out the construction work safely;

(*i*) take reasonable steps to ensure co-operation between all contractors appointed by the client to enable each of those contractors to comply with these Regulations;

(*j*) ensure before any work commences on a site that every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);

(*k*) appoint every principal contractor in writing for the project or part thereof on the construction site;

(*l*) discuss and negotiate with the principal contractor the contents of the principal contractor's health and safety plan contemplated in regulation 7 (1), and must thereafter finally approve that plan for implementation;

(*m*) ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor;

(*n*) take reasonable steps to ensure that each contractor's health and safety plan contemplated in regulation 7 (1) (*a*) is implemented and maintained;

(*o*) ensure that periodic health and safety audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;

(*p*) ensure that a copy of the health and safety audit report contemplated in paragraph (*o*) is provided to the principal contractor within seven days after the audit;

(*q*) stop any contractor from executing a construction activity which poses a threat to the health and safety of persons which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site;

(*r*) where changes are brought about to the design or construction work, make sufficient health and safety information and appropriate resources available to the principal contractor to execute the work safely; and

(*s*) ensure that the health and safety file contemplated in regulation 7 (1) (*b*) is kept and maintained by the principal contractor.

(2) Where a client requires additional work to be performed as a result of a design change or an error in construction due to the actions of the client, the client must ensure that sufficient safety information and appropriate additional resources are available to execute the required work safely.

(3) Where a fatality or permanent disabling injury occurs on a construction site, the client must ensure that the contractor provides the provincial director with a report contemplated in section 24 of the Act, in accordance with regulations 8 and 9 of the General Administrative
Regulations, 2013, and that the report includes the measures that the contractor intends to implement to ensure a safe construction site as far as is reasonably practicable.

(4) Where more than one principal contractor is appointed as contemplated in subregulation (1) (*k*), the client must take reasonable steps to ensure co-operation between all principal
contactors and contractors in order to ensure compliance with these Regulations.

(5) Where a construction work permit is required as contemplated in regulation 3 (1), the client must, without derogating from his or her health and safety responsibilities or liabilities, appoint a competent person in writing as an agent to act as his or her representative, and where such an appointment is made the duties that are imposed by these Regulations upon a client, apply as far as reasonably practicable to the agent so appointed.

(6) Where notification of construction work is required as contemplated in regulation 4 (1), the client may, without derogating from his or her health and safety responsibilities or liabilities, appoint a competent person in writing as an agent to act as his or her representative, and where such an appointment is made the duties that are imposed by these Regulations upon a client, apply as far as reasonably practicable to the agent so appointed: Provided that, where the question arises as to whether an agent is necessary, the decision of an inspector is decisive.

(7)An agent contemplated in subregulations (5) and (6) must-

(*a*) manage the health and safety on a construction project for the client; and

(*b*) be registered with a statutory body approved by the Chief Inspector as qualified to perform the required functions;

(8) When the chief inspector has approved a statutory body as contemplated in subregulation (7) (*b*), he or she must give notice of that approval in the *Gazette*.

6. Duties of designer.-(1) The designer of a structure must-

(*a*) ensure that the applicable safety standards incorporated into these Regulations under

section 44 of the Act are complied with in the design;

(*b*) take into consideration the health and safety specification submitted by the client;

(*c*) before the contract is put out to tender, make available in a report to the client-

(i) all relevant health and safety information about the design of the relevant structure that may affect the pricing of the construction work;

(ii) the geotechnical-science aspects, where appropriate; and

(iii) the loading that the structure is designed to withstand;

(*d*) inform the client in writing of any known or anticipated dangers or hazards relating to the construction work, and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered;

(*e*) refrain from including anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which can be avoided by modifying the design or by substituting materials;

(*f*) take into account the hazards relating to any subsequent maintenance of the relevant structure and must make provision in the design for that work to be performed to minimize the risk;

(*g*) when mandated by the client to do so, carry out the necessary inspections at appropriate stages to verify that the construction of the relevant structure is carried out in accordance with his design: Provided that if the designer is not so mandated, the client's appointed agent in this regard is responsible to carry out such inspections;

(*h*) when mandated as contemplated in paragraph (*g*), stop any contractor from executing any construction work which is not in accordance with the relevant design's health and safety aspects: Provided that if the designer is not so mandated, the client's appointed agent in that regard must stop that contractor from executing that construction work;

(*i*) when mandated as contemplated in paragraph (*g*), in his or her final inspection of the completed structure in accordance with the National Building Regulations, include the health and safety aspects of the structure as far as reasonably practicable, declare the structure safe for use, and issue a completion certificate to the client and a copy thereof to the contractor; and

(*j*) during the design stage, take cognisance of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of a structure.

(2) The designer of temporary works must ensure that-

(*a*) all temporary works are adequately designed so that it will be capable of supporting all anticipated vertical and lateral loads that may be applied;

(*b*) the designs of temporary works are done with close reference to the structural design drawings issued by the contractor, and in the event of any uncertainty consult the contractor;

(*c*) all drawings and calculations pertaining to the design of temporary works are kept at the office of the temporary works designer and are made available on request by an inspector; and

(*d*) the loads caused by the temporary works and any imposed loads are clearly indicated in the design.

7. Duties of principal contractor and contractor.-(1) A principal contractor must-

(*a*) provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's documented health and safety specifications contemplated in regulation 5 (1) (*b*), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses;

(*b*) open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor; and

(*c*) on appointing any other contractor, in order to ensure compliance with the provisions of the Act-

(i) provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications contemplated in regulation 5 (1) (*b*) pertaining to the construction work which has to be performed;

(ii) ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;

(iii) ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;

(iv) ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;

(v) appoint each contractor in writing for the part of the project on the construction site; take reasonable steps to ensure that each contractor's health and safety plan contemplated in subregulation (2) (*a*) is implemented and maintained on the construction site;

(vii) ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;

(viii) stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;

(ix) where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely; and

(x) discuss and negotiate with the contractor the contents of the health and safety plan contemplated in subregulation (2) (*a*), and must thereafter finally approve that plan for implementation;

(*d*) ensure that a copy of his or her health and safety plan contemplated in paragraph (*a*), as well as the contractor's health and safety plan contemplated in subregulation (2) (*a*), is available on request to an employee, an inspector, a contractor, the client or the client's agent;

(*e*) hand over a consolidated health and safety file to the client upon completion of the construction work and must, in addition to the documentation referred to in subregulation (2) (*b*), include a record of all drawings, designs, materials used and other similar information concerning the completed structure;

(*f*) in addition to the documentation required in the health and safety file in terms of paragraph (*c*) (v) and subregulation (2) (*b*), include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and

(*g*) ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

(2) A contractor must prior to performing any construction work-

(*a*) provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification contemplated in regulation 5 (1) (*b*) and provided by the principal contractor in terms of subregulation (1) (*a*), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the contractor as work progresses;

(*b*) open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, and which must be made available on request to an inspector, the client, the client's agent or the principal contractor;

(*c*) before appointing another contractor to perform construction work be reasonably satisfied that the contractor that he or she intends to appoint has the necessary competencies and resources to perform the construction work safely;

(*d*) co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act; and

(*e*) as far as is reasonably practicable, promptly provide the principal contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.

(3) Where a contractor appoints another contractor to perform construction work, the duties determined in sub-regulation (1) (*b*) to (*g*) that apply to the principal contractor apply to the contractor as if he or she were the principal contractor.

(4) A principal contractor must take reasonable steps to ensure co-operation between all contractors appointed by the principal contractor to enable each of those contractors to comply with these Regulations.

(5) No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

(6) A contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.

(7) A contractor must at all times keep on his or her construction site records of the health and safety induction training contemplated in subregulation (6) and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor.

(8) A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

8. Management and supervision of construc-

tion work.-(1) A principal contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed by the principal contractor.

(2) A principal contractor must upon having considered the size of the project, in writing appoint one or more assistant construction managers for different sections thereof: Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties in terms of this regulation.

(3) Where the construction manager has not appointed assistant construction managers as contemplated in subregulation (2), or, in the opinion of an inspector, a sufficient number of such assistant construction managers have not been appointed, that inspector must direct the construction manager in writing to appoint the number of assistant construction managers indicated by the inspector, and those assistant construction managers must be regarded as having been appointed under subregulation (2).

(4) No construction manager appointed under subregulation (1) may manage any construction work on or in any construction site other than the site in respect of which he or she has been appointed.

(5) A contractor must, after consultation with the client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.

(6) No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has necessary competencies and resources to assist the contractor

(7) A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

(8) A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in subregulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties in terms of this regulation.

(9) Where the contractor has not appointed an employee as contemplated in subregulation (8), or, in the opinion of an inspector, a sufficient number of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees indicated by the inspector, and those employees must be regarded as having been appointed under subregulation (8).

(10) No construction supervisor appointed under subregulation (7) may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated under subregulation (7) on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

9. Risk assessment for construction work.- (1) A contractor must, before the commencement of any construction work and during such construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site, and must include-

(*a*) the identification of the risks and hazards to which persons may be exposed to;

(*b*) an analysis and evaluation of the risks and hazards identified based on a documented method;

(*c*) a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;

(*d*) a monitoring plan; and

(*e*) a review plan

(2) A contractor must ensure that as far as is reasonably practicable, ergonomic related hazards are analyzed, evaluated and addressed in a risk assessment.

(3) A contractor must ensure that all employees under his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures and or control measures before any work commences, and thereafter at the times determined in the risk assessment monitoring and review plan of the relevant site.

(4) A principal contractor must ensure that all contractors are informed regarding any hazard that is stipulated in the risk assessment before any work commences, and thereafter at the times that may be determined in the risk assessment monitoring and review plan of the relevant site.

(5) A contractor must consult with the health and safety committee or, if no health and safety committee exists, with a representative trade union or representative group of employees, on the monitoring and review of the risk assessments of the relevant site.

(6) A contractor must ensure that copies of the risk assessments of the relevant site are available on site for inspection by an inspector, the client, the client's agent, any contractor, any employee, a representative trade union, a health and safety representative or any member of the health and safety committee.

(7) A contractor must review the relevant risk assessment-

(*a*) where changes are effected to the design and or construction that result in a change to the risk profile; or

(*b*) when an incident has occurred.

10. Fall protection.-A contractor must-

(*a*) designate a competent person to be responsible for the preparation of a fall protection plan;

(*b*) ensure that the fall protection plan contemplated in paragraph (*a*) is implemented, amended where and when necessary and maintained as required; and

(*c*) take steps to ensure continued adherence to the fall protection plan.

(2) A fall protection plan contemplated in subregulation (1), must include-

(*a*) a risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location;

(*b*) the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;

(*c*) a programme for the training of employees working from a fall risk position and the records thereof;

(*d*) the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and

(*e*) a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

(3) A contractor must ensure that a construction manager appointed under regulation 8 (1) is in possession of the most recently updated version of the fall protection plan.

(4) A contractor must ensure that-

(*a*) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;

(*b*) no person is required to work in a fall risk position, unless such work is performed safely as contemplated in subregulation (2);

(*c*) fall prevention and fall arrest equipment are-

(i) approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and

(ii) securely attached to a structure or plant, and the structure or plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who could fall; and

(*d*) fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

(5) Where roof work is being performed on a construction site, the contractor must ensure that, in addition to the requirements set out in subregulations (2) and (4), it is indicated in the fall protection plan that-

(*a*) the roof work has been properly planned;

(*b*) the roof erectors are competent to carry out the work;

(*c*) no employee is permitted to work on roofs during inclement weather conditions or if any conditions are hazardous to the health and safety of the employee;

(*d*) all covers to openings and fragile material are of sufficient strength to withstand any imposed loads;

(*e*) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and

(*f*) suitable and sufficient guard-rails, barriers and toe-boards or other similar means of protection prevent, as far as is reasonably practicable, the fall of any person, material or equipment.

11. Structures.-(1) A contractor must ensure that-

(*a*) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;

(*b*) no structure or part of a structure is loaded in a manner which would render it unsafe; and

(*c*) all drawings pertaining to the design of the relevant structure are kept on site and are available on request to an inspector, other contractors, the client and the client's agent or employee.

(2) An owner of a structure must ensure that-

(*a*) inspections of that structure are carried out periodically by competent persons in order to render the structure safe for continued

use;
(*b*) that the inspections contemplated in paragraph (*a*) are carried out at least once every six months for the first two years and thereafter yearly;
(*c*) the structure is maintained in such a manner that it remains safe for continued use;
(*d*) the records of inspections and maintenance are kept and made available on request to an inspector.

12. Temporary works.-(1) A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.

(2) A contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.

(3) A contractor must ensure that-
(*a*) all temporary works structures are adequately erected, supported, braced and maintained by a competent person so that they are capable of supporting all anticipated vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand;
(*b*) all temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted;
(*c*) detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other contractors, the client, the client's agent or any employee;
(*d*) all persons required to erect, move or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
(*e*) all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
(*f*) all temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;
(*g*) no person may cast concrete, until authorization in writing has been given by the competent person contemplated in paragraph (*a*);
(*h*) if, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately;
(i) adequate precautionary measures are taken in order to-
  (i) secure any deck panels against displacement; and
  (ii) prevent any person from slipping on temporary works due to the application of release agents;
(j) as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
(*k*) upon casting concrete, the temporary works structure is left in place until the concrete has acquired sufficient strength to safely support its own weight and any imposed load, and is not removed until authorisation in writing has been given by the competent person contemplated in paragraph (*a*);
(*l*) the foundation conditions are suitable to withstand the loads caused by the temporary works structure and any imposed load in accordance with the temporary works design.
(*m*) provision is made for safe access by means of secured ladders or staircases for all work to be carried out above the foundation bearing level;
(*n*) a temporary works drawing or any other relevant document includes construction sequences and methods statements;
(*o*) the temporary works designer has been issued with the latest revision of any relevant structural design drawing;
(*p*) a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and
(*q*) the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.

(4) No contractor may use a temporary works design and drawing for any work other than its intended purpose.

13. Excavation.-(1) A contractor must-
(*a*) ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose; and
(*b*) evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.

(2) A contractor who performs excavation work-
(*a*) must take reasonable and sufficient steps in order to prevent, as far as is reasonably practicable, any person from being buried or trapped by a fall or dislodgement of material in an excavation;
(*b*) may not require or permit any person to work in an excavation which has not been adequately shored or braced: Provided that shoring and bracing may not be necessary where-
  (i) the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
  (ii) such an excavation is in stable material: Provided that-
    (*aa*) permission has been given in writing by the appointed competent person contemplated in subregulation (1) upon evaluation by him or her of the site conditions; and
    (*bb*) where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations is decisive and such a decision must be noted in writing and signed by both the competent person contemplated in subregulation (1) and the professional engineer or technologist, as the case may be;
(*c*) must take steps to ensure that the shoring or bracing contemplated in paragraph (*b*) is designed and constructed in a manner that renders it strong enough to support the sides of the excavation in question;
(*d*) must ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it may cause its collapse and consequently endangers the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;
(*e*) must ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken to ensure the stability of such building, structure or road and the safety of persons;
(*f*) must cause convenient and safe means of access to be provided to every excavation in which persons are required to work, and such access may not be further than six meters from the point where any worker within the excavation is working;
(*g*) must ascertain, as far as is reasonably practicable, the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of excavation work that may affect any such service, take the steps that are necessary to render the circumstances safe for all persons involved;
(*h*) must ensure that every excavation, including all bracing and shoring, is inspected-
  (i) daily, prior to the commencement of each shift;
  (ii) after every blasting operation;
  (iii) after an unexpected fall of ground;
  (iv) after damage to supports; and
  (v) after rain,
  by the competent person contemplated in subregulation (1), in order to ensure the safety of the excavation and of persons, and those results must be recorded in a register kept on site and made available on request to an inspector, the client, the client's agent, any other contractor or any employee;
(*i*) must cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be-
  (i) adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
  (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor, or have resort to any other suitable and sufficient precautionary measure where subparagraphs (i) and (ii) are not practicable;
(*j*) must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with by any person entering any excavation;
(*k*) must, where the excavation work involves the use of explosives, appoint a competent person in the use of explosives for excavation, and must ensure that a method statement is developed by that person in accordance with the applicable explosives legislation; and
(*l*) must cause warning signs to be positioned next to an excavation within which or where persons are working or carrying out inspections or tests.

14. Demolition work.-(1) A contractor must appoint a competent person in writing to supervise and control all demolition work on site.

(2) A contractor must ensure that before any demolition work is carried out, and in order to ascertain the method of demolition to be used, a detailed structural engineering survey of the structure to be demolished is carried out by a competent person and that a method statement on the procedure to be followed in demolishing the structure is developed by that person.

(3) During a demolition, the competent person contemplated in subregulation (1) must check the structural integrity of the structure at intervals determined in the method statement contemplated in subregulation (2), in order to avoid any premature collapses.

(4) A contractor who performs demolition work must-
(*a*) with regard to a structure being demolished, take steps to ensure that-
  (i) no floor, roof or other part of the structure is overloaded with debris or material in a manner which would render it unsafe;
  (ii) all reasonably practicable precautions

are taken to avoid the danger of the structure collapsing when any part of the framing of a framed or partly framed building is removed, or when reinforced concrete is cut; and

(iii) precautions are taken in the form of adequate shoring or other means that may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure;

(*b*) ensure that no person works under overhanging material or a structure which has not been adequately supported, shored or braced;

(*c*) ensure that any support, shoring or bracing contemplated in paragraph (*b*), is designed and constructed so that it is strong enough to support the overhanging material;

(*d*) where the stability of an adjoining building, structure or road is likely to be affected by demolition work on a structure, take steps to ensure the stability of such structure or road and the safety of persons;

(*e*) ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of demolition work that may affect any such service, take the steps that are necessary to render circumstances safe for all persons involved;

(*f*) cause every stairwell used and every floor where work is being performed in a building being demolished, to be adequately illuminated by either natural or artificial means;

(*g*) cause convenient and safe means of access to be provided to every part of the demolition site in which persons are required to work; and

(*h*) erect a catch platform or net above an entrance or passageway or above a place where persons work or pass under, or fence off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe where there is a danger or possibility of persons being struck by falling objects.

(5) A contractor must ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless the area is effectively protected.

(6)No person may dispose of waste and debris from a high place by a chute unless the chute-

(*a*) is adequately constructed and rigidly fastened;

(*b*) if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;

(*c*) if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;

(*d*) where necessary, is fitted with a gate at the bottom end to control the flow of material; and

(*e*) discharges into a container or an enclosed area surrounded by barriers.

(7) A contractor must ensure that every chute used to dispose of rubble is designed in such a manner that rubble does not free-fall and that the chute is strong enough to withstand the force of the debris travelling along the chute.

(8) A contractor must ensure that no equipment is used on floors or working surfaces, unless such floors or surfaces are of sufficient strength to support the imposed loads.

(9) Where a risk assessment indicates the presence of asbestos, a contractor must ensure that all asbestos related work is conducted in accordance with the Asbestos Regulations, 2001, promulgated by Government Notice No. R.155 of 10 February 2002.

(10) Where a risk assessment indicates the presence of lead, a contractor must ensure that all lead related work is conducted in accordance with the Lead Regulations, 2001, promulgated by Government Notice No. R.236 of 28 February 2002.

(11) Where the demolition work involves the use of explosives, a method statement must be developed in accordance with the applicable explosives legislation, by an appointed person who is competent in the use of explosives for demolition work and all persons involved in the demolition works must adhere to demolition procedures issued by the appointed person.

(12) A contractor must ensure that all waste and debris are as soon as reasonably practicable removed and disposed of from the site in accordance with the applicable legislation.

15. Tunneling.-No person may enter a tunnel, which has a height dimension of less than 800 millimetres.

16. Scaffolding.-(1) A contractor must appoint a competent person in writing who must ensure that all scaffolding work operations are carried out under his or her supervision and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

(2) A contractor using access scaffolding must ensure that such scaffolding, when in use, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act.

17. Suspended platforms.-(1) A contractor must appoint a competent person in writing who must ensure that all suspended platforms work operations are carried out under his or her supervision and that all suspended platform erectors, operators and inspectors are competent to carry out their work.

(2) No contractor may use or permit the use of a suspended platform, unless-

(*a*) the design, stability and construction thereof comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act;

(*b*) he or she is in possession of a certificate of system design issued by a professional engineer, certificated engineer or a professional technologist for the use of the suspended platform system; and

(*c*) he or she is, before the commencement of the work, in possession of an operational compliance plan developed by a competent person based on the certificate of system design contemplated in subparagraph (*b*) and applicable to the environment in which the system is being used, which operational compliance plan must include proof of the-

(i) appointment of the competent person contemplated in subregulation (1);

(ii) competency of erectors, operators and inspectors;

(iii) operational design calculations, which must comply with the requirements of the system design certificate;

(iv) performance test results;

(v) sketches indicating the completed system with the operational loading capacity of the platform;

(vi) procedures for and records of inspections having been carried out; and

(vii) procedures for and records of maintenance work having been carried out.

(3) A contractor making use of a suspended platform system must submit a copy of the certificate of system design contemplated in subregulation (2) (*b*), including a copy of the operational design calculations contemplated in subregulation 2 (*c*) (iii), sketches and test results, to the provincial director before commencement of the use of the system and must further indicate the intended type of work that the system will be used for.

(4) A contractor must submit a copy of the certificate of system design in the manner contemplated in subregulation (3) for every new project.

(5) A contractor must ensure that the outriggers of each suspended platform -

(*a*) are constructed of material of adequate strength and have a safety factor of at least four in relation to the load it is to carry; and

(*b*) have suspension points provided with stop devices or other effective devices at the outer ends to prevent the displacement of ropes.

(6) A contractor must ensure that-

(*a*) the parts of the building or structure on which the outriggers of a suspended platform are supported, are checked by means of calculations to ensure that the required safety factor is adhered to without risk of damage to the building or structure;

(*b*) the suspension wire rope and the safety wire rope are separately connected to the outrigger;

(*c*) each person on a suspended platform is provided with and wears a body harness as a fall prevention device, which must at all times be attached to the suspended platform;

(*d*) the hand or power driven machinery to be used for the lifting or lowering of the working platform of a suspended platform is constructed and maintained in such a manner that an uncontrolled movement of the working platform cannot occur;

(*e*) the machinery referred to in paragraph (*d*) is so situated that it is easily accessible for inspection;

(*f*) the rope connections to the outriggers are vertically above the connections to the working platform; and

(*g*) when the working platform is suspended by two ropes only, the connections of the ropes to the working platform are of a height above the level of the working platform to ensure the stability of the working platform.

(7) A contractor must ensure that a suspended platform-

(*a*) is suspended as near as possible to the structure to which work is being done to prevent as far as is reasonably practicable horizontal movement away from the face of the structure;

(*b*) is fitted with anchorage points to which workers must attach the lanyard of the safety harness worn and used by the worker, and such anchorage connections must have sufficient strength to withstand any potential load applied to it; and

(*c*) is fitted with a conspicuous notice easily understandable by all workers working with the suspended platform, showing-

(i) the maximum mass load;

(ii) the maximum number of persons; and

(iii) the maximum total mass load, including load and persons, which the suspended platform can carry.

(8) A contractor must cause-

(*a*) the whole installation and all working parts of a suspended platform to be thoroughly examined by a competent person in accordance with the manufacturer's specification;

(*b*) the whole installation to be subjected to a performance test as determined by the standard to which the suspended platform was manufactured;

(*c*) the performance test contemplated in paragraph (*b*) to be done by a competent person appointed in writing, with the knowledge and experience of erection and maintenance of suspended platforms or similar machinery, and who must determine the serviceability of the structures, ropes, machinery and safety devices before they are used, every time suspended platforms are erected; and

(*d*) the performance test contemplated in paragraph (*b*) of the whole installation of the suspended platform to be subjected to a load equal to that prescribed by the manufacturer

or, in the absence of such load, to a load of 110 per cent of the rated mass load, at intervals not exceeding 12 months and in such a manner that every part of the installation is stressed accordingly.

(9) A contractor must, in addition to subregulation (8), cause every hoisting rope, hook or other load-attaching device which forms part of the suspended platform to be thoroughly examined in accordance with the manufacturer's specification by the competent person contemplated in subregulation (8) before they are used every time they are assembled, and, in cases of continuous use, at intervals not exceeding three months.

(10) A contractor must ensure that the suspended platform supervisor contemplated in subregulation (1), or the suspended platform inspector contemplated in subregulation (8) (*c*), carries out a daily inspection of all the equipment prior to use, including establishing whether-

(*a*) all connection bolts are secure;
(*b*) all safety devices are functioning;
(*c*) all safety devices are not tampered with or vandalized;
(*d*) the total maximum mass load of the platform is not exceeded;
(*e*) the occupants in the suspended platform are using body harnesses which have been properly attached;
(*f*) there are no visible signs of damage to the equipment; and
(*g*) all reported operating problems have been attended to.

(11) A contractor must ensure that all inspection and performance test records are kept on the construction site at all times and made available to an inspector, the client, the client's agent or any employee upon request.

(12) A contractor must ensure that all employees required to work or to be supported on a suspended platform are-

(*a*) medically fit to work safely in a fall risk position or such similar environment by being in possession of a medical certificate of fitness;
(*b*) competent in conducting work related to suspended platforms safely;
(*c*) trained or received training, which includes at least-
  (i) how to access and egress the suspended platform safely;
  (ii) how to correctly operate the controls and safety devices of the equipment;
  (iii) information on the dangers related to the misuse of safety devices; and
  (iv) information on the procedures to be followed in the case of-
    (*aa*) an emergency
    (*bb*) the malfunctioning of equipment; and
    (*cc*) the discovery of a suspected defect in the equipment; and
  (v) instructions on the proper use of body harnesses.

(13) A contractor must ensure that where the outriggers of a suspended platform are to be moved, only persons trained and under the supervision of the competent person effect such move, within the limitation stipulated in the operational compliance plan contemplated in subregulation (2) (*c*), and that the supervisor must carry out an inspection and record the result thereof prior to re-use of the suspended platform.

(14) A contractor must ensure that the suspended platform is properly isolated after use at the end of each working day in such a manner that no part of the suspended platform presents a danger to any person thereafter.

18. Rope Access Work.-(1) A contractor must-

(*a*) appoint a competent person in writing as a rope access supervisor with the duty of supervising all rope access work on the site, including the duty of ensuring occupational health and safety compliance in relation to rope access work: Provided that the appointment of any such person does not relieve the construction manager of any personal accountability for failing in his management duties in terms of this regulation;
(*b*) ensure that all rope access work on the construction site is carried out under the supervision of a competent person; and
(*c*) ensure that all rope access operators are competent and licensed to carry out their work.

(2) No contractor may use or allow the use of rope access work unless-

(*a*) the design, selection and use of the equipment and anchors comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act; and
(*b*) he or she is in possession of a site specific fall protection plan developed by a competent person applicable to the specific work and environment prior to the commencement of the work, including records of maintenance and inspections of all the equipment used for the work operations.

(3) A contractor must ensure that adequate measures are in place to allow rescue procedures to commence immediately in the event of a fall incident taking place.

19. Material hoists.-(1) A contractor must ensure that every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.

(2) A contractor must ensure that the tower of every material hoist is-

(*a*) erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and extends to a distance above the highest landing to allow a clear and unobstructed space of at least 900 millimetres for over travel;
(*b*) enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means to a height of at least 2100 millimetres from the ground or floor level; and
(*c*) provided with a door or gate at least 2100 millimetres in height at each landing, and that door or gate must be kept closed except when the platform is at rest at such a landing.

(3) A contractor must cause-

(*a*) the platform of every material hoist to be designed in a manner that it safely contains the loads being conveyed and that the combined mass of the platform and the load does not exceed the designed lifting capacity of the hoist;
(*b*) the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and
(*c*) every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when power is not being supplied to the hoisting machinery.

(4) No contractor may require or permit trucks, barrows or material to be conveyed on the platform of a material hoist and no person may so-convey trucks, barrows or material unless those articles are secured or contained in a manner that displacement thereof cannot take place during movement.

(5) A contractor must cause a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material hoist, to be affixed around the base of the tower and at each landing.

(6) A contractor of a material hoist may not require or permit any person to operate a hoist, unless the person is competent in the operation of that hoist.

(7) No contractor may require or permit any person to ride on a material hoist.

(8) A contractor must ensure that every material hoist-

(*a*) is inspected on daily basis by a competent person appointed in writing by the contractor and such competent person must have the experience pertaining to the erection and maintenance of material hoists or similar machinery;
(*b*) inspection contemplated in paragraph (*a*), includes the determination of the serviceability of the entire material hoist, including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices;
(*c*) inspection results are entered and signed in a record book by a competent person, which book must be kept on the premises for that purpose;
(*d*) is properly maintained and the maintenance records in this regard are kept on site.

20. Bulk mixing plant.-(1) A contractor must ensure that the operation of a bulk mixing plant is supervised by a competent person who has been appointed in writing and is-

(*a*) aware of all the dangers involved in the operation thereof; and
(*b*) conversant with the precautionary measures to be taken in the interest of health and safety.

(2) No person supervising or operating a bulk mixing plant may authorize any other person to operate the plant, unless that person is competent to operate a bulk mixing plant.

(3) A contractor must ensure that the placement and erection of a bulk mixing plant complies with the requirements set out by the manufacturer and that such plant is erected as designed.

(4) A contractor must ensure that all devices to start and stop a bulk mixing plant are provided and that those devices are-

(*a*) placed in an easily accessible position; and
(*b*) constructed in a manner to prevent accidental starting.

(5) A contractor must ensure that the machinery and plant selected is suitable for the mixing task and that all dangerous moving parts of a mixer are placed beyond the reach of persons by means of doors, covers or other similar means.

(6) No person may remove or modify any guard or safety equipment relating to a bulk mixing plant, unless authorised to do so by the appointed person contemplated in subregulation (1).

(7) A contractor must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with when entering any silo.

(8) A contractor must ensure that a record is kept of all repairs or maintenance to a bulk mixing plant and that the record is available on site to an inspector, the client, the client's agent or any employee.

21. Explosive actuated fastening device.-(1) No contractor may use or permit any person to use an explosive actuated fastening device, unless-

(*a*) the user is provided with and uses suitable protective equipment;
(*b*) the user is trained in the operation, maintenance and use of such a device;
(*c*) the explosive actuated fastening device is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and
(*d*) the firing mechanism is so designed that the explosive actuated fastening device, will not

function unless-

(i) it is held against the surface with a force of at least twice its weight; and

(ii) the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle.

(2) A contractor must ensure that-

(*a*) only cartridges suited for the relevant explosive actuated fastening device, and the work to be performed, are used;

(*b*) an explosive actuated fastening device is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed for that purpose;

(*c*) the safety devices of an explosive actuated fastening device are in good working order prior to use;

(*d*) when not in use, an explosive actuated fastening device and its cartridges are locked up in a safe place, which is inaccessible to unauthorised persons;

(*e*) an explosive actuated fastening device is not stored in a loaded condition;

(*f*) a warning notice is displayed in a conspicuous manner in the immediate vicinity wherever an explosive actuated fastening device is used; and

(*g*) the issuing and collection of cartridges and nails or studs of an explosive actuated fastening device are-

(i) controlled and done in writing by a person having been appointed in writing for that purpose; and

(ii) recorded in a register by a competent person and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges.

22. Cranes.- A contractor must, in addition to compliance with the Driven Machinery Regulations, 1988 ensure that where tower cranes are used-

(*a*) they are designed and erected under the supervision of a competent person;

(*b*) a relevant risk assessment and method statement are developed and applied;

(*c*) the effects of wind forces on the crane are taken into consideration and that a wind speed device is fitted that provides the operator with an audible warning when the wind speed exceeds the design engineer's specification;

(*d*) the bases for the tower cranes and tracks for rail-mounted tower cranes are firm, level and secured;

(*e*) the tower crane operators are competent to carry out the work safely; and

(*f*) the tower crane operators have a medical certificate of fitness to work in such an environment, issued by an occupational health practitioner in the form of Annexure 3.

23. Construction vehicles and mobile plant.- (1) A contractor must ensure that all construction vehicles and mobile plant-

(*a*) are of an acceptable design and construction;

(*b*) are maintained in a good working order;

(*c*) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;

(*d*) are operated by a person who-

(i) has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant;

(ii) has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practtioner in the form of Annexure 3;

(*e*) have safe and suitable means of access and egress;

(*f*) are properly organized and controlled in any work situation by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;

(*g*) are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guardrails and crash barriers;

(*h*) are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;

(*i*) are equipped with an acoustic warning device which can be activated by the operator;

(*j*) are equipped with an automatic acoustic reversing alarm; and

(*k*) are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

(2) A contractor must ensure that-

(*a*) no person rides or is required or permitted to ride on a construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;

(*b*) every construction site is organized in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;

(*c*) the traffic routes are suitable for the persons, construction vehicles or mobile plant using them, are sufficient in number, in suitable positions and of sufficient size;

(*d*) every traffic route is, where necessary, indicated by suitable signs;

(*e*) all construction vehicles and mobile plant left unattended at night, adjacent to a public road in normal use or adjacent to construction areas where work is in progress, have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;

(*f*) all construction vehicles or mobile plant when not in use, have buckets, booms or similar appendages, fully lowered or blocked, controls in a neutral position, motors stopped, wheels chocked, brakes set and ignition secured;

(*g*) whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;

(*h*) tools, material and equipment are secured and separated by means of a physical barrier in order to prevent movement when transported in the same compartment with employees;

(*i*) vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and

(*j*) all construction vehicles or mobile plant traveling, working or operating on public roads comply with the requirements of the National Road Traffic Act, 1996.

24. Electrical installations and machinery on construction sites.-A contractor must, in addition to compliance with the Electrical Installation Regulations, 2009, and the Electrical Machinery Regulations, 1988, promulgated by Government Notice No. R.1593 of 12 August 1988, ensure that-

(*a*) before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;

(*b*) all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;

(*c*) the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;

(*d*) all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and

(*e*) all electrical machinery is inspected by the authorised operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

25. Use and temporary storage of flammable liquids on construction sites.-A contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that-

(*a*) where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard, and that the workplace is effectively ventilated;

(*b*) no person smokes in any place in which flammable liquid is used or stored, and the contractor must affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;

(*c*) an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;

(*d*) only the quantity of flammable liquid needed for work on one day is taken out of the store for use;

(*e*) all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site and safely disposed of;

(*f*) where flammable liquids are decanted, the metal containers are bonded and earthed; and

(*g*) no flammable material, including cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids.

26. Water environments.-(1) A contractor must ensure that where construction work is done over or in close proximity to water, provision is made for-

(*a*) preventing persons from falling into water; and

(*b*) the rescuing of persons in danger of drowning.

(2) A contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a life jacket.

27. Housekeeping and general safeguarding on construction sites.- A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R.2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including-

(*a*) the proper storage of materials and equipment;

(*b*) the removal of scrap, waste and debris at appropriate intervals;

(*c*) ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;

(*d*) ensuring that materials which are no longer required for use, do not accumulate on and are removed from the site at appropriate intervals;

(*e*) ensuring that waste and debris are not dis-

posed of from a high place with a chute, unless the chute complies with the requirements set out in regulation 14 (6);

(*f*) ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and

(*g*) ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.

28. Stacking and storage on construction sites.-A contractor must, in addition to compliance with the provisions for the stacking of articles in the General Safety Regulations, 2003, ensure that-

(*a*) a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;

(*b*) adequate storage areas are provided;

(*c*) there are demarcated storage areas; and

(*d*) storage areas are kept neat and under control.

29. Fire precautions on construction sites.-A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that-

(*a*) all appropriate measures are taken to avoid the risk of fire;

(*b*) sufficient and suitable storage is provided for flammable liquids, solids and gases;

(*c*) smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;

(*d*) in confined spaces and other places in which flammable gases, vapours or dust can cause danger-

(i) only suitably protected electrical installations and equipment, including portable lights, are used;

(ii) there are no flames or similar means of ignition;

(iii) there are conspicuous notices prohibiting smoking;

(iv) oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and

(v) adequate ventilation is provided;

(*e*) combustible materials do not accumulate on the construction site;

(*f*) welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;

(*g*) suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;

(*h*) the fire equipment contemplated in paragraph (*g*) is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;

(*i*) a sufficient number of workers are trained in the use of fire- extinguishing equipment;

(*j*) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;

(*k*) the means of escape is kept clear at all times;

(*l*) there is an effective evacuation plan providing for all-

(i) persons to be evacuated speedily without panic

(ii) persons to be accounted for; and

(iii) plant and processes to be shut down; and

(*m*) a siren is installed and sounded in the event of a fire.

30. Construction employees' facilities.-(1) A contractor must, in addition to the construction site provisions in the Facilities Regulations, 2004, promulgated by Government Notice No. R.924 of 3 August 2004, provide at, or within reasonable access of every construction site, the following clean, hygienic and maintained facilities:

(*a*) Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons;

(*b*) at least one sanitary facility for each sex and for every 30 workers;

(*c*) changing facilities for each sex; and

(*d*) sheltered eating areas

(2) A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

31. Construction health and safety technical committee.-(1) The chief inspector must establish a construction health and safety technical committee which must consist of-

(*a*) a person who is to be the chairperson;

(*b*) two persons designated by the Chief Inspector from the employees of the Department of Labour;

(*c*) two persons to represent the Department of Public Works, one each designated by the Built Environmental Council and the Construction Industry Development Board;

(*d*) one person to represent Higher Education in the field of construction and related studies designated by the Director General of the Department of Higher Education;

(*e*) one person designated by the South African Property Owners Association;

(*f*) two persons designated by employer's organizations to represent employers who are directly involved in the construction industry;

(*g*) two persons designated by employees organizations to represent the unions who are directly involved in the construction industry;

(*h*) one person to represent consultants who are directly involved in the construction industry: and

(*l*) persons who are competent in respect of the matters to be dealt with by the construction health and safety technical committee who have been co-opted by the committee with the authorization of the chief inspector.

(2)The chief inspector must appoint the members of the Construction Health and Safety Technical Committee for the period that he or she may determine at the time of appointment: Provided that the chief inspector may after having afforded a member a reasonable opportunity to respond, discharge him or her at any time, for reasons that are fair and just, and appoint a new member in his or her place.

(3) The Construction Health and Safety Technical Committee must-

(*a*) advise the chief inspector on construction related codes, standards and training requirements: Provided that any accredited or approved training must be in accordance with South African Qualifications Authority standards;

(*b*) designate persons in writing to examine safety systems and safety records of companies who have high incident rates and provide recommendations to the chief inspector of occupational health and safety on the findings;

(*c*) make recommendations and submit reports to the chief inspector of occupational health and safety regarding any matter to which these Regulations relate;

(*d*) advise the chief inspector of occupational health and safety regarding any matter referred to the Construction Regulations Technical Committee by the chief inspector of occupational health and safety;

(*e*) perform any other function for the administration of a provision of these Regulations that may be requested by the chief inspector of occupational health and safety;

(*f*) conduct its work in accordance with the instructions and rules of conduct framed by the chief inspector of occupational health and safety; and

(*g*) refer appeals against decisions of the Construction Regulations Technical Committee to the chief inspector of occupational health and safety.

(4) Any person affected by any decision of the Construction Health and Safety Technical Committee may appeal against such decision to the chief inspector within 60 days of such decision becoming known and the chief inspector shall, after having considered the grounds of the appeal and the Construction Health and Safety Technical Committee's reasons for the decision, confirm, set aside or vary the decision or substitute for such decision any other decision which the Construction Health and Safety Technical Committee's in the chief inspector's opinion ought to have taken.

(5) Any person aggrieved by a decision taken by the chief inspector under subregulation (4) may, within 60 days after the chief inspector's decision was given appeal against such decision to the Labour court.

32. Approved Inspection Authority.-(1) The chief inspector may approve as an Inspection Authority any organisation that has been accredited in terms of the provision of the Act and these Regulations.

(2) The Approved Inspection Authority will perform its functions as prescribed by the guidance document issued by the Department of Labour for Approved Inspection Authorities.

(3) The chief inspector may at any time withdraw any approval granted to an approved inspection authority, subject to section 35 of the Act.

33. Offences and penalties. Any person who contravenes or fails to comply with any provision of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30, is guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in the case of a continuous offence, not exceeding an additional fine of R200 or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment will not exceed 90 days.

34. Repeal of regulations and commencement.- (1) The Construction Regulations, 2003, promulgated by Government Notice No. R.1010 of 18 July 2003, are hereby repealed.

(2) Regulation 3 and 5 (7) (*b*) will come into effect 18 months after the commencement of these Regulations.

35. Short title. These Regulations are called the Construction Regulations, 2014.

ANNEXURE 1

APPLICATION FOR A PERMIT TO DO CONSTRUCTION WORK

[In terms of Regulation 3 (2) of Construction Regulations, 2014]

This application must be submitted with the following documents:

1. Health and Safety specification.
2. Health and Safety plan.
3. Baseline risk assessment

1. Name and postal address and telephone numbers of the client:

.....

.....

2. Details of the Agent

(*a*) Title, Surname and Initials .....

(*b*) Identity number/Passport Number .....

(*c*) Registration number with SACPCMP .....

(*d*) Office Tel. number and/or Mobile number .....

(*e*) Postal address .....

.....

3. Name, postal address and telephone numbers of the appointed principal contractor:

.....

4. Name, postal address and telephone numbers of designer of the project:

.....

.....

5. Name, postal address and telephone numbers of the following persons:

(*a*) Construction Manager: .....

.....

(*b*) Construction Health and Safety Manger: .....

.....

(*c*) Construction Health and Safety Offcer: .....

.....

6. Exact physical address of construction and site office: .....

.....

7. Nature of construction work:

.....

.....

.....

8. Expected commencement date:

.....

9. Expected completion date:

.....

10. Estimated maximum number of persons on the construction site:

.....

11. Planned number of contractors on site accountable to principal contractor:

.....

12. Names(s) of contractors appointed:

.....

.....

.....

13. ....

Signature of Principal Contractor Signature of Client/Client's Agent

FOR OFFICE ONLY

Authorisation/Unique No.	LABOUR CENTRE.	OFFICIAL APPROVAL STAMP

14. Date of application: .....

15. Submitted documents prescribed in Construction Regulatiuon 5 (4) (Please Tick √):

CR 5 (1) (*a*)		**CR 5 (1) (*b*)**		**CR 5 (1); (c-s)**	

16. Result of the application (Please Tick √):

Approved		**Declined**	

17. Reason for declining the application:

.....

.....

.....

.....

18. .....

Signature of the Supervisor

19. .....

Signature of revoking Offcer/Inspector

ANNEXURE 2
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(Regulation 4 of the Construction Regulations, 2014)

NOTIFICATION OF CONSTRUCTION WORK

1. (*a*) Name and postal address of principal contractor:

.....

(*b*) Name and telephone number of principal contractor's contact person:

.....

2. Principal contractor's compensation registration number:

.....

3. (*a*) Name and postal address of client:

.....

(*b*) Name and tel. no of client's contact person or agent:

.....

4. (*a*) Name and postal address of designer(s) for the project:

.....

(*b*) Name and tel. no of designer(s) contact person:

.....

5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulations 8 (1):

.....

6. Name/s of principal contractor's sub-ordinate supervisors on site appointed in terms of regulations 8 (2):

.....

7. Exact physical address of the construction site or site office:

.....

8. Nature of the construction work:

.....

.....

.....

.....

9. Expected commencement date: .....

10. Expected completion date .....

11. Estimated maximum number of persons on the construction site:

Total: .....Male: .....Female: .....

12. Planned number of contractors on the construction site accountable to principal contractor:

.....

ANNEXURE 2 - *continued*

13. Name(s) of contractors already selected:

.....

.....

.....

..... Principal Contractor	..... Date
..... Client's Agent (where applicable)	..... Date
..... Client	..... Date

- THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.

ANNEXURE 3

OCCUPATIONAL HEALTH AND SAFETY ACT. 85 OF 1993 Constriction Regulations, 2014

Medical Certificate of Fitness

Name of Employee ..... ID Number ..... Co. Number .....

	* Possible Exposures e.g noise, heat, fall risk, confined space, etc	*Job Specific Requirement e.g Operating Mobile Crane, Digging Trenches, Erecting Formwork & Supportwork, etc.	* Protective Equipment e.g Dust Respirator (Light Duty), Welding Gloves, etc.
*Occupation e.g General Worker, Welder, Bricklayer, Steel fixer, Mobile Crane Opertor, etc.			

*** The Employer to complete the information in the spaces marked with an before sending the Employee for a medical examination**

Declaration by the Medical Examiner:

I certify that I have, by examination and testing, using the above criteria specified by the employer, satisfied myself that the a hove mentioned employee is fit to perform the duties as described by the employer in the matrix above.

Occupational Medicine Practitioner/Occupational Health Nursing Practitioner: (Please Print Name).....
....

Signature ..... Practice Number ..... Date .....
Address: .....

GNR.85 of 7 February 2014: Notice of approval of a statutory body as contemplated in regulation 5 (8)

I Thobile Lamati, appointed as the Chief Inspector in terms of section 27 (1) of the said Act, hereby approve the South African Council for the Project and the Construction Management Professions (SACPCMP) as contemplated in regulations 5 (8).

The South African Council for the Project and Construction Management Professions is a statutory body stablished in terms of section 2 of the Project and Construction Management Act, No.48 of 2000.

The following category of construction health and safety professionals have been identified as per the Construction Regulations, 2014:

1. Construction and Health and Safety Agent (PrCHSA)
Registration Rules for Construction Health and Safety Agent (PrCHSA) in terms of section 18 (1) (*c*) of the Act, (No. 48 of 2000) as published on 31 May 2013 in the *Government Gazette,* No. 36525, **Board Notice** 115 of 2013 for commencement on 1 June 2013.

2. Construction Health and Safety Manager (CHSM)
Registration Rules for Construction Health and Safety Manager (CHSM) in terms of section 18 (1) (*c*) of the Act (No. 48 of 2000), as published on 31 May 2013 in the *Government Gazette* No. 36525, **Board Notice** 114 of 2013 for commencement 1 August 2013.

3. Construction Health and Safety Officer (CHSO)
Registration Rules for Construction Health and Safety Officer (CHSO) in terms of section 18(1)(*c*) of the Act (No. 48 of 2000), and published on 31 May 2013 in the *Government Gazette*, No.36525, **Board Notice** 113 for commencement 1 August 2013.

Thobile Lamati
Chief Inspector

DRAFT NOTICE
Notice regarding application of the Construction Regulations, 2014

DEPARTMENT OF LABOUR

(Editorial Note: Please note that although this notice was not published in the *Government Gazette* at the time of going to print, it has been included due to its relevance and importance. Please refer to the *Government Gazette,* should this notice be published in the future, and/ or any official communication from the Department of Labour.)

Under section 40 (3) (*b*) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Thobile Lamati, appointed as Chief Inspector in terms of section 27 (1) of the said Act, and by virtue of the powers delegated to me by the Minister of Labour, in terms of section 42 (1) of the said Act, hereby grant the following temporary exemptions in terms of section 40 of the said Act:

1. All construction works where physical construction started after the **7th February 2014** must comply with the Construction Regulations, 2014 until the **7th August 2014**, 6 months after the commencement of these Regulations, thereafter the Construction Regulations, 2014 shall apply with the exception of Regulation 3 and 5 (7) (*b*) which will come into effect on the **7th August 2015**, 18 months after the commencement of these Regulations.
2. All construction works where physical construction had started on or before the **7th February 2014** must comply with the Construction Regulations, 2003, and such construction works are exempted to comply with Construction Regulations, 2014 until the **6th August 2015** and thereafter the Construction Regulations, 2014 shall apply.

Thobile Lamati
Chief Inspector

R.489 of 2017
(G.G. 40883 of 02/06/2017)

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

CONSTRUCTION REGULATIONS, 2014

GUIDELINES

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

1 Definitions - In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates -

"agent" means a competent person who acts as a representative for a client;

Notes:

(a) A person or an organisation that acts as a representative for a client in managing overall construction work with full authority and obligation to act on behalf of the client in terms of the Construction Regulations.

(b) An agent contemplated above must ensure the management of health and safety on a construction project for a client and where applicable through an appointment of a registered competent person with a statutory body approved by the Chief Inspector. Refer to Regulation 5 (7).

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work ;

Notes:

Bulk mixing plant- commonly referred to as a batch plant

"client" means any person for whom construction work is being performed;

Notes

(a) Every person or entity who enters into a contract to have construction work executed on their behalf.

"competent person" means a person who -

(a) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2008 (Act No.67 of 2008), those qualifications and that training must be regarded as the required qualifications and training; and

(b) is familiar with the Act and with the applicable regulations made under the Act;

Notes:

(a) An all-inclusive assessment should be on all four components knowledge, training and experience, and where appropriate qualifications exist in relation to the work to be performed.

(b) Part (b) of the above definition is best reflected through demonstration of understanding of the OSH Act and its various applicable regulations.

"construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"construction site" means a work place where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work;

"construction work" means any work in connection with -

(a) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or

(b) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

(c) **Notes:**

(a) 'Construction work' in these regulations is limited to building works and civil engineering works and must be read with the definition of 'structure'.

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

Notes:

(a) Includes organisations and or self-employed person that contracts with a client , principal contractor, or a contractor to carry out construction work.

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;

"design" in relation to any structure, includes drawings, calculations, design details and specifications;

"designer" means -

(a) a competent person who -
  (i) prepares a design;
  (ii) checks and approves a design;
  (iii) arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
  (iv) designs temporary work, including its components;

(b) an architect or engineer contributing to, or having overall responsibility for a design;

(c) a building services engineer designing details for fixed plant;

(d) a surveyor specifying articles or drawing up specifications;

(e) a contractor carrying out design work as part of a design and building project; or

(f) an interior designer , shop-fitter or landscape architect;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guardrails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for -

(a) all risks relating to working from a fall risk position, considering the nature of work undertaken;

(b) the procedures and methods to be applied in order to eliminate the risk of falling; and

(c) a rescue plan and procedures;

"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file" means a file, or other record containing the information in writing required by these Regulations;

"health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

Notes:

(a) For the purpose of this regulation an Occupational health practitioner refers to either Doctors or Nurses with the following requirements:

Doctors:

  (i) Registered and in good standing with the Health Professions Council of South Africa (HPCSA) and,
  (ii) has a tertiary qualification in occupational health or medicine which is registered as an additional qualification with the HPCSA or,
  (iii) be registered as a specialist in Occupational Medicine with the HPCSA.

Nurses:

  (iv) Registered and in good standing with the South African Nursing Council (SANC) and,
  (v) have a tertiary qualification in Occupational Health nursing that is recognised and registered with the SANC.

(b) Regulations 7(1)g; 7(8); 17 (12)(a); 10 (2)(b); 22(1)(f) and 23(1)(d)(ii) - A risk-based approach should be applied when considering the method and frequency of periodic medical surveillance.

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"National Building Regulations" means the National Building Regulations made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R. 2378 of 30 July 1990, as amended by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008;

"person day" means one normal working shift of carrying out construction work by a person on a construction site;

"principal contractor" means an employer appointed by the client to perform construction work;

"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as a Professional Engineering Technologist in terms of the Engineering Profession Act, 2000;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

Notes:

Provincial director is also referred to as Chief Director Provincial Operations (CDPO)

"scaffold" means a temporary elevated platform and supporting structure used for providing ac-

cess to and supporting workmen or materials or both;

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

Notes:

(a) Shoring means temporary works such as a hydraulic, mechanical or timber/steel system that supports the sides of an excavation.

"structure" means -

(a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant , pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;

(b) any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or

(c) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"suspended platform" means a working platform suspended from supports by means of one or more separate ropes from each support;

"temporary works" means any falsework, formwork, support work, scaffold , shoring or other temporary structure designed to provide support or means of access during construction work;

Notes:

(a) False work means a combined system of formwork and support work

(b) Form work means temporary or permanent shutters used to form wet concrete into elements of a structure, and includes both horizontally and vertically placed shutters.

(c) Support work means the temporary structure erected to support the formwork before the casting of a concrete element of a structure.

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"tunneling" means the construction of any tunnel beneath the natural surface of the earth for a purpose other than the searching for or winning of a mineral.

2 Scope of Application

(1) These Regulations are applicable to all persons involved in construction work.

(2) Regulations 3 and 5 are not applicable where the construction work carried out is in relation to a single storey dwelling for a client who intends to reside in such dwelling upon completion thereof.

3 Application for Construction Work Permit

(1) A client who intends to have construction work carried out, must at least 30 days before that work is to be carried out apply to the provincial director in writing for a construction work permit to perform construction work if the intended construction work will -

(a) exceed 180 days;

(b) will involve more than 1800 person days of construction work; or

(c) the works contract is of a value equal to or exceeding thirteen million rand or Construction Industry Development Board (CIDB) grading level 6.

(2) An application contemplated in subregulation (1) must be done in a form similar to Annexure 1.

(3) The provincial director must issue a construction work permit in writing to perform construction work contemplated in subregulation (1) within 30 days of receiving the construction work permit application and must assign a site specific number for each construction site .

(4) A site specific number contemplated in subregulation (3) must be conspicuously displayed at the main entrance to the site for which that number is assigned.

(5) A construction work permit contemplated in this regulation may be granted only if -

(a) the fully completed documents contemplated in regulation 5(1)(a) and (b) have been submitted; and

(b) proof in writing has been submitted -

(i) that the client complies with regulation 5(5);

(ii) with regard to the registration and good standing of the principal contractor as contemplated in regulation 5(1)(j); and

(iii) that regulation 5(1)(c), (d), (e), (f), (g) and (h) has been complied with.

(6) A client must ensure that the principal contractor keeps a copy of the construction work permit contemplated in subregulation (1) in the occupational health and safety file for inspection by an inspector, the client , the client's authorised agent, or an employee.

(7) No construction work contemplated in subregulation (1) may be commenced or carried out before the construction work permit and number contemplated in subregulation (3) have been issued and assigned.

(8) A site specific number contemplated in subregulation (3) is not transferrable.

Notes:

(a) Refer to exemption issued by the Chief Inspector.

(b) The 30 days required to issue a Construction Work Permit is on condition that all correct and fully completed documents are submitted as per the attached list of items (not limited to) to be submitted with the construction work permit application'.

(c) Where any person aggrieved by any decision taken by an inspector in relation to the application of a Construction Work Permit under a provision of this regulation may appeal against such decision to the chief inspector in terms of Section 35.

(d) The Construction Work Permit shall be issued to the Client for whom the Construction work is conducted.

4 Notification of Construction Work

(1) A contractor who intends to carry out any construction work other than work contemplated in regulation 3(1), must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will -

(a) include excavation work;

(b) include working at a height where there is risk of falling;

(c) include the demolition of a structure; or

(d) include the use of explosives to perform construction work.

(2) A contractor who intends to carry out construction work that involves construction of a single storey dwelling for a client who is going to reside in such dwelling upon completion, must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2.

5 Duties of Client

(1) A client must -

(a) prepare a baseline risk assessment for an intended construction work project;

(b) prepare a suitable, sufficiently documented and coherent site specific health and safety specification for the intended construction work based on the baseline risk assessment contemplated in paragraph (a);

(c) provide the designer with the health and safety specification contemplated in paragraph (b);

(d) ensure that the designer takes the prepared health and safety specification into consideration during the design stage;

(e) ensure that the designer carries out all responsibilities contemplated in regulation 6;

(f) include the health and safety specification in the tender documents;

(g) ensure that potential principal contractors submitting tenders have made adequate provision for the cost of health and safety measures;

(h) ensure that the principal contractor to be appointed has the necessary competencies and resources to carry out the construction work safely;

(i) take reasonable steps to ensure co-operation between all contractors appointed by the client to enable each of those contractors to comply with these Regulations;

(j) ensure before any work commences on a site that every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);

(k) appoint every principal contractor in writing for the project or part thereof on the construction site;

(l) discuss and negotiate with the principal contractor the contents of the principal contractor's health and safety plan contemplated in regulation 7(1), and must thereafter finally approve that plan for implementation;

(m) ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor;

(n) take reasonable steps to ensure that each contractor's health and safety plan contemplated in regulation 7(1)(a) is implemented and maintained;

(o) ensure that periodic health and safety audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;

(p) ensure that a copy of the health and safety audit report contemplated in paragraph (o) is provided to the principal contractor within seven days after the audit;

(q) stop any contractor from executing a construction activity which poses a threat to the health and safety of persons which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site;

(r) where changes are brought about to the design or construction work , make sufficient health and safety information and appropriate resources available to the principal contractor to execute the work safely; and

(s) ensure that the health and safety file contemplated in regulation 7(1)(b) is kept and maintained by the principal contractor.

(2) Where a client requires additional work to be performed as a result of a design change or an error in construction due to the actions of the client, the client must ensure that sufficient safety information and appropriate additional resources are available to execute the required work safely.

(3) Where a fatality or permanent disabling injury occurs on a construction site, the client must ensure that the contractor provides the provincial director with a report contemplated in section 24 of the Act, in accordance with regulations 8 and 9 of the General Administrative Regulations, 2013, and that the report includes the measures that the contractor intends to implement to ensure a safe construction site as far as is reasonably practicable.

(4) Where more than one principal contractor is appointed as contemplated in subregulation (1)(k), the client must take reasonable steps to ensure co-operation between all principal contactors and contractors in order to ensure compliance with these Regulations.
(5) Where a construction work permit is required as contemplated in regulation 3(1), the client must, without derogating from his or her health and safety responsibilities or liabilities, appoint a competent person in writing as an agent to act as his or her representative, and where such an appointment is made the duties that are imposed by these Regulations upon a client , apply as far as reasonably practicable to the agent so appointed.
(6) Where notification of construction work is required as contemplated in regulation 4(1), the client may, without derogating from his or her health and safety responsibilities or liabilities, appoint a competent person in writing as an agent to act as his or her representative, and where such an appointment is made the duties that are imposed by these Regulations upon a client, apply as far as reasonably practicable to the agent so appointed: Provided that, where the question arises as to whether an agent is necessary, the decision of an inspector is decisive.
(7) An agent contemplated in subregulations (5) and (6) must -
(a) manage the health and safety on a construction project for the client; and
(b) be registered with a statutory body approved by the Chief Inspector as qualified to perform the required functions;
(8) When the chief inspector has approved a statutory body as contemplated in subregulation (7)(b), he or she must give notice of that approval in the Gazette.

Notes:
(a) Regulation 5(1)d must be read with regulation 6, the duties of the designer and a written report must be submitted to the Client by the Designer as proof of compliance with the afore said regulation.
(b) Regulation 5(1)(i) Where there are multiple principle contractors (or contractors) on site appointed by the client, the client shall coordinate cooperation between contractors to ensure health and safety control, read with regulation 7(4). Regulation 5 (5); (6) and (7).
(c) Where a client specifies which contractors a principal contractor must appoint the duties as specified in 7(1)(c)(iii) shall be applicable to the said client.
(d) A client may appoint a Construction Health and Safety Agent or Construction Health and Safety Manager based on the scope and risk profile of construction work to represent him/her on matters of health and safety. Provided that, where the question arises as to whether a Construction Health Safety Agent or a Construction Health and Safety Manager is necessary, the decision of an inspector is decisive.

6 Duties of Designer
(1) The designer of a structure must -
(a) ensure that the applicable safety standards incorporated into these Regulations under section 44 of the Act are complied with in the design;
(b) take into consideration the health and safety specification submitted by the client;
(c) before the contract is put out to tender, make available in a report to the client -
  (i) all relevant health and safety information about the design of the relevant structure that may affect the pricing of the construction work;
  (ii) the geotechnical-science aspects, where appropriate; and
  (iii) the loading that the structure is designed to withstand;
(d) inform the client in writing of any known or anticipated dangers or hazards relating to the construction work, and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered;
(e) refrain from including anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which can be avoided by modifying the design or by substituting materials;
(f) take into account the hazards relating to any subsequent maintenance of the relevant structure and must make provision in the design for that work to be performed to minimize the risk;
(g) when mandated by the client to do so, carry out the necessary inspections at appropriate stages to verify that the construction of the relevant structure is carried out in accordance with his design: Provided that if the designer is not so mandated, the client's appointed agent in this regard is responsible to carry out such inspections;
(h) when mandated as contemplated in paragraph (g), stop any contractor from executing any construction work which is not in accordance with the relevant design's health and safety aspects: Provided that if the designer is not so mandated, the client's appointed agent in that regard must stop that contractor from executing that construction work;
(j) when mandated as contemplated in paragraph (g), in his or her final inspection of the completed structure in accordance with the National Building Regulations , include the health and safety aspects of the structure as far as reasonably practicable, declare the structure safe for use, and issue a completion certificate to the client and a copy thereof to the contractor; and
(j) during the design stage, take cognisance of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of a structure.
(2) The designer of temporary works must ensure that -
(a) all temporary works are adequately designed so that it will be capable of supporting all anticipated vertical and lateral loads that may be applied;
(b) the designs of temporary works are done with close reference to the structural design drawings issued by the contractor, and in the event of any uncertainty consult the contractor;
(c) all drawings and calculations pertaining to the design of temporary works are kept at the office of the temporary works designer and are made available on request by an inspector; and
(d) the loads caused by the temporary works and any imposed loads are clearly indicated in the design.

Notes:
Regulation 6 (1) (c) - Designers must ensure that designs are accompanied by a report as required in terms of this regulation.

7 Duties of Principal Contractor and Contractor
(1) A principal contractor must -
(a) provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's documented health and safety specifications contemplated in regulation 5(1)(b), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses;
(b) open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor; and
(c) on appointing any other contractor , in order to ensure compliance with the provisions of the Act -
  (i) provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications contemplated in regulation 5(1)(b) pertaining to the construction work which has to be performed;
  (ii) ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
  (iii) ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
  (iv) ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
  (v) appoint each contractor in writing for the part of the project on the construction site;
  (vi) take reasonable steps to ensure that each contractor's health and safety plan contemplated in subregulation (2)(a) is implemented and maintained on the construction site;
  (vii) ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
  (viii) stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
  (ix) where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely; and
  (x) discuss and negotiate with the contractor the contents of the health and safety plan contemplated in subregulation (2)(a), and must thereafter finally approve that plan for implementation;
(d) ensure that a copy of his or her health and safety plan contemplated in paragraph (a), as well as the contractor's health and safety plan contemplated in subregulation (2)(a), is available on request to an employee, an inspector, a contractor, the client or the client's agent;
(e) hand over a consolidated health and safety file to the client upon completion of the construction work and must, in addition to the documentation referred to in subregulation (2)(b), include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
(f) in addition to the documentation required in the health and safety file in terms of paragraph (c)(v) and subregulation (2)(b), include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the

type of work being done; and

(g) ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

(2) A contractor must prior to performing any construction work -

(a) provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification contemplated in regulation 5(1)(b) and provided by the principal contractor in terms of subregulation (1)(a), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the contractor as work progresses;

(b) open and keep on site a health and safety file , which must include all documentation required in terms of the Act and these Regulations, and which must be made available on request to an inspector, the client, the client's agent or the principal contractor;

(c) before appointing another contractor to perform construction work be reasonably satisfied that the contractor that he or she intends to appoint has the necessary competencies and resources to perform the construction work safely;

(d) co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act; and

(e) as far as is reasonably practicable, promptly provide the principal contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.

(3) Where a contractor appoints another contractor to perform construction work , the duties determined in subregulation (1)(b) to (g) that apply to the principal contractor apply to the contractor as if he or she were the principal contractor.

(4) A principal contractor must take reasonable steps to ensure co-operation between all contractors appointed by the principal contractor to enable each of those contractors to comply with these Regulations.

(5) No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

(6) A contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.

(7) A contractor must at all times keep on his or her construction site records of the health and safety induction training contemplated in subregulation (6) and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor;

(8) A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

Notes:

(a) Regulation 7(4) Where there are multiple contractors on site appointed by the principal contractor , the principal contractor shall coordinate cooperation between contractors to ensure health and safety control, read with regulation 5(1)(i).

8 Management and Supervision of Construction Work

(1) A principal contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed by the principal contractor.

(2) A principal contractor must upon having considered the size of the project, in writing appoint one or more assistant construction managers for different sections thereof: Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties in terms of this regulation.

(3) Where the construction manager has not appointed assistant construction managers as contemplated in subregulation (2), or, in the opinion of an inspector, a sufficient number of such assistant construction managers have not been appointed, that inspector must direct the construction manager in writing to appoint the number of assistant construction managers indicated by the inspector, and those assistant construction managers must be regarded as having been appointed under subregulation (2).

(4) No construction manager appointed under subregulation (1) may manage any construction work on or in any construction site other than the site in respect of which he or she has been appointed.

(5) A contractor must, after consultation with the client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.

(6) No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has necessary competencies and resources to assist the contractor.

(7) A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

(8) A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in subregulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties in terms of this regulation.

(9) Where the contractor has not appointed an employee as contemplated in subregulation (8), or, in the opinion of an inspector, a sufficient number of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees indicated by the inspector, and those employees must be regarded as having been appointed under subregulation (8).

(10) No construction supervisor appointed under subregulation (7) may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated under subregulation (7) on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

Notes:

Regulation 8(1) The Construction manager must demonstrate competency in relation to work being performed and the ability to manage construction work which may include making all statutory appointments in terms of health and safety.

9 Risk Assessment for Construction Work

(1) A contractor must, before the commencement of any construction work and during such construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site, and must include -

(a) the identification of the risks and hazards to which persons may be exposed to;

(b) an analysis and evaluation of the risks and hazards identified based on a documented method;

(c) a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;

(d) a monitoring plan; and

(e) a review plan.

(2) A contractor must ensure that as far as is reasonably practicable, ergonomic related hazards are analyzed, evaluated and addressed in a risk assessment.

(3) A contractor must ensure that all employees under his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures and or control measures before any work commences, and thereafter at the times determined in the risk assessment monitoring and review plan of the relevant site.

(4) A principal contractor must ensure that all contractors are informed regarding any hazard that is stipulated in the risk assessment before any work commences, and thereafter at the times that may be determined in the risk assessment monitoring and review plan of the relevant site.

(5) A contractor must consult with the health and safety committee or, if no health and safety committee exists, with a representative trade union or representative group of employees, on the monitoring and review of the risk assessments of the relevant site.

(6) A contractor must ensure that copies of the risk assessments of the relevant site are available on site for inspection by an inspector, the client, the client's agent, any contractor, any employee, a representative trade union, a health and safety representative or any member of the health and safety committee.

(7) A contractor must review the relevant risk assessment -

(a) where changes are effected to the design and or construction that result in a change to the risk profile; or

(b) when an incident has occurred.

Notes:

Regulation 9(7)(a) must be read with Regulation 5(1)(r); 5(2) and Regulation 7(1)(c)(ix).

10 Fall Protection

(1) A contractor must -

(a) designate a competent person to be responsible for the preparation of a fall protection plan;

(b) ensure that the fall protection plan contemplated in paragraph (a) is implemented, amended where and when necessary and maintained as required; and

(c) take steps to ensure continued adherence to the fall protection plan .

(2) A fall protection plan contemplated in subregulation (1), must include -

(a) a risk assessment of all work carried out from a fall risk position and the procedures

and methods used to address all the risks identified per location;
(b) the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
(c) a programme for the training of employees working from a fall risk position and the records thereof;
(d) the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
(e) a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

(3) A contractor must ensure that a construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

(4) A contractor must ensure that -
(a) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;
(b) no person is required to work in a fall risk position, unless such work is performed safely as contemplated in subregulation (2);
(c) fall prevention and fall arrest equipment are -
    (i) approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and
    (ii) securely attached to a structure or plant, and the structure or plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who could fall; and
(d) fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

(5) Where roof work is being performed on a construction site , the contractor must ensure that, in addition to the requirements set out in subregulations (2) and (4), it is indicated in the fall protection plan that -
(a) the roof work has been properly planned;
(b) the roof erectors are competent to carry out the work;
(c) no employee is permitted to work on roofs during inclement weather conditions or if any conditions are hazardous to the health and safety of the employee;
(d) all covers to openings and fragile material are of sufficient strength to withstand any imposed loads;
(e) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and
(f) suitable and sufficient guard-rails, barriers and toe-boards or other similar means of protection prevent, as far as is reasonably practicable, the fall of any person, material or equipment.

11 Structures

(1) A contractor must ensure that -
(a) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
(b) no structure or part of a structure is loaded in a manner which would render it unsafe; and
(c) all drawings pertaining to the design of the relevant structure are kept on site and are available on request to an inspector, other contractors, the client and the client's agent or employee.

(2) An owner of a structure must ensure that -
(a) inspections of that structure are carried out periodically by competent persons in order to render the structure safe for continued use;
(b) that the inspections contemplated in paragraph (a) are carried out at least once every six months for the first two years and thereafter yearly;
(c) the structure is maintained in such a manner that it remains safe for continued use;
(d) the records of inspections and maintenance are kept and made available on request to an inspector.

12 Temporary Works

(1) A contractor must appoint a temporary works designer in writing to design , inspect and approve the erected temporary works on site before use.

(2) A contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.

(3) A contractor must ensure that -
(a) all temporary works structures are adequately erected, supported, braced and maintained by a competent person so that they are capable of supporting all anticipated vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand;
(b) all temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted;
(c) detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other contractors, the client, the client's agent or any employee;
(d) all persons required to erect, move or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
(e) all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
(f) all temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;
(g) no person may cast concrete, until authorization in writing has been given by the competent person contemplated in paragraph (a);
(h) if, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately;
    (i) adequate precautionary measures are taken in order to -
    (i) secure any deck panels against displacement; and
    (ii) prevent any person from slipping on temporary works due to the application of release agents;
(j) as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
(k) upon casting concrete, the temporary works structure is left in place until the concrete has acquired sufficient strength to safely support its own weight and any imposed load, and is not removed until authorization in writing has been given by the competent person contemplated in paragraph (a);
(l) the foundation conditions are suitable to withstand the loads caused by the temporary works structure and any imposed load in accordance with the temporary works design.
(m) provision is made for safe access by means of secured ladders or staircases for all work to be carried out above the foundation bearing level;
(n) a temporary works drawing or any other relevant document includes construction sequences and methods statements;
(o) the temporary works designer has been issued with the latest revision of any relevant structural design drawing;
(p) a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and
(q) the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.

(4) No contractor may use a temporary works design and drawing for any work other than its intended purpose.

Notes:
(a) Regulation 12 (1) is a three functions competent person (s) appointment. The temporary works designer could be one person or different persons to design; inspect and or approve [read with Regulation 6(g); (h) and (i)]. Temporary works designer (s) must be mandated by the client or contractor to perform any or all of the three functions.
(b) A risk-based methodology should be applied in respect of competencies for temporary works.
(c) For the purpose of this regulation design of scaffolds refers to design in terms of SANS10085.

13 Excavation

(1) A contractor must -
(a) ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose; and
(b) evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.

(2) A contractor who performs excavation work -
(a) must take reasonable and sufficient steps in order to prevent, as far as is reasonably practicable, any person from being buried or trapped by a fall or dislodgement of material in an excavation;
(b) may not require or permit any person to work in an excavation which has not been adequately shored or braced: Provided that shoring and bracing may not be necessary where-
    (i) the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
    (ii) such an excavation is in stable material: Provided that -
        (aa) permission has been given in writing by the appointed competent person contemplated in subregulation (1) upon evaluation by him or her of the site conditions; and
        (bb) where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations is decisive and such

a decision must be noted in writing and signed by both the competent person contemplated in subregulation (1) and the professional engineer or technologist, as the case may be;

(c) must take steps to ensure that the shoring or bracing contemplated in paragraph (b) is designed and constructed in a manner that renders it strong enough to support the sides of the excavation in question;

(d) must ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it may cause its collapse and consequently endangers the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;

(e) must ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken to ensure the stability of such building, structure or road and the safety of persons;

(f) must cause convenient and safe means of access to be provided to every excavation in which persons are required to work, and such access may not be further than six meters from the point where any worker within the excavation is working;

(g) must ascertain, as far as is reasonably practicable, the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of excavation work that may affect any such service, take the steps that are necessary to render the circumstances safe for all persons involved;

(h) must ensure that every excavation, including all bracing and shoring, is inspected -
   (i) daily, prior to the commencement of each shift;
   (ii) after every blasting operation;
   (iii) after an unexpected fall of ground;
   (iv) after damage to supports; and
   (v) after rain,
   by the competent person contemplated in subregulation (1), in order to ensure the safety of the excavation and of persons, and those results must be recorded in a register kept on site and made available on request to an inspector, the client, the client's agent, any other contractor or any employee;

(i) must case every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be -
   (i) adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
   (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor, or have resort to any other suitable and sufficient precautionary measure where subparagraphs (i) and (ii) are not practicable;

(j) must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with by any person entering any excavation;

(k) must, where the excavation work involves the use of explosives, appoint a competent person in the use of explosives for excavation, and must ensure that a method statement is developed by that person in accordance with the applicable explosives legislation; and

(l) must cause warning signs to be positioned next to an excavation within which or where persons are working or carrying out inspections or tests.

14 Demolition Work

(1) A contractor must appoint a competent person in writing to supervise and control all demolition work on site.

(2) A contractor must ensure that before any demolition work is carried out, and in order to ascertain the method of demolition to be used, a detailed structural engineering survey of the structure to be demolished is carried out by a competent person and that a method statement on the procedure to be followed in demolishing the structure is developed by that person.

(3) During a demolition, the competent person contemplated in subregulation (1) must check the structural integrity of the structure at intervals determined in the method statement contemplated in subregulation (2), in order to avoid any premature collapses.

(4) A contractor who performs demolition work must -

(a) with regard to a structure being demolished, take steps to ensure that -
   (i) no floor, roof or other part of the structure is overloaded with debris or material in a manner which would render it unsafe;
   (ii) all reasonably practicable precautions are taken to avoid the danger of the structure collapsing when any part of the framing of a framed or partly framed building is removed, or when reinforced concrete is cut; and
   (iii) precautions are taken in the form of adequate shoring or other means that may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure;

(b) ensure that no person works under overhanging material or a structure which has not been adequately supported, shored or braced;

(c) ensure that any support, shoring or bracing contemplated in paragraph (b), is designed and constructed so that it is strong enough to support the overhanging material;

(d) where the stability of an adjoining building, structure or road is likely to be affected by demolition work on a structure, take steps to ensure the stability of such structure or road and the safety of persons;

(e) ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of demolition work that may affect any such service, take the steps that are necessary to render circumstances safe for all persons involved;

(f) cause every stairwell used and every floor where work is being performed in a building being demolished, to be adequately illuminated by either natural or artificial means;

(g) cause convenient and safe means of access to be provided to every part of the demolition site in which persons are required to work; and

(h) erect a catch platform or net above an entrance or passageway or above a place where persons work or pass under, or fence off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe where there is a danger or possibility of persons being struck by falling objects.

(5) A contractor must ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless the area is effectively protected.

(6) No person may dispose of waste and debris from a high place by a chute unless the chute -

(a) is adequately constructed and rigidly fastened;

(b) if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;

(c) if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;

(d) where necessary, is fitted with a gate at the bottom end to control the flow of material; and

(e) discharges into a container or an enclosed area surrounded by barriers.

(7) A contractor must ensure that every chute used to dispose of rubble is designed in such a manner that rubble does not free-fall and that the chute is strong enough to withstand the force of the debris travelling along the chute.

(8) A contractor must ensure that no equipment is used on floors or working surfaces, unless such floors or surfaces are of sufficient strength to support the imposed loads.

(9) Where a risk assessment indicates the presence of asbestos, a contractor must ensure that all asbestos related work is conducted in accordance with the Asbestos Regulations, 2001, promulgated by Government Notice No. R. 155 of 10 February 2002.

(10) Where a risk assessment indicates the presence of lead, a contractor must ensure that all lead related work is conducted in accordance with the Lead Regulations, 2001, promulgated by Government Notice No. R.236 of 28 February 2002.

(11) Where the demolition work involves the use of explosives, a method statement must be developed in accordance with the applicable explosives legislation, by an appointed person who is competent in the use of explosives for demolition work and all persons involved in the demolition works must adhere to demolition procedures issued by the appointed person.

(12) A contractor must ensure that all waste and debris are as soon as reasonably practicable removed and disposed of from the site in accordance with the applicable legislation.

15 Tunneling

No person may enter a tunnel, which has a height dimension of less than 800 millimetres.

16 Scaffolding

(1) A contractor must appoint a competent person in writing who must ensure that all scaffolding work operations are carried out under his or her supervision and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

(2) A contractor using access scaffolding must ensure that such scaffolding, when in use, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act.

Notes:

(a) Scaffolds must comply with SANS 10085.

17 Suspended Platforms

(1) A contractor must appoint a competent person in writing who must ensure that all suspended platforms work operations are carried out under his or her supervision and that all suspended platform erectors, operators and inspectors are competent to carry out their work.

(2) No contractor may use or permit the use of a suspended platform, unless -

(a) the design , stability and construction thereof comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act;

(b) he or she is in possession of a certificate of system design issued by a professional en-

gineer, certificated engineer or a professional technologist for the use of the suspended platform system; and

(c) he or she is, before the commencement of the work, in possession of an operational compliance plan developed by a competent person based on the certificate of system design contemplated in subparagraph (b) and applicable to the environment in which the system is being used, which operational compliance plan must include proof of the -
  (i) appointment of the competent person contemplated in subregulation (1);
  (ii) competency of erectors, operators and inspectors;
  (iii) operational design calculations, which must comply with the requirements of the system design certificate;
  (iv) performance test results;
  (v) sketches indicating the completed system with the operational loading capacity of the platform;
  (vi) procedures for and records of inspections having been carried out; and
  (vii) procedures for and records of maintenance work having been carried out.

(3) A contractor making use of a suspended platform system must submit a copy of the certificate of system design contemplated in subregulation (2)(b), including a copy of the operational design calculations contemplated in subregulation 2(c)(iii), sketches and test results, to the provincial director before commencement of the use of the system and must further indicate the intended type of work that the system will be used for.

(4) A contractor must submit a copy of the certificate of system design in the manner contemplated in subregulation (3) for every new project.

(5) A contractor must ensure that the outriggers of each suspended platform -

(a) are constructed of material of adequate strength and have a safety factor of at least four in relation to the load it is to carry; and

(b) have suspension points provided with stop devices or other effective devices at the outer ends to prevent the displacement of ropes.

(6) A contractor must ensure that -

(a) the parts of the building or structure on which the outriggers of a suspended platform are supported, are checked by means of calculations to ensure that the required safety factor is adhered to without risk of damage to the building or structure;

(b) the suspension wire rope and the safety wire rope are separately connected to the outrigger;

(c) each person on a suspended platform is provided with and wears a body harness as a fall prevention device, which must at all times be attached to the suspended platform;

(d) the hand or power driven machinery to be used for the lifting or lowering of the working platform of a suspended platform is constructed and maintained in such a manner that an uncontrolled movement of the working platform cannot occur;

(e) the machinery referred to in paragraph (d) is so situated that it is easily accessible for inspection;

(f) the rope connections to the outriggers are vertically above the connections to the working platform; and

(g) when the working platform is suspended by two ropes only, the connections of the ropes to the working platform are of a height above the level of the working platform to ensure the stability of the working platform.

(7) A contractor must ensure that a suspended platform -

(a) is suspended as near as possible to the structure to which work is being done to prevent as far as is reasonably practicable horizontal movement away from the face of the structure;

(b) is fitted with anchorage points to which workers must attach the lanyard of the safety harness worn and used by the worker, and such anchorage connections must have sufficient strength to withstand any potential load applied to it; and

(c) is fitted with a conspicuous notice easily understandable by all workers working with the suspended platform, showing -
  (i) the maximum mass load;
  (ii) the maximum number of persons; and
  (iii) the maximum total mass load, including load and persons, which the suspended platform can carry.

(8) A contractor must cause -

(a) the whole installation and all working parts of a suspended platform to be thoroughly examined by a competent person in accordance with the manufacturer's specification;

(b) the whole installation to be subjected to a performance test as determined by the standard to which the suspended platform was manufactured;

(c) the performance test contemplated in paragraph (b) to be done by a competent person appointed in writing, with the knowledge and experience of erection and maintenance of suspended platforms or similar machinery, and who must determine the serviceability of the structures, ropes, machinery and safety devices before they are used, every time suspended platforms are erected; and

(d) the performance test contemplated in paragraph (b) of the whole installation of the suspended platform to be subjected to a load equal to that prescribed by the manufacturer or, in the absence of such load, to a load of 110 per cent of the rated mass load, at intervals not exceeding 12 months and in such a manner that every part of the installation is stressed accordingly.

(9) A contractor must, in addition to subregulation (8), cause every hoisting rope, hook or other load-attaching device which forms part of the suspended platform to be thoroughly examined in accordance with the manufacturer's specification by the competent person contemplated in subregulation (8) before they are used every time they are assembled, and, in cases of continuous use, at intervals not exceeding three months.

(10) A contractor must ensure that the suspended platform supervisor contemplated in subregulation (1), or the suspended platform inspector contemplated in subregulation (8)(c), carries out a daily inspection of all the equipment prior to use, including establishing whether -

(a) all connection bolts are secure;

(b) all safety devices are functioning;

(c) all safety devices are not tampered with or vandalized;

(d) the total maximum mass load of the platform is not exceeded;

(e) the occupants in the suspended platform are using body harnesses which have been properly attached;

(f) there are no visible signs of damage to the equipment; and

(g) all reported operating problems have been attended to.

(11) A contractor must ensure that all inspection and performance test records are kept on the construction site at all times and made available to an inspector, the client , the client's agent or any employee upon request.

(12) A contractor must ensure that all employees required to work or to be supported on a suspended platform are -

(a) medically fit to work safely in a fall risk position or such similar environment by being in possession of a medical certificate of fitness ;

(b) competent in conducting work related to suspended platforms safely;

(c) trained or received training, which includes at least -
  (i) how to access and egress the suspended platform safely;
  (ii) how to correctly operate the controls and safety devices of the equipment;
  (iii) information on the dangers related to the misuse of safety devices; and
  (iv) information on the procedures to be followed in the case of -
    (aa) an emergency;
    (bb) the malfunctioning of equipment; and
    (cc) the discovery of a suspected defect in the equipment; and
  (v) instructions on the proper use of body harnesses.

(13) A contractor must ensure that where the outriggers of a suspended platform are to be moved, only persons trained and under the supervision of the competent person effect such move, within the limitation stipulated in the operational compliance plan contemplated in subregulation (2)(c), and that the supervisor must carry out an inspection and record the result thereof prior to re-use of the suspended platform.

(14) A contractor must ensure that the suspended platform is properly isolated after use at the end of each working day in such a manner that no part of the suspended platform presents a danger to any person thereafter.

18 Rope Access Work

(1) A contractor must -

(a) appoint a competent person in writing as a rope access supervisor with the duty of supervising all rope access work on the site, including the duty of ensuring occupational health and safety compliance in relation to rope access work: Provided that the appointment of any such person does not relieve the construction manager of any personal accountability for failing in his management duties in terms of this regulation;

(b) ensure that all rope access work on the construction site is carried out under the supervision of a competent person; and

(c) ensure that all rope access operators are competent and licensed to carry out their work.

(2) No contractor may use or allow the use of rope access work unless -

(a) the design , selection and use of the equipment and anchors comply with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act; and

(b) he or she is in possession of a site specific fall protection plan developed by a competent person applicable to the specific work and environment prior to the commencement of the work, including records of maintenance and inspections of all the equipment used for the work operations.

(3) A contractor must ensure that adequate measures are in place to allow rescue procedures to commence immediately in the event of a fall incident taking place.

19 Material Hoists

(1) A contractor must ensure that every material hoist and its tower have been constructed in accordance with the generally accepted technical standards and are strong enough and free from defects.

(2) A contractor must ensure that the tower of every material hoist is -

(a) erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and extends to a distance above the highest landing to allow a clear and unob-

structed space of at least 900 millimetres for over travel;
(b) enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means to a height of at least 2100 millimetres from the ground or floor level; and
(c) provided with a door or gate at least 2100 millimetres in height at each landing, and that door or gate must be kept closed except when the platform is at rest at such a landing.
(3) A contractor must cause -
(a) the platform of every material hoist to be designed in a manner that it safely contains the loads being conveyed and that the combined mass of the platform and the load does not exceed the designed lifting capacity of the hoist;
(b) the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and
(c) every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when power is not being supplied to the hoisting machinery.
(4) No contractor may require or permit trucks, barrows or material to be conveyed on the platform of a material hoist and no person may so convey trucks, barrows or material unless those articles are secured or contained in a manner that displacement thereof cannot take place during movement.
(5) A contractor must cause a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material hoist , to be affixed around the base of the tower and at each landing.
(6) A contractor of a material hoist may not require or permit any person to operate a hoist, unless the person is competent in the operation of that hoist.
(7) No contractor may require or permit any person to ride on a material hoist.
(8) A contractor must ensure that every material hoist -
(a) is inspected on daily basis by a competent person appointed in writing by the contractor and such competent person must have the experience pertaining to the erection and maintenance of material hoists or similar machinery;
(b) inspection contemplated in paragraph (a), includes the determination of the serviceability of the entire material hoist, including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices;
(c) inspection results are entered and signed in a record book by a competent person, which book must be kept on the premises for that purpose;
(d) is properly maintained and the maintenance records in this regard are kept on site.

20 Bulk Mixing Plant
(1) A contractor must ensure that the operation of a bulk mixing plant is supervised by a competent person who has been appointed in writing and is -
(a) aware of all the dangers involved in the operation thereof; and
(b) conversant with the precautionary measures to be taken in the interest of health and safety.
(2) No person supervising or operating a bulk mixing plant may authorize any other person to operate the plant, unless that person is competent to operate a bulk mixing plant .
(3) A contractor must ensure that the placement and erection of a bulk mixing plant complies with the requirements set out by the manufacturer and that such plant is erected as designed.
(4) A contractor must ensure that all devices to start and stop a bulk mixing plant are provided and that those devices are -
(a) placed in an easily accessible position; and
(b) constructed in a manner to prevent accidental starting.
(5) A contractor must ensure that the machinery and plant selected is suitable for the mixing task and that all dangerous moving parts of a mixer are placed beyond the reach of persons by means of doors, covers or other similar means.
(6) No person may remove or modify any guard or safety equipment relating to a bulk mixing plant, unless authorized to do so by the appointed person contemplated in subregulation (1).
(7) A contractor must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with when entering any silo.
(8) A contractor must ensure that a record is kept of all repairs or maintenance to a bulk mixing plant and that the record is available on site to an inspector, the client , the client's agent or any employee.

21 Explosive Actuated Fastening Device
(1) No contractor may use or permit any person to use an explosive actuated fastening device, unless -
(a) the user is provided with and uses suitable protective equipment;
(b) the user is trained in the operation, maintenance and use of such a device;
(c) the explosive actuated fastening device is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and
(d) the firing mechanism is so designed that the explosive actuated fastening device , will not function unless -
(i) it is held against the surface with a force of at least twice its weight; and
(ii) the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle.
(2) A contractor must ensure that -
(a) only cartridges suited for the relevant explosive actuated fastening device, and the work to be performed, are used;
(b) an explosive actuated fastening device is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed for that purpose;
(c) the safety devices of an explosive actuated fastening device are in good working order prior to use;
(d) when not in use, an explosive actuated fastening device and its cartridges are locked up in a safe place, which is inaccessible to unauthorized persons;
(e) an explosive actuated fastening device is not stored in a loaded condition;
(f) a warning notice is displayed in a conspicuous manner in the immediate vicinity wherever an explosive actuated fastening device is used; and
(g) the issuing and collection of cartridges and nails or studs of an explosive actuated fastening device are -
(i) controlled and done in writing by a person having been appointed in writing for that purpose; and
(ii) recorded in a register by a competent person and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges.

22 Cranes
A contractor must, in addition to compliance with the Driven Machinery Regulations, 1988 ensure that where tower cranes are used -
(a) they are designed and erected under the supervision of a competent person;
(b) a relevant risk assessment and method statement are developed and applied;
(c) the effects of wind forces on the crane are taken into consideration and that a wind speed device is fitted that provides the operator with an audible warning when the wind speed exceeds the design engineer's specification;
(d) the bases for the tower cranes and tracks for rail-mounted tower cranes are firm, level and secured;
(e) the tower crane operators are competent to carry out the work safely; and
(f) the tower crane operators have a medical certificate of fitness to work in such an environment, issued by an occupational health practitioner in the form of Annexure 3.

23 Construction Vehicles and Mobile Plant
(1) A contractor must ensure that all construction vehicles and mobile plant -
(a) are of an acceptable design and construction;
(b) are maintained in a good working order;
(c) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
(d) are operated by a person who -
(i) has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant;
(ii) has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3;
(e) have safe and suitable means of access and egress;
(f) are properly organized and controlled in any work situation by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
(g) are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guardrails and crash barriers;
(h) are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
(i) are equipped with an acoustic warning device which can be activated by the operator;
(j) are equipped with an automatic acoustic reversing alarm; and
(k) are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.
(2) A contractor must ensure that -
(a) no person rides or is required or permitted to ride on a construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
(b) every construction site is organized in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
(c) the traffic routes are suitable for the persons, construction vehicles or mobile plant

using them, are sufficient in number, in suitable positions and of sufficient size;
(d) every traffic route is, where necessary, indicated by suitable signs;
(e) all construction vehicles and mobile plant left unattended at night, adjacent to a public road in normal use or adjacent to construction areas where work is in progress, have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;
(f) all construction vehicles or mobile plant when not in use, have buckets, booms or similar appendages, fully lowered or blocked, controls in a neutral position, motors stopped, wheels chocked, brakes set and ignition secured;
(g) whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
(h) tools, material and equipment are secured and separated by means of a physical barrier in order to prevent movement when transported in the same compartment with employees;
(i) vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
(j) all construction vehicles or mobile plant traveling, working or operating on public roads comply with the requirements of the National Road Traffic Act, 1996.

24 Electrical Installations and Machinery on Construction Sites
A contractor must, in addition to compliance with the Electrical Installation Regulations, 2009, and the Electrical Machinery Regulations, 1988, promulgated by Government Notice No. R. 1593 of 12 August 1988, ensure that -
(a) before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
(b) all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
(c) the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;
(d) all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and
(e) all electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

25 Use and Temporary Storage of Flammable Liquids on Construction Sites
A contactor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that -
(a) where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard, and that the workplace is effectively ventilated;
(b) no person smokes in any place in which flammable liquid is used or stored, and the contractor must affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
(c) an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
(d) only the quantity of flammable liquid needed for work on one day is taken out of the store for use;
(e) all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site and safely disposed of;
(f) where flammable liquids are decanted, the metal containers are bonded and earthed; and
(g) no flammable material, including cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids.

26 Water Environments
(1) A contractor must ensure that where construction work is done over or in close proximity to water, provision is made for -
(a) preventing persons from falling into water; and
(b) the rescuing of persons in danger of drowning.
(2) A contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket.

27 Housekeeping and General Safeguarding on Construction Sites
A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R. 2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including -
(a) the proper storage of materials and equipment;
(b) the removal of scrap, waste and debris at appropriate intervals;
(c) ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;
(d) ensuring that materials which are no longer required for use, do not accumulate on and are removed from the site at appropriate intervals;
(e) ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in regulation 14(6);
(f) ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and
(g) ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.

28 Stacking and Storage on Construction Sites
A contractor must, in addition to compliance with the provisions for the stacking of articles in the General Safety Regulations, 2003, ensure that -
(a) a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
(b) adequate storage areas are provided;
(c) there are demarcated storage areas; and
(d) storage areas are kept neat and under control.

29 Fire Precautions on Construction Sites
A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that -
(a) all appropriate measures are taken to avoid the risk of fire;
(b) sufficient and suitable storage is provided for flammable liquids, solids and gases;
(c) smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
(d) in confined spaces and other places in which flammable gases, vapours or dust can cause danger-
  (i) only suitably protected electrical installations and equipment, including portable lights, are used;
  (ii) there are no flames or similar means of ignition;
  (iii) there are conspicuous notices prohibiting smoking;
  (iv) oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
  (v) adequate ventilation is provided;
(e) combustible materials do not accumulate on the construction site;
(f) welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;
(g) suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
(h) the fire equipment contemplated in paragraph (g) is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;
(i) a sufficient number of workers are trained in the use of fire- extinguishing equipment;
(j) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
(k) the means of escape is kept clear at all times;
(l) there is an effective evacuation plan providing for all -
  (i) persons to be evacuated speedily without panic;
  (ii) persons to be accounted for; and
  (iii) plant and processes to be shut down; and
(m) a siren is installed and sounded in the event of a fire.

30 Construction Employees' Facilities
(1) A contractor must, in addition to the construction site provisions in the Facilities Regulations, 2004, promulgated by Government Notice No. R. 924 of 3 August 2004, provide at or within reasonable access of every construction site, the following clean, hygienic and maintained facilities:
(a) Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons;
(b) at least one sanitary facility for each sex and for every 30 workers;
(c) changing facilities for each sex; and
(d) sheltered eating areas.
(2) A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

31 Construction Health and Safety Technical Committee
(1) The chief inspector must establish a construction health and safety technical committee which must consist of -

(a) a person who is to be the chairperson;
(b) two persons designated by the Chief Inspector from the employees of the Department of Labour;
(c) two persons to represent the Department of Public Works, one each designated by the Built Environmental Council and the Construction Industry Development Board;
(d) one person to represent Higher Education in the field of construction and related studies designated by the Director General of the Department of Higher Education;
(e) one person designated by the South African Property Owners Association;
(f) two persons designated by employer's organizations to represent employers who are directly involved in the construction industry;
(g) two persons designated by employees organizations to represent the unions who are directly involved in the construction industry;
(h) one person to represent consultants who are directly involved in the construction industry: and
(i) persons who are competent in respect of the matters to be dealt with by the construction health and safety technical committee who have been co-opted by the committee with the authorization of the chief inspector.

(2) The chief inspector must appoint the members of the Construction Health and Safety Technical Committee for the period that he or she may determine at the time of appointment: Provided that the chief inspector may after having afforded a member a reasonable opportunity to respond, discharge him or her at any time, for reasons that are fair and just, and appoint a new member in his or her place.

(3) The Construction Health and Safety Technical Committee must -

(a) advise the chief inspector on construction related codes, standards and training requirements: Provided that any accredited or approved training must be in accordance with South African Qualifications Authority standards;
(b) designate persons in writing to examine safety systems and safety records of companies who have high incident rates and provide recommendations to the chief inspector of occupational health and safety on the findings;
(c) make recommendations and submit reports to the chief inspector of occupational health and safety regarding any matter to which these Regulations relate;
(d) advise the chief inspector of occupational health and safety regarding any matter referred to the Construction Regulations Technical Committee by the chief inspector of occupational health and safety;
(e) perform any other function for the administration of a provision of these Regulations that may be requested by the chief inspector of occupational health and safety;
(f) conduct its work in accordance with the instructions and rules of conduct framed by the chief inspector of occupational health and safety; and
(g) refer appeals against decisions of the Construction Regulations Technical Committee to the chief inspector of occupational health and safety.

(4) Any person affected by any decision of the Construction Health and Safety Technical Committee may appeal against such decision to the chief inspector within 60 days of such decision becoming known and the chief inspector shall, after having considered the grounds of the appeal and the Construction Health and Safety Technical Committee's reasons for the decision, confirm, set aside or vary the decision or substitute for such decision any other decision which the Construction Health and Safety Technical Committee's in the chief inspector's opinion ought to have taken.

(5) Any person aggrieved by a decision taken by the chief inspector under subregulation (4) may, within 60 days after the chief inspector's decision was given appeal against such decision to the Labour court.

32 Approved Inspection Authority

(1) The chief inspector may approve as an Inspection Authority any organisation that has been accredited in terms of the provision of the Act and these Regulations.
(2) The Approved Inspection Authority will perform its functions as prescribed by the guidance document issued by the Department of Labour for Approved Inspection Authorities.
(3) The chief inspector may at any time withdraw any approval granted to an approved inspection authority, subject to section 35 of the Act.

33 Offences and Penalties

Any person who contravenes or fails to comply with any provision of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30, is guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in the case of a continuous offence, not exceeding an additional fine of R200 or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment will not exceed 90 days.

34 Repeal of Regulations and Commencement

(1) The Construction Regulations, 2003, promulgated by Government Notice No. R.1010 of 18 July 2003, are hereby repealed.
(2) Regulation 3 and 5 (7)(b) will come into effect 18 months after the commencement of these Regulations.

35 Short Title

These Regulations are called the Construction Regulations, 2014

REGULATIONS ON HAZARDOUS WORK BY CHILDREN IN SOUTH AFRICA

GNR.7 of 15 January 2010

[These regulations were published in GNR.7 of 15 January 2010]

(Editorial Note: Please be aware that this regulation was published in terms of two different Acts but under one Government Notice number. There is therefore some duplication of the text in certain sections. Since our policy is to publish legislation as per the original *Government Gazette*, we have published the entire Regulation as per the *Gazette*.)

I, Membathisi Mphumzi Shepherd Mdladlana, Minister of Labour, in terms of Section 44 (1) of the Basic Conditions of Employment Act No. 75 of 1997 and Section 43 (1) of the Occupational Health and Safety Act, No. 85 of 1993, hereby publish Regulations on Hazardous Work by Children in South Africa.

(Signed)
M M S MDLADLANA, MP
MINISTER OF LABOUR

SCHEDULE

ARRANGEMENT OF REGULATIONS

Health and Safety of Children at Work Regulations

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

The Minister of Labour, on the recommendation of the Occupational Health and Safety Advisory Council, has in terms of section 43 (1) made the following regulations.

1. Definitions.- In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned but, unless the context otherwise indicates-

(*a*) **"the Act"** means the Occupational Health and Safety Act, 1993;

(*b*) **"child"** means a person under eighteen years of age;

(*c*) **"child worker"** means any child who-
- (i) is employed by or works for an employer and who receives or is entitled to receive any remuneration; or
- (ii) who works under the direction or supervision of an employer or any other person;

(d) **"employer"** means an employer as defined in the Act who employs or provides work for a child.

2. Purpose and interpretation.–(1) The purpose of these regulations is to prohibit or place conditions upon the work that may be required, expected or permitted to be performed by child workers, and which is not prohibited in terms of any law.

(2) No provision in these regulations may be interpreted as permitting the employment of-

(*a*) a child who is under 15 years of age or is subject to compulsory schooling in terms of any law;

(*b*) a child who is 15 years of age or older and is not subject to compulsory schooling in any work which is prohibited in terms of any law.[1]

(3) Any person who requires or permits a child worker to work must comply with these regulations in addition to any other provisions of this Act, its regulations or any other law applicable to such work.

(4) These regulations must be interpreted in accordance with International Labour Organisation's Worst Forms of Child Labour Convention, 1999.[1]

3. Risk assessment.–(1) Every employer who employs, or provides work to, a child worker or permits any child worker to work at any place under their control or with any machinery under their control must in respect of such work undertake a risk assessment process which must include at least the following -

(*a*) identifying the risks and hazards to which any child worker may be exposed;

(*b*) analysing and evaluating the risks and hazards that are identified;

(*c*) preparing and implementing-
- (i) a documented plan of safe work procedures to remove, mitigate, reduce or control the risks and hazards that have been identified; and
- (ii) a monitoring plan.

(2) Without limitation to the obligations in terms of sub-regulation (1), an employer must for the purposes of complying with sub-regulation (1) take into account, to the extent that they are relevant to any work, the following factors -

(*a*) the increased biological sensitivity of children to chemicals, biological agents,carcinogens and hormone disruptors;

(*b*) the increased vulnerability of children to sleep disruption;

(*c*) the vulnerability of children to direct and indirect coercion or abuse from any person, particularly when working alone;

(*d*) the relative lack of experience and maturity of children in making safety judgments;

(*e*) the reduced ability of children to adapt to inflexible work routines;

(*f*) the reduced ability of children to perceive dangers correctly;

(*g*) the reduced capacity of children to understand safety messages;

(*h*) whether the design of any machinery, tools, equipment and protective equipment is appropriate for children's stature;

(*i*) the implications of children working at the period when their skeletal structures and bones are still developing;

(*j*) children's physical development in relation to ergonomics, in order to ensure a healthy and safe working environment;

(*k*) the physiological, hormonal and other vulnerabilities of children at puberty.

(3) In the risk assessment process referred to in sub-regulations (1) and (2), the employer take into account the guidelines provided in Schedule 1 to these regulations.

4. Respiratory hazards.–No employer may require or permit any child worker to undertake any work in respect of which a person over the age of 18 performing the same work would be required in terms of the Act to wear respiratory protection equipment.

5. Work in elevated position[2].–(1) No person may require or permit a child worker

(*a*) to work in an elevated position unless-
- (i) the work is performed under the supervision of a competent adult employee or by the employer; and
- (ii) those fall protection measures which are reasonably practicable, and which comply with or exceed the requirements of the Construction Regulations are provided;

(*b*) to work at a height of more than 5 metres above the floor or ground.

(2) For the purposes of this regulation, work in an elevated position, means work at a height of more than 2 metres from the floor or ground.

6. Lifting of heavy weights.–(1) No person may require or permit a child worker to perform any work that involves lifting an object that weighs more than the lesser of

(*a*) 15 kgs; or

(*b*) 20% of the child's body weight.

(2) Subject to sub-regulation (1), a child worker who lifts objects weighing more than 7,5 kgs as part of their work may not be required or permitted to lift such an object more than once per minute.

(3) Subject to sub-regulations (1) and (2), a child worker who lifts objects weighing more than 5kgs may not be required or permitted to do so continuously for longer than 2 hours.

(4) For the purposes of sub-regulation (3), a child worker shall be regarded as lifting a weight continuously unless they do not lift such a weight for a period of at least 30 minutes.

7. Work in a cold environment[3].-(1) No person may require or permit a child worker to work in an environment below an actual dry-bulb temperature specified in this regulation, unless the child is supplied with suitable protective warm clothing-

(*a*) 0 degrees C where the work involves repeated entry into, or presence for more than two minutes in such environment;

(*b*) 6°C where the work involves repeated entry into, or presence for more than one hour in such environment.

(2) For the purposes of sub~regulation (1), suitable protective warm clothing means the items of protective clothing specified in Regulation 2 (2) (*b*) (i) to (vi) of the Environmental Regulations for Workplaces published in *Government Gazette* 10988, Government Notice R.2281 of 16 October 1987.

8. Work in a hot environment[4].–No person may require or permit a child worker to work perform hard manual labour where the time-weighted average WBGT index as defined in the Environmental Regulations for Workplaces, made in terms of the Occupational Health and Safety Act, 1993, determined over a period of one hour, exceeds 30 unless the child-

(*a*) is acclimatised to such working environment before he is required or permitted to work in such environment;
(*b*) has water breaks every 15 minutes; and
(*c*) is cognisant of the need to drink at least 150ml of liquid every break and the employer provides the child with the necessary liquids.

9. Work in noisy environment[5]. - No person may require or permit a child worker to perform any work involving an exposure to a noise level in excess of 80 dB (A) unless the child is supplied with hearing protective equipment that complies with regulation 12 of the Noise-Induced Hearing Loss Regulations, made in terms of the Occupational Health and Safety Act, 1993.

10. Power tools and cutting or grinding equipment.-(1) No person may require or permit a child worker to use any power tool, or any cutting or grinding equipment unless-

(*a*) they have conducted a risk assessment in terms of regulation 3 and have determined that it is safe and without significant risks for the child to use;
(*b*) if the risk assessment indicated that it is safe and without significant risks for the child to use if used with safety equipment or facilities, they
  (i) provide the child with the necessary safety equipment and facilities in term of regulation 2 of the General Safety Regulations, made in terms of the Occupational Health and Safety Act, 1993; and
  (ii) instruct the child in the use, maintenance and limitations of such equipment;
(*c*) the child has received adequate training from a competent person in the safe and appropriate use of the power tool or other such equipment before starting such work; and
(*d*) the child is supervised by a competent person when using power tool or other equipment.

(2) Despite sub-regulation (1), no person may require or permit a child worker to use any power tool or other machinery if an inspector has issued a notice in terms of section 30 (1) of the Act prohibiting the use by child workers of such tool or other machinery.

11. **Report to department of social development.**-A labour inspector who finds a child worker being employed or used in contravention of the Act or in contravention of these regulations shall refer the child for investigation to a child protection organisation designated in terms of the Children's Act No 38 of 2005 or to the provincial department of social development in the province where the child works or lives, unless the labour inspector is satisfied that the child will not suffer any detriment due to steps being taken by the inspector to ensure compliance with the law.

12. Offences and penalties.-(1) Any person who contravenes or fails to comply with any provision of these regulations shall be guilty of an offence and on conviction shall be liable to a fine or to imprisonment for a period of 12 months and, in the case of an continuing offence, to an additional fine of R200 or to additional imprisonment for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

(2) If a person is convicted of a offence under these regulations, and the action or omissions that constitutes the offence is also a worst form of child labour as defined in regulation 9 of the Regulations on Hazardous Work by Children, made in terms of the Basic Conditions of Employment Act, 1997, the court on convicting that person and determining a sentence must take into account that-

(*a*) that South Africa has ratified Worst Forms of Child Labour Convention,1999;
(*b*) that the offence constitutes a worst form of child labour in terms of that Convention.

13. Summary.-(1) Any person who employs a child worker must display the prescribed summary of these regulations in the work-place where it can be read by employees including child workers who are at the workplace, which may include a summary of other relevant regulations and laws, in their workplace. This summary is provided in Schedule 2 to these regulations.

(2) The existence of this displayed summary and its contents must be brought to the attention of all employees, including child workers.

14. Short title and commencement.–These regulations shall be known as the Health and Safety of Children at Work Regulations and will come into effect 21 days after the date of publication in the *Government Gazette.*

Schedule 1:
Guidelines on risk assessments and plans of safe work procedures regarding permitted work by child workers

These are the guidelines issued in terms of regulation 3 (3), which an employer of a child worker under the age of 18 years old must take into account when conducting a risk assessment in terms of regulation 3 (1).

1. Definitions.-In these Guidelines these terms means the following, unless the context indicates otherwise-

(1) "**child**" means a person under 18 years old;
(2) "**child worker**" means a child referred to in the definition of "employer" and who works in terms of paragraph 3 of these guidelines;
(3)"**employer**'" means a person who employs, or provides work to a child or permits a child to work at any place under their control or with any machinery under their control, or allows a child to assist in any other manner in carrying on their business.

2. Risk assessment required.-(1) Regulation 3 provides that every employer who employs, or provides work to, a child worker or permits any child worker to work at any place under their control or with any machinery under their control must in respect of such work undertake a risk assessment process which must include at least the following-

(*a*) identifying the risks and hazards to which any child worker may be exposed;
(*b*) analysing and evaluating the risks and hazards that are identified;
(*c*) preparing and implementing-
  (i) a documented plan of safe work procedures to remove, mitigate, reduce or control the risks and hazards that have been identified; and
  (ii) a monitoring plan; and
  (iii) a review plan.

(2) A risk assessment is a way for an employer to
(*a*) evaluate the worksite in a systematic way to identify potential hazards and safety issues so the employer is able to take steps to prevent the hazard causing or contributing an exposure, injury, or illness;
(*b*) identify how many child workers might be affected by the hazard and under what circumstances this may occur; and
(*c*) assess the likelihood and severity of any health consequences that may arise from the exposure to the hazard.

(3) A risk assessment must be appropriate to the employer's workplace and the hazards and risks associated with the processes and activities that take place in the workplace. A risk assessment must cover the full range of work that child workers may be engaged in at the workplace, and work where child workers maybe present.

(4) A risk assessment enables the employer to plan and implement measures to control or remove the hazard and thereby reduce the risk.

3. Application regarding child workers.-(1) The provisions on risk assessment apply to children who are allowed to work in terms of the law.

(2) A child who is under 15 years of age or is subject to compulsory schooling may not be employed as an employee and may not assist any person to carry on their business.

(3) In terms of the South African Schools Act a child is subject to compulsory schooling until the last school day of the calendar year in which such learner reaches the age of fifteen years or the ninth grade, whichever occurs first.

(4) An exception to the prohibition on work by younger child workers, referred to in sub-paragraph (2), is that younger children are permitted to work in the performance of advertising, artistic or cultural activities in terms of a permit granted in terms of *Sectoral Determination 10: Children in the Performance of Advertising, Artistic and Cultural Activitie*s issued by the Minister of Labour in terms of the BCEA. Employers in these sectors should study the sectoral determination, which can be accessed on www.labour.gov.za.

4. Children's characteristics and recommendations for safety.–(1) Children are in a special time in their development and are not yet ready to take on the duties and responsibilities of adults. Below are characteristics to keep in mind when supervising them in any setting.

(*a*) physical, cognitive, and emotional development differ from adults:
  (i) physical size, development, maturity, & judgment vary for any given age;
  (ii) bone plates, ligaments and tendons are still growing;
  (iii) chemicals metabolize faster and smaller doses may have bigger impacts;
(*b*) more sleep is needed by children than adults at a time when sleep habits and patterns may not be good;
(*c*) children typically explore, experiment, and take risks, but lack a sense of vulnerability; sometimes they try to do "a little more" to prove themselves;
(*d*) children desire acceptance from adults and peers, and are susceptible to peer pressure, yet want to assert their independence;
(*e*) children may be inexperienced in work practices or lack role models for responsibilities associated with the world of work;
(*f*) children often lack assertiveness and may be afraid to ask questions or speak up because they are concerned about looking stupid or losing their job;
(*g*) children may have limited skills in communicating with supervisors.

5. Increased risks of children at work.-(1) Regulation 3 (2) provides that the risk assessment should take into account, to the extent that they are relevant to any work by child workers, a range of factors.

(2) These factors, together with examples of how

they could become relevant at work, are-

(*a*) the increased biological sensitivity of children to chemicals, biological agents,carcinogens and hormone disrupters For example chemicals may metabolize faster and have greater impact at smaller doses;

(*b*) the increased vulnerability of children to sleep disruption, for example children require more sleep than adults and children's body clock is more vulnerable under conditions of shift work;

(*c*) the vulnerability of children to direct and indirect coercion or abuse from any person, particularly when working alone, for example–
- children working alone in retail outlets are easier targets for criminals;
- children in domestic service are isolated in private homes and may be subjected to sexual abuse by others in the homes;

(*d*) the relative lack of experience and maturity of children in making safety judgments, for example children may not have sufficient insight to know that a mechanical tool is faulty, or that a ladder is not sufficiently stable, so may continue using the device in a situation where an adult would know to stop;

(*e*) the reduced ability of children to adapt to inflexible work routines, for example children may not be able to maintain concentration when working for long periods without a break, increasing the likelihood of injury due to fatigue or stress related to prolonged work without rest;

(*f*) the reduced ability of children to perceive dangers correctly, for example-
- children, especially teenagers, typically explore, experiment, and take risks, but lack a sense of vulnerability;
- sometimes they try to do "a little more" to prove themselves;
- they desire acceptance from adults and peers, and are susceptible to peer pressure, yet want to assert their independence;
- children may be inexperienced in work practices or lack role models for responsibilities associated with the world of work;

(*g*) the reduced capacity of children to understand safety messages, for example some safety messages require cognitive processes that children may not have acquired;

(*h*) whether the design of any machinery, tools, equipment and protective equipment is appropriate for children's stature, for example whether the handle of a power tool is too big for the size of that child's hands, thereby reducing the child's ability to control the power tool;

(*i*) the implications of children working at the period when their skeletal structures and bones are still developing, for example children's growth and development may be adversely affected by having to carry heavy loads or do repetitive work;

(*j*) from an ergonomic perspective, children's physical development is not typically suited to the design of machinery, tools, equipment and protective equipment that is appropriate for children's stature; these must be assessed whether the mismatch jeopardizes a healthy and safe working environment. For example most equipment, including safety equipment, is designed for adults, so will not fit most children's body build; as a result, children may be forced into awkward postures to use a device, or may not be able to benefit from the use of gloves to protect themselves from hazards to the skin, because of poor fit of a glove;

(k) the physiological, hormonal and other vulnerabilities of children at puberty, for example -
- working children may be more susceptible to sexual exploitation by adults who take advantage of children;
- chemicals that cause endocrine disruption may have serious effects on-children's hormonal function.

6. Preparation for employment of child workers, and for risk assessment.–The employer should prepare carefully for the employment of child workers, and for the risk assessment, including the following steps-

(*a*) understand the relevant child labour and health and safety regulations;

(*b*) walk through the workplace to identify job activities that are prohibited;

(*c*) increase knowledge about special needs of child workers;

(*d*) train supervisors and co-workers about working with child workers;

(*e*) involve workplace health and safety personnel, if any;

(*f*) training of child workers on health and safety should be age-appropriate, i.e it should be conducted in a manner that child workers of the employed age-group can understand;

(*g*) identify age-appropriate health and safety education materials;

(*h*) incorporate special considerations for child workers in the employers' *plan of safe work procedures;*

(*i*) discuss work issues with parents of child workers and/or school(s) attended by child workers, as needed;

(*j*) educate child workers about potential harassment and abuse by other employees or customers, or potential for threats of violence at the workplace.

7. Plan of safe work procedures.–(1) Regulation 3(1) (*c*) requires the preparation of a plan of safe work procedures.

(2) The employer should consider at least the following strategies when drawing up such a plan-

(*a*) follow all child labour and relevant other safety and health regulations;

(Editorial Note: Wording as per original *Government Gazette.* It is suggested that the phrase " relevant other safety" is intended to be " other relevant safety".)

(*b*) conduct thorough orientation when a new child workers starts working, or when work practices change, such as set out in the orientation checklist in paragraph 8;

(*c*) utilize safety training checklists, such as the checklist in paragraph 9, in order to ensure all topics are covered;

(*d*) in orientation and training, consider the list of health and safety topics in paragraph 10;

(*e*) provide for child-sensitive supervision to child workers taking into consideration the guidelines in paragraph 11;

(*f*) consider a child worker's physical capacity to perform the job safely, the child's maturity to exercise good judgment, and the child's ability to read and understand written instructions and safety signs;

(*g*) involve co-workers: create a mentoring program among experienced workers, including experienced child workers;

(*h*) encourage child workers to ask questions and ask for assistance regularly.

8. Checklist on safety orientation of child workers.– The employer should keep a written record on whether each of the following safety orientation steps have been taken regarding each child worker: whether the child worker has been–

(*a*) informed about the elements of the written safety program that outlines the employer's safety efforts;

(*b*) informed about any staff health and safety meetings;

(*c*) told to report all injuries and shown how to do this;

(*d*) told to report all hazards to her/his supervisor and shown how to do this;

(*e*) informed about all machinery hazards;

(*f*) informed about what tasks child workers are prohibited from performing;

(*g*) informed about all other hazards and ways to protect themselves (i.e., chemicals, use of ladders, slippery floors, etc.);

(*h*) shown where the first aid supplies are located and who to call for first aid;

(*i*) told what to do during any emergencies that could occur;

(*j*) shown how to operate a fire extinguisher and other emergency equipment;

(*k*) informed of and trained on any chemical hazards according to the relevant hazardous chemical regulations, including how to read a label and precautions to take when using them;

(*l*) trained on the safe methods to perform the specific job the child workers was assigned including any hazards associated with that job;

(*m*) provided any formal training required to do his/her job, such as proper lifting,use of knives, grill and fryer operation, spill clean-up etc.

9. Checklist on basic training principles.

(1)What to train child worker on:

(*a*) job safety requirements, including safety regarding the specific tasks the worker would perform, and health and safety requirements for such work under the law;

(*b*) how to recognize hazards;

(*c*) what precautions to take;

(*d*) what to do if a problem or emergency arises;

(*e*) how to report an injury;

(*f*) where they can go to for further advice.

(2) How to train-

(*a*) give clear instructions;

(*b*) ask worker to repeat instructions;

(*c*) show worker how to pertorm the task;

(*d*) watch worker perform the task, and correct errors;

(*e*) make the training age-appropriate and make it fun and easy to understand;

(*f*) encourage them to ask questions.

(3) When to train-

(*a*) when worker is first hired;

(*b*) when worker is given new task or tool;

(*c*) when a new hazard is introduced into workplace;

(*d*) after an incident (an injury or close call);

(e) when the child worker returns to the work environment after a significant period of absence;

(f) regularly, such as through on-site safety training.

(4) On-site safety training-

(a) "On-site Safety Training" means a short, concise safety training session held out in a work area. It has been widely used in some industries and has proven effective in preventing injuries. Monthly or weekly on-site safety training is recommended to help keep safety on the minds of the workers, make it part of the normal routine, and demonstrate the importance you place on safety.

(b) The on-site training session should keep the following in mind:
- (i) keep the training sessions short, for instance, 10 - 15 minutes maximum,to keep worker attention;
- (ii) focus on a single topic and keep it simple;
- (iii) hold on-site training regularly; a common practice is monthly or weekly on the same day;
- (iv) select days and times when workers are fully attentive; first thing Monday morning or last thing Friday are not

good times;
(v) pick a location that is relatively free from distractions, either out in the workplace or where employees normally are found - a quiet break room is acceptable. Sometimes the best place is near where the hazards are;
(vi) keep your presentation informal. Use language workers will understand. Be upbeat and enthusiastic.
(vii) choose topics that apply directly to your operation, and be specific in telling workers how it applies to them personally. Keep it relevant;
(viii) injury incidents or near misses are good subjects. Let the workers suggest topics and highlight issues;
(ix) use visual aids such as safety signs, flip charts, diagrams, illustrations, or actual objects. Demonstrate a procedure if appropriate. Use handouts if needed, but keep them simple;
(x) encourage questions and discussion. Be sure workers are paying attention and actively learning;
(xi) have workers sign a sheet documenting their presence at the training, and keep on file.

10. Health an safety topics to cover in orientation and training.–When taking steps regarding orientation referred to in paragraph 8 or regarding training referred to in paragraph 9, the following topics should be considered relative to the possible risks which could arise in the working environment-

Basic safety and training principles
Tractor safety
Cold environment: working where it is below 6 degrees C
Crime and abusive customers
Electrical safety
Eye protection
Fire safety
Hearing protection
Height: working more than 2m above the floor or ground
Hot environment: Heat stress & sun exposure
Incident and injury reporting
Irrigation safety
Kitchen safety: avoiding burns, safe handling of knives, using electrical appliances
Lifting of heavy objects
Ladder safety
Lighting and safety
Machine safety
Noisy environment: ear protection
Personal protective equipment, use, maintenance, inspection and limitations
Safety signs and signage
Slips, trips, and falls
Shop safety
Tools: Hand tool safety
Tools: Outdoor power tool safety
Tools: Power tools, generally
Transportation and travelling safety
Tree fruit harvest safety
Water safety
Working at night
Working away from home
Working near embankments or excavations
Working with or near chemical substances

This list is not exclusive, so add other relevant work related topics as deemed necessary or appropriate

11. Supervision of child workers.-The following factors should be taken into consideration in a plan on safe work procedures, regarding the supervision of child workers, to reduce risks regarding their work-
(*a*) keep adolescent characteristics in mind as described in paragraph 4 in mind and assign age-appropriate tasks;
(*b*) consider a young worker's physical capacity to perform the job safely; maturity to exercise good judgment; and ability to read and understand written instructions and safety signs;
(*c*) provide a clear assignment of duties with specific information about those tasks;
(*d*) provide appropriate safety training on assigned equipment and tasks, including the need to report all safety hazards and injuries;
(*e*) teach them how to recognize risks, and encourage them to make good decisions about taking appropriate precautions or action;
(*f*) provide information on how to cope with emergencies, who to contact, and how to reach them. Phone numbers, the address of the workplace, and directions to the workplace should be put on notice boards or walls where easy to find;
(*g*) provide increased supervision by co-workers or supervisors who work well with youth, are consistent, and who set a good example by following the safety rules, and designate appropriate adult employee(s) as *child worker safety officers, with the responsibility of specifically monitoring the safety of child workers in the workplace and to intervene if they feel the work is too risky;

(Editorial Note: Wording as per original *Government Gazette*. It is not evident that "*" was meant to be part of the text.)

(*h*) create an atmosphere where child workers feel free to ask questions or express concerns;
(*i*) be sure child workers have an understanding of their rights and responsibilities;
(*j*) provide positive feedback when child workers follow through with these responsibilities.

12. Examples of steps that may be included in a plan of safe work procedures.–The following are examples of guidelines and tips to be taken into account when drafting a plan of safe work procedures, or when implementing a plan, in specific situations.

(1) **Guidelines on the risk of crime and abusive customers-**
(*a*) Handling cash-
(i) leave a clear, unobstructed view of the cash register from the street;
(ii) post signs saying cash register contains minimal cash;
(iii) store cash in a drop safe, limited-access safe or comparable safe container;
(iv) don't count cash or close the till in front of customers;
(v) practice the "buddy system" during cash drops.
(*b*) Creating a safer retail environment-
(i) develop a workplace violence prevention plan, and use it to train employees;
(ii) train employees on what to do in case of a robbery;
(iii) train employees on how to de-escalate a potentially violent situation. Establish a policy that employees not resist or pursue shoplifters;
(iv) Establish a reporting process for violent incidents and threats;
(v) Consider displaying a "no safe keys held on the premises" notice.
(*c*) Notices–
(i) post emergency telephone numbers in an accessible place;
(ii) places notices on laws against assault, stalking or violent acts.
(*d*) Staffing–
(i) Schedule at least two people per shift. child workers may not work without adult (age 18 or older) supervision after 8 pm;
(ii) Don't require child workers who serve customers to wear revealing uniforms or clothing;
(iii) Keep background noise to a minimum.
(*e*) Entering and leaving-
(i) Have more than one exit employees can reach in case of emergency;
(ii) Practice the "buddy system" to walk to public transportation and parking areas.
(iii) Although back doors should be locked at night, employees should still be able to exit easily, especially during an emergency situation.
(*f*) Security and lighting-
(i) Use alarms and locks. Make sure they work properly;
(ii) Use security surveillance cameras or mirrors, if possible;
(iii) Provide a "panic" button, silent alarm or other means for employees to communicate with police or security;
(iv) Provide adequate lighting and security in parking lots and other areas where employees go alone at night;
(v) Work with your local police and security to identify any special arrangements which might be useful in a particular location.

(2) **Proper lifting of weights /loads-**
(*a*) Assess the load–
(i) check if the shape or mass of the load presents a risk to safe manual lifting;
(ii) use a lifting aid or hand truck/ trolley if possible. Get help if you need it;
(iii) check for slivers, nails, exposed staples;
(iv) use gloves if necessary;
(v) make sure you have a clear path to where you are moving it to.
(*b*) Lifting the load-
(i) place you feet to ensure a stable base to do the lift;
(ii) bring the load as close to you as possible before lifting;
(iii) establish a good hand grip to lift the load
(iv) lift with your legs, not your back;
(v) keep your head up, your back straight and don't bend at your hips.
(*c*) Moving the load-
(i) Keep the load close to your body;
(ii) Look where you are going;
(iii) Shift your feet to turn, don't twist your body.
(*d*) Putting it down-
(i) When putting a load down, let your leg muscles carry it down;
(ii) make certain your fingers and toes are clear before putting the load down;
(iii) place the load first then, move it into the required position. Do not twist your body while placing a load as it can cause back strain.

Schedule 2:
Summary of regulations on the health and safety of children at work and on hazardous work by children

The Minister of Labour has made regulations to protect the health and safety of child workers at work under–
(*a*) section 44 and 45 of the Basic Conditions of Employment Act, 1997 (called the BCEA regulations);
(*b*) section 43 of the Occupational Health and Safety Act, 1993 (called the OHSA regulations). This is a summary of the most important provisions of these two sets of regulations. Any person who employs or uses the services of a child worker must display this summary in the workplace where it can be

read by employees including child workers who are at the workplace.

1. Definitions.– In this summary these terms means the following, unless the context indicates otherwise–

(1) **"child"** means a person under 18 years old;
(2) **''child worker"** means a child referred to in the definition of "employer";
(3) **"employer"** means a person who employs, or provides work to a child, subject to paragraph 3 below.

2. Purpose of regulations and notice.–(1) The purpose of the regulations is to-

(*a*) protect the health and safety at work of child workers who are lawfully entitled to work;
(*b*) prohibit categories of work which child workers may not perform;
(*c*) place conditions on the work that may be performed by child workers;
(*d*) identify which categories of work constitute worst forms of child labour, and to make appropriate enforcement provisions in this regard;

3. Coverage and interpretation of regulations.–(1) The BCEA regulations cover child workers as defined in those regulations, namely children who are employed, including children who assist any person to carry on their business.

(2) The OHSA regulations cover all work performed by child workers as defined in those regulations.

(3) For the purposes of the BCEA regulations, any person who allows a child worker to assist them in carrying on their business is the employer of that child.

(4) The regulations do not-

(*a*) permit the employment of any child worker who is under 15 years of age or is subject to compulsory schooling in terms of any law;
(*b*) reduce any other condition of employment or prohibition applicable to the employment of any person in the Act or any other law, insofar as it applies to the employment of a child.

(5) These regulations must be interpreted in accordance with the International Labour Organisation's Minimum Age Convention, 1973 and it's Worst Forms of Child Labour Convention, 1999. The text of the Convention is available at www.ilo.org.

4. Minimum age of work.–(1) A child worker who is under 15 years of age or is subject to compulsory schooling may not be employed as an employee and may not assist any person to carry on their business.

(2) However, a child worker who is under 15 or subject to compulsory schooling may–

(*a*) work in the performance of advertising, artistic or cultural activities in terms of a permit granted in terms of *Sectoral Determination 10: Children in the Performance of Advertising, Artistic and Cultural Activities* issued by the Minister of Labour in terms of the BCEA (employers in these sectors should study the sectoral determination which can be accessed on www.labour.gov.za);
(*b*) do the following work, other than as an employee as defined in the BCEA-
  (i) collect contributions on behalf of a fund-raising organisation registered in terms of the Fund Raising Act (Act No. 107 of 1978);
  (ii) do voluntary work for a church, charitable organisation or amateur sports club; and
  (iii) as part of his/her schooling, do work that is appropriate for a person of that age or which does not place at risk the child's well-being, education, physical or mental health, or spiritual, moral or social development.

(3) Even though the child worker may perform types of work referred to in subparagraph (2) (*a*) to (*b*) above, such work is still subject to the provisions of the regulations summarised here.

(4)In terms of the South African Schools Act a child worker is subject to compulsory schooling until the last school day of the calendar year in which such learner reaches the age of fifteen years or the ninth grade, whichever occurs first.

5. Access to nutrition, health care and educational services.–An employer who employs a child worker must ensure that their employment does not interfere with -

(*a*) their access to adequate nutrition;
(*b*) their access to adequate primary health care services; and
(*c*) the education of a child worker who is enrolled at a school or at any othereducational institution.

6. Work away from parents or legal guardian.– (1) A child worker may only perform work which will result in its being away overnight from its parents or legal guardian –

(*a*) if the child's parent or legal guardian consents in writing;
(*b*) if the child is enrolled in school, the schooling of a school going child is not adversely affected.

(2) In addition, the employer must provide –

(*a*) full details of the accommodation arrangements to the parent or legal guardian of the child worker for their approval;
(*b*) free of charge to the child, accommodation that–
  (i) is clean, comfortable, suitable and safe for the child;
  (ii) is not occupied by any adult other than the parent, legal guardian or a child worker minder appointed or designated by the parent of the child, if they accompany the child; and
  (iii) sufficient bedding, lavatory and washing facilities for the child worker;
(*c*) the child worker with nutritious food or, if the child is able to purchase such food within a reasonable distance from the place of work or accommodation, provide the child with an allowance sufficient to purchase food and enable the child to purchase it at appropriate intervals.

(3) It is an offence for any person to recruit a child worker to perform work in violation of sub-paragraph (1) and (2).

7. Prohibition of piecework and task work.– (1) No person may require or permit a child worker to perform piecework or task work. Piecework is work in terms of which remuneration is based mainly on the quantity of work done. Task work is work in terms of which the remuneration of an employee is based mainly on the completion of set tasks.

(2) This does not prevent a child worker being paid a commission or receiving an incentive payment on the completion of a task if –

(*a*) the child is paid at least the minimum wage prescribed for that work in terms of any sectoral determination or bargaining council agreement;
(*b*) in the absence of any such minimum wage, the child, in addition to any commission or incentive payment received, is paid a basic wage, calculated on the basis of time worked, and this wage is more than the commission or incentive payment received, and is calculated on a consistent basis.

8. Maximum daily and weekly working time.– (1) A child worker may not work more than 8 hours on any day.

(2) A child worker who is not enrolled at school may not work for more than 40 hours in any week.

(3) A child worker who is enrolled in school may not work for more than–

(*a*) 20 hours in any week during school term, and
(*b*) 40 hours in any week that falls entirely within school holidays
(*c*) two hours on any school day; or four hours on any school day followed by a non-school day (e.g. a Friday, or the last day of a school term).

9. Night work.–(1) A child worker may not work before 6 am or after 6 pm on any day, except where allowed in sub-paragraph (2).

(2) A child worker, other than one who is expected to be at school the following day, may work between 6 pm and 11 pm if–

(*a*) the work is in a restaurant, cinema, theatre or shop where there is adequate adult supervision; or
(*b*) the work is baby-sitting or child minding;

(3) Unless the parent or legal guardian agrees otherwise in writing, any person who requires or permits a child worker to work after 6pm must, at the end of the shift, provide him/her with safe transport home, at no cost to the child, parent or care-giver.

10. Prohibited work.–An employer may not require or permit a child to work in any of the work:

(*a*) deep sea fishing;
(*b*) commercial diving or other hazardous work under water;
(*c*) slaughtering of animals;
(*d*) meat, poultry, or seafood processing;
(*e*) the manufacture or packing of tobacco products or any other work in which there is exposure to tobacco dust;
(*f*) logging;
(*g*) protecting or safeguarding any person or property or work involving the handling of firearms;
(*h*) refining petroleum products;
(*i*) filling cars with petroleum or other chemical fuels at a filling station, or doing work close to such activity;
(*j*) brewing, manufacturing or selling any liquid which in its final form would contain more than one per cent of alcohol;
(*k*) work in a bar, she been, tavern or pub or other establishment whose primary business is to sell alcoholic beverages to the general public, for consumption on the premises;
(*l*) the manufacture or application of tar or asphalt;
(*m*) work involving an exposure, or potential exposure, to blood-borne or airborne pathogens;
(*n*) work in a health care or related facility, in circumstances where there is likely exposure to biological agents, including but not limited to Hepatitis,HIV, and tuberculosis, anesthetics, anti-neoplastic medications or addictive drugs;
(*o*) work involving exposure to a hazardous substance, to lead, asbestos, silica, coal or other hazardous dusts or to pressurised gases;
(*p*) the production, transport, handling, storage, use of, or other work involving exposure to explosives or flammable substances;
(*q*) work in a casino or other gambling establishment;
(*r*) electrical work involving high voltage cables or other power sources in excess of 250 volts;
(*s*) welding, brazing or soldering;
(*t*) rock and stone crushing;
(*u*) operating vibrating equipment such as rock drills and riveters;
(*v*) operating tractors, winches, forklift vehicles, front-end loaders, earth moving equipment or similar heavy equipment;
(*w*) driving any motor vehicle or mobile plant;
(*x*) work in vehicles transporting passengers or heavy goods;
(*y*) work in a confined space.

11. Worst forms of child labour.– (1) In addition, no person may require or permit a child to work in any of the following–

(i) underground mining;
(ii) work in connection with the operation of a smelter or furnace, or rolling mills that form and cut metals;
(iii) the production of aluminium, brass, bronze or similar alloys, charcoal or the fuel, coke;
(iv) the manufacture of auramine, isopropanol or magenta;
(v) the gasification of coal;
(vi) diving operations using aqualungs;
(vii) free diving below depths of 10 metres;
(viii) work in which there is a reasonably foreseeable risk of exposure to blood-borne and airborne pathogens;
(ix) work involving exposure to ionising radiation;
(x) work in chemically-based mineral extraction or similar operations;
(xi) any work in an environment in which the actual dry-bulb temperature is below minus 18°C;
(xii) hard manual labour for a period of longer than 15 minutes in any hour in an environment in which the time-weighted average WBGT index, (as defined in the Environmental Regulations for Workplaces, made in terms of the Occupational Health and Safety Act, 1993) determined over a period of one hour, is greater than 36;
(xiii) work in circumstances in which it is reasonably foreseeable that the child will be exposed to physical, psychological or sexual abuse.

(2) Any form of work listed in sub-paragraph (1) above constitutes a worst form of child labour as contemplated in the Worst Forms of Child Labour Convention, 1999, adopted by the International Labour Organisation. These prohibitions may overlap to some extent with the prohibitions listed in paragraph 10, but the activities referred to in this paragraph are considered as exposing children to very serious harm. Penalties for breach should therefore be higher.

(3) No person may–

(*a*) employ a child in circumstances in which the child is unreasonably confined to the employer's premises;
(*b*) require or permit a child to engage for that person's benefit in one of following activities when this work is performed by a child a part of an organised business activity conducted by that person–
(i) begging;
(ii) scavenging or collecting waste from garbage or waste dumps; or
(iii) use, recruit, procure or offer a child for the commission of any serious offence (they are listed in schedules 1 and 2 of the Criminal Procedure Act, 1977).

(4) The BCEA regulations define which specific substances agents are considered very harmful to children.

12. Risk assessment.–(1) Every employer who employs or provides work to a child worker, or permits any child worker to work at any place under their control, or with any machinery under their control, must in respect of such work undertake a risk assessment process which must at least the following–

(*a*) identifying the risks and hazards to which any child worker may be exposed;
(*b*) analysing and evaluating the risks and hazards that are identified;
(*c*) preparing and implementing–
(i) a documented plan of safe work procedures to remove, mitigate, reduce or control the risks and hazards that have been identified;
(ii) a monitoring plan; and
(iii) a review plan.

(2) The following factors must be taken in to account when making the risk assessment–

(*a*) the increased biological sensitivity of children to chemicals, biological agents, carcinogens and hormone disruptors;
(*b*) the increased vulnerability of children to sleep disruption;
(*c*) the vulnerability of children to direct and indirect coercion or abuse from any person, particularly when working alone;
(*d*) the relative lack of experience and maturity of children in making safety judgments;
(*e*) the reduced ability of children to adapt to inflexible work routines;
(*f*) the reduced ability of children to perceive dangers correctly;
(*g*) the reduced capacity of children to understand safety messages;
(*h*) whether the design of any machinery, tools, equipment and protective equipment is appropriate for children's stature;
(*i*) the implications of children working at the period when their skeletal structures and bones are still developing;
(*j*) children's physical development in relation to ergonomics, in order to ensure a healthy and safe working environment;
(*k*) the physiological, hormonal and other vulnerabilities of children at puberty.

(3) In the risk assessment process, the employer must have regard to the guidelines contained in Schedule 1 to the Health and Safety of Children at Work Regulations issued in terms of the OHSA.

13. Respiratory hazards.-A child worker may not undertake any work where a person over the age of 17 performing the same work would be required in terms of the OHSA to wear respiratory protection equipment, i.e. equipment such as masks that protects workers from inhaling hazardous dusts or fumes.

14. Work in elevated position.–(1) A child worker may not work at a height of more than 5 metres above the floor/ground.

(2) A child worker working at a height of more than 2 metres from the floor/ground must work under the supervision of the employer or a competent adult employee, and reasonable fall protection must be provided, such as a safety harness or railings.

15. Lifting of heavy weights.–(1) A child worker performing any work may not, as part of their work, lift an object weighing more than

(*a*) the lesser of 15 kg or 20% of the child's body weight;
(*b*) more than 7,5 kg more than once per minute.

(2) A child worker may not lift objects weighing more than 5 kg at work for more than 2 hours without being granted a 30-minute period in which he or she is not required to lift such a weight.

16. Work in a cold environment.–(1) The employer of a child worker working in an environment below the following actual dry-bulb temperature must be supplied with suitable protective warm clothing–

(*a*) 0°C where the work involves repeated entry into, or presence for more than two minutes in such environment;
(*b*) 6°C where the work involves repeated entry into, or presence for more than one hour in such environment.

(2) The protective warm clothing supplied to child worker must comply with Regulation 2 (2) (*b*) (i) to (vi) of the Environmental Regulations for Workplaces.

17. Work in a hot environment.–(1) No person may require or permit a child worker to work or perform hard manual labour where the average temperature over one hour exceeds 30°C unless the child-

(*a*) is acclimatised to such working environment before he/she is required or permitted to work in such environment;
(*b*) has drink breaks every 15 minutes; and
(*c*) is cognisant of the need to drink at least 150ml of liquid every break and the employer provides the child with the necessary liquids.

(2) The term 'average temperature' referred to here is technically the time-weighted average WBGT index as defined in the Environmental Regulations for Workplaces, made in terms of the Occupational Health and Safety Act, 1993, and determined over a period of one hour.

18. Work in noisy environment.–No person may require or permit a child worker to perform any work involving an exposure to a noise level in excess of 80 dB(A) unless the child is supplied with hearing protective equipment that complies with regulation 12 of the Noise-Induced Hearing Loss Regulations, made in terms of the Occupational Health and Safety Act, 1993. DB(A) is a unit used in measuring noise, and takes into account how often loud noises are heard, even if an environment is not noisy all the time.

19. Power tools and cutting or grinding equipment.–(1) A child worker may not use any power-driven machinery or power tool, or any cutting or grinding equipment unless a risk assessment conducted in terms of the regulations has determined that its use is safe and without significant risks for the child.

(2) If the risk assessment indicates that the power tool or other equipment is safe and without significant risks for the child worker to use, if used with safety equipment or facilities, the child–

(*a*) must be provided with the necessary safety equipment and facilities that are usually required in terms of occupational health and safety regulations; and
(*b*) must be instructed in the use, maintenance and limitations of such equipment.

(3) Before starting such work the child worker must receive adequate training in the safe and appropriate use of the power tools or machinery from a person competent in their use.

(4) The child worker must be supervised by a competent person when using power tools or other equipment.

(5) An inspector may issue a notice prohibiting the use by child workers of any power tool or other machinery.

20. Report to Department of Social Development.–(1) A labour inspector who finds a child worker being employed or used in contravention of the Act or of the BCEA or OHSA regulations shall refer the matter for investigation to a child protection organisation designated in terms of the Children's Act No 38 of 2005 or to the provincial department of social development in the province where the child works or lives, unless the labour inspector is satisfied that the child will not suffer any detriment due to steps being taken by the inspector to ensure compliance with the law.

(2) The relevant social worker must then investigate the circumstances of the child worker to determine whether he/she is in need of care and protection and, if so, take appropriate action to protect the child.

BCEA Regulations on Hazardous Work by Children

BASIC CONDITIONS OF EMPLOYMENT ACT, 1997

The Minister of Labour has, on the advice of the Employment Conditions Commission, made the following regulations in terms of section 44 and 45 of the Basic Conditions of Employment Act,

1997.

1. Definitions.–In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned but, unless the context otherwise indicates–

(*a*) **"the Act"** means the Basic Conditions of Employment Act, 1997;

(*b*) "child" means a person under eighteen years of age;

(*c*) **"child worker"** means a child who is an employee as defined in the Act, which includes a child who assists any person to carry on or conduct their business; and

(*d*) **"employer"** means a person who -

(i) employs a child; or

(ii) allows a child worker to assist in carrying on or conducting their business;

(*e*) "worst form of child labour" means any work by a child in an activity listed in regulation 9.

2. Purpose and interpretation.– (1) The purpose of these regulations is to –

(*a*) place conditions on the work that may be performed by child workers who are at least 15 years of age and no longer subject to compulsory schooling in terms of any law;

(*b*) prohibit any person from permitting or requiring such child workers to perform particular types of work specified in the regulations.

(2) No provision in these regulations may be interpreted as–

(*a*) permitting the employment of any child who is under 15 years of age or is subject to compulsory schooling in terms of any law;

(*b*) reducing any other condition of employment or prohibition applicable to the employment of any person in the Act or any other law insofar as it applies to the employment of a child who is at least 15 years of age and no longer subject to compulsory schooling.

(3) These regulations must be interpreted in accordance with International Labour Organisation's Minimum Age Convention, 1973 and the Worst Forms of Child Labour Convention, 1999.6

(4) To the extent that any sectoral determination establishes a basic condition of employment that applies specifically to child workers employed in that sector, the provisions of that determination shall have precedence over these regulations; provided that the provisions in these regulations on the worst forms of child labour shall always apply unless specifically excluded by the sectoral determination.

3. Access to nutrition, health care and educational services.–Every employer who employs a child worker must ensure that their employment does not interfere with their access to–

(*a*) adequate nutrition;

(*b*) adequate primary health care services; and

(*c*) education if the child is enrolled at a school or other educational institution.

4. Work away from parents or legal guardian.–(1) It is an offence for any person to require or permit a child worker to perform work which will result in the child being away overnight from their parents or legal guardian unless that person has the written consent of the child's parent or legal guardian and provided that–

(*a*) the child is not enrolled in school or, if the child is enrolled in school, the child's schooling is not adversely affected;

(*b*) full details of the accommodation arrangements are supplied to, and approved by, the parent or legal guardian of the child;

(*c*) the employer provides accommodation to the child that-

(i) is free of charge to the child;

(ii) is clean, comfortable, suitable and safe for the child;

(iii) is not occupied by any adult other than the parent, legal guardian or a child minder appointed by parent of the child, if they accompany the child; and

(iv) has sufficient bedding, lavatories and washing facilities for the child;

(*d*) the employer supplies the child with nutritious food or, if the child is able to purchase such food within a reasonable distance from his or her place of work or accommodation, the employer provides the child with an allowance sufficient to purchase such food at intervals that enable such purchase.

(2) It is an offence for any person to recruit a child worker to perform work in violation of sub-regulation (1).

5. Prohibition of piece-work and task work.–(1) It is an offence for any person to require or permit a child worker to perform piece work or task work.

(2) For the purposes of this regulation,

(*a*) "piece work" means work in terms of which the remuneration of the child worker is based mainly on the quantity of work done;

(*b*) "task work" means work in terms of which the remuneration of the child worker is based mainly on the completion of set tasks.

(3) This regulation does not prevent the payment of a commission or an incentive payment on the completion of a task to a child worker provided that–

(*a*) the child is paid the minimum wage prescribed for that work in terms of any sectoral determination or bargaining council agreement;

(*b*) if no such minimum wage is prescribed, the child, in addition to any commission or incentive payment received, is paid a basic wage, calculated on the basis of time worked, and this wage is more than the commission or incentive payment received and is calculated on a consistent basis.

6. Maximum daily and weekly working time.–(1) It is an offence for any person to require or permit a child worker who is not enrolled in school to work for more than 40 hours of work in any week.

(2) It is an offence for any person to require or permit a child worker who is enrolled in school to work

(*a*) for more than 20 hours in any week falling in the school term;

(*b*) for more than 40 hours of work in any week that falls entirely within school holidays.

(3) It is an offence for any person to require or permit child worker to work–

(*a*) on more than 8 hours on any day; or,

(*b*) if the child is enrolled in school, for more than-

(i) two hours on any day on which a child is expected to be at school; or

(ii) four hours on any day on which a child is expected to be at school but is not expected to be at school the following day.

7. Nightwork.– (1) It is an offence for any person to require or permit a child worker to work–

(*a*) before 6 am on any day;

(*b*) after 6 pm on any day; or

(*c*) in breach of sub-regulations (2) and (3).

(2) A child worker, other than a one who is expected to be at school the following day, may work between 6 pm and 11 pm–

(*a*) in a restaurant, cinema, theatre or shop provided that there is adequate adult supervision; or

(*b*) for the purposes of baby-sitting or child minding.

(3) Unless the parent or legal guardian agrees otherwise in writing, any person who requires or permits a child worker to work after 6pm on any day in terms of sub-regulation (2) must at the end of the child's shift provide that child with safe transport to the child's home at no cost to the child, or the child's parent or care-giver.

8. Prohibited work. – (I) It is an offence for any person to require or permit a child worker to work in any of the following–

(*a*) deep sea fishing;

(*b*) commercial diving or other hazardous work underwater;

(*c*) slaughtering of animals;

(*d*) meat, poultry, or seafood processing;

(*e*) the manufacture or packing of tobacco products or any other work in which there is exposure to tobacco dust;

(*f*) logging;

(*g*) the protecting or safeguarding of any person or property, or work involving the handling of firearms;

(*h*) the refining of petroleum products;

(*i*) filling cars with petroleum or other chemical fuels at a filling station, or doing work close to such activity;

(*j*) the brewing manufacturing or selling of any liquid which in its final form would contain more than one per cent of alcohol;

(*k*) work in a bar, shebeen, tavern or pub, or another establishment whose primary business is to sell alcoholic beverages to the general public, for consumption on the premises;

(*l*) the manufacture or application of tar or asphalt;

(*m*) work involving an exposure, or potential exposure, to blood-borne or airborne pathogens;

(*n*) work in health care or veterinary or related facility, in circumstances where there is likely exposure to biological agents, including but not limited to Hepatitis, HIV, and tuberculosis, anaesthetics, anti-neoplastic medications or addictive drugs;

(*o*) work involving exposure to any of the following–

(i) hazardous substance or agent;

(ii) lead, asbestos, silica, coal or other hazardous dusts ;

(iii) pressurised gases;

(*p*) the production, transport, handling, storage, use of or other work involving exposure to explosives or flammable substances;

(*q*) work in a casino or other gambling establishment;

(*r*) electrical work involving high voltage cables or other power sources in excess of 250 volts;

(*s*) welding, brazing or soldering;

(*t*) rock or stone crushing;

(*u*) the operation of vibrating equipment such as rock drills and riveters;

(*v*) operating tractors, winches, forklift vehicles, front end loaders, earth moving equipment or similar heavy equipment;

(*w*) driving of any motor vehicles or mobile plant;

(*x*) work in vehicles transporting passengers or heavy goods;

(*y*) work in a confined space.

9. Worst forms of child labour.–(1) In addition to any prohibition contained in regulation 8 it is an offence for any person to–

(*a*) require or permit a child to work in any of the following–

(i) underground mining;

(ii) work in connection with the operation of a smelter or furnace, or rolling mills that form and cut metals;

(iii) in the production of aluminium, brass, bronze or similar alloys, charcoal or the fuel, coke;

(iv) in the manufacture of auramine, isopropanol or magenta;

(v) in the gasification of coal;

(vi) diving operations covered by the Div-

ing Regulations, made in terms of the Occupational Health and Safety Act, 1993, irrespective of whether or not the child is an employee as defined in the Diving Regulations;

(vii) free diving below depths of 10 metres;

(viii) work in which there is a reasonably foreseeable risk of exposure to blood-borne and airborne pathogens;

(ix) work involving an exposure to ionising radiation or a hazardous substance or agent;

(x) work in chemically-based mineral extraction or similar operations;

(xi) doing any work in an environment in which the actual dry-bulb temperature is below -18 oc;

(xii) doing hard manual labour for a period of longer than 15 minutes in any hour in an environment in which the time-weighted average WBGT index, as defined in the Environmental Regulations for Workplaces, made in terms of the Occupational Health and Safety Act, 1993, determined over a period of one hour, is greater than 36;

(xiii) work in circumstances in which it is reasonably foreseeable that the child will be exposed to physical, psychological or sexual abuse;

(*b*) employ a child in circumstances in which the child is unreasonably confined to the employer premises;

(*c*) require or permit a child to engage for that person's benefit in one of following activities when this work is performed by a child as part of an organised business activity conducted by that person–

(i) begging;

(ii) scavenging or collecting waste from garbage or waste dumps; or

(*d*) use, recruit, procure or offer a child for the commission of any offence listed in Schedule 1 or Schedule 2 of the Criminal Procedure Act, 1977.

(2) For the purposes of regulation (1) a hazardous substance or agent is any one–

(*a*) listed in Schedule One of the Regulations for Hazardous Chemical Substances, made in terms of the Occupational Health and Safety Act, 1 993;

(*b*) listed in Annexure B of the Regulations for Hazardous Biological Agents, made in terms of the Occupational Health and Safety Act, 1993;

(*c*) registered with the Department of Agriculture as a Hazard Group I or II pesticide; or

(*d*) listed in Schedule 1 to these regulations.

(3) Any form of work listed in this regulation shall constitute a worst form of child labour as co.ntemplated in the Worst Forms of Child Labour Convention, 1999, adopted by the International Labour Organisation.

10. Investigation and prosecution of alleged offences concerning worst forms of child labour.– (1) A labour inspector, who receives a complaint that any person has required or permitted a child to perform a worst form of child labour, or who in the performance of their duties observes any circumstances that may constitute work by a child in a worst form of labour must–

(*a*) investigate the alleged offence forthwith; or

(*b*) if the labour inspector is not authorised to investigate the contravention, refer it to a labour inspector who is so authorised.

(2) A labour inspector who investigates an allegation that a person has required or permitted a child to perform a worst form of child labour must–

(*a*) conduct the investigation thoroughly and expeditiously;

(*b*) prepare a written report that must be filed with the Director-General.

(3) The report prepared in terms of sub-regulation (2) must contain a recommendation as to whether or not–

(*a*) the alleged offence constitutes a worst form of child labour;

(*b*) a prosecution should be initiated in terms of this regulation or any other regulation or law.

(4) The Director-General must forward a copy of the report to the relevant prosecuting authority unless the investigation establishes no evidence of any offence.

(5) For the purposes of these regulations, a labour inspector includes any public servant or any designated agent of a bargaining council who has been designated by the Minister in terms of section 63 (1) (*b*) of the Basic Conditions of Employment Act for the purpose of enforcing this regulation.

11. Medical examinations.–(1) A labour inspector who has reason to believe that a child worker is employed in any work that may endanger his or her health may issue a written instruction to the employer requiring that the child be examined by a medical practitioner chosen by the child or a parent of the child or by the inspector.

(2) The costs of an examination in terms of this regulation shall be borne by the employer.

12. Report to department of social development.– A labour inspector who finds a child worker being employed or used in contravention of Chapter 6 of the Act or in contravention of these regulations shall refer the child for investigation to a child protection organisation designated in terms of the Children's Act No 38 of 2005 or to the provincial department of social development in the province where the child works or lives, unless the labour inspector is satisfied that the child will not suffer any detriment due to steps being taken by the inspector to ensure compliance with the law.

13. Offences and Penalties.–(1) Any person who requires or permits a child worker to work for them in contravention of these regulations commits an offence

(2) Any person who is convicted of an offence in terms of these regulations may be sentenced to a fine or to imprisonment for a period of up to three years.

(3) If any person is charged with an offence in terms of which it is alleged that that person permitted a child worker to work in breach of any provision of these regulations it is an defence if that person can establish that the child –

(*a*) was not an employee of that person; and

(*b*) did not in any manner assist in carrying on or conducting the business of that person.

(4) Where any person is prosecuted for any offence involving the causing of injury to, or the death of, a child worker or any offence for a breach of any law regulating health and safety at work and a labour inspector is of the view that the person being prosecuted may have required or permitted a child to perform any work that constituted a worst form of child labour as contemplated in these regulations, the labour inspector must bring such information to the attention of the relevant prosecuting authority.

(5) If a person is convicted of a offence, including an offence in terms of subregulation (4) in terms of which that person required or permitted a child worker to perform a worst form of child labour, the court on convicting that person and determining a sentence must take into account that–

(*a*) that South Africa has ratified the Worst Forms of Child Labour Convention, 1999;

(*b*) that the offence constitutes a worst form of child labour in terms of that Convention.

14. Exemptions.–(1) The Minister may exempt work performed by a child worker who is 15 years or older from the application of these regulations on application by an employer or, in the case of work performed in terms of a learnership or approved vocational training programme, a sector education and training authority.

(2) The Minister may not grant an exemption in terms of this regulation, unless the Minister is satisfied the child worker will not be exposed to a significant risk of hazards that may affect the child's health or development.

15. Summary.–Any person who employs a child worker must display the prescribed summary of these regulations in the workplace where it can be read by employees including child workers who are at the workplace, which may include a summary of other relevant regulations and laws, in their workplace. This summary is provided in Schedule 2 to these regulations.

16. Short title and commencement.–These regulations shall be known as the BCEA Regulations on Hazardous Work by Children and will come into effect 21 days after the date of publication in the *Government Gazette.*

Schedule 1
Hazardous substances and agents

Hazardous substances and agents referred to in regulation 9 (2) (*d*)–

4-Aminobiphenyl
Arsenic and arsenic compounds
Asbestos
Benzene
Benzidine
Beryllium and beryllium compounds
N.N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)
Bis(chloromethyl)ether and chloromethyl methyl ether
1 ,4-Butanediol dimethanesulfonate (Busulphan: Myleran)
Cadmium and cadmium compounds
1-(2-Chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea (Methyl-CCN U:Semustine)
Chromium [VI] compounds
Coal-tars
Cyanide
Erionite
Ethylene oxide
Formaldehyde
Gallium arsenide
Lead
Mercury
Mineral oils, untreated and mildly treated
Mustard gas (Sulfur mustard)
2-Naphthylamine
Nickel compounds
Phosphorus-32, as phosphate
Plutonium-239 and its decay products, as aerosols
Radioiodines, short-lived isotopes, including iodine-131
Radionuclides, a-particle-emitting, internally deposited
Radionuclides, b-particle-emitting, internally deposited
Radium-224, -226, -228, and their decay products
Radon-222 and its decay products
Shale-oils
Silica, crystalline
Soots
Sulfuric acid, strong-inorganic-acid mists containing
Tale containing asbestiform fibres
2,3, 7,8-Tetrachlorodibenzo-para-dioxin
Thiotepas
Treosulfan
Vinyl chloride

Schedule 2
Summary of regulations on the health and

safety of children at work and on hazardous work by children

The Minister of Labour has made regulations to protect the health and safety of child workers at work under–

(*a*) section 44 and 45 of the Basic Conditions of Employment Act, 1997 (called the BCEA regulations);

(*b*) section 43 of the Occupational Health and Safety Act, 1993 (called the OHSA regulations).

This is a summary of the most important provisions of these two sets of regulations.

Any person who employs or uses the services of a child worker must display this summary in the workplace where it can be read by employees including child workers who are at the workplace.

1. Definitions.–In this summary these terms means the following, unless the context indicates otherwise–

(1) **"child"** means a person under 18 years old;

(2) **"child worker"** means a child referred to in the definition of "employer";

(3) **"employer"** means a person who employs, or provides work to a child, subject to paragraph 3 below.

2. Purpose of regulations and notice.–

(1) The purpose of the regulations is to-

(*a*) protect the health and safety at work of child workers who are lawfully entitled to work;

(*b*) prohibit categories of work which child workers may not perform;

(*c*) place conditions on ihe work thai may be performed by child workers

(*d*) identify which categories of work constitute worst forms of child labour, and to make appropriate enforcement provisions in this regard;

3. Coverage and interpretation of regulations.–(1) The BCEA regulations cover child workers as defined in those regulations, namely children who are employed, including children who assist any person to carry on their business.

(2) The OHSA regulations cover all work performed by child workers as defined in those regulations.

(3) For the purposes of the BCEA regulations, any person who allows a child worker to assist them in carrying on their business is the employer of that child.

(4) The regulations do not–

(*a*) permit the employment of any child worker who is under 15 years of age or is subject to compulsory schooling in terms of any law;

(*b*) reduce any other condition of employment or prohibition applicable to the employment of any person in the Act or any other law, insofar as it applies to the employment of a child.

(5) These regulations must be interpreted in accordance with the International Labour Organisation's Minimum Age Convention, 1973 and it's Worst Forms of Child Labour Convention, 1999. The text of the Convention is available at www.ilo.org.

4. Minimum age of work.– (1) A child worker who is under 15 years of age or is subject to compulsory schooling may not be employed as an employee and may not assist any person to carry on their business. (2) However, a child worker who is under 15 or subject to compulsory schooling may–

(*a*) work in the performance of advertising, artistic or cultural activities in terms of a permit granted in terms of Sectoral Determination 10: Children in the Performance of Advertising, Artistic and Cultural Activities issued by the Minister of Labour in terms of the BCEA (employers in these sectors should study the sectoral determination which can be accessed on www.labour.gov.za);

(*b*) do the following work, other than as an employee as defined in the BCEA –

(i) collect contributions on behalf of a fund-raising organisation registered in terms of the Fund Raising Act (Act No. 107 of 1978);

(ii) do voluntary work for a church, charitable organisation or amateur sports club; and

(iii) as part of his/her schooling, do work that is appropriate for a person of that age or which does not place at risk the child's well-being, education, physical or mental health, or spiritual, moral or social development.

(3) Even though the child worker may perform types of work referred to in paragraph (2)(a) to (b) above, such work is still subject to the provisions of the regulations summarised here.

(4) In terms of the South African Schools Act a child worker is subject to compulsory schooling until the last school day of the calendar year in which such learner reaches the age of fifteen years or the ninth grade, whichever occurs first.

5. Access to nutrition, health care and educational services.– An employer who employs a child worker must ensure that their employment does not interfere with–

(*a*) their access to adequate nutrition;

(*b*) their access to adequate primary health care services; and

(*c*) the education of a child worker who is enrolled at a school or at any other educational institution.

6. Work away from parents or legal guardian.– (1) A child worker may only perform work which will result in its being away overnight from its parents or legal guardian–

(*a*) if the child's parent or legal guardian consents in writing;

(*b*) if the child is enrolled in school, the schooling of a school going child is not adversely affected.

(2) In addition, the employer must provide–

(*a*) full details of the accommodation arrangements to the parent or legal guardian of the child worker for their approval;

(*b*) free of charge to the child, accommodation that–

(i) is clean, comfortable, suitable and safe for the child;

(ii) is not occupied by any adult other than the parent, legal guardian or a child worker minder appointed or designated by the parent of the child, if they accompany the child; and

(iii) sufficient bedding, lavatory and washing facilities for the child worker;

(*c*) the child worker with nutritious food or, if the child is able to purchase such food within a reasonable distance from the place of work or accommodation, provide the child with an allowance sufficient to purchase food and enable the child to purchase it at appropriate intervals.

(3) It is an offence for any person to recruit a child worker to perform work in violation of sub-paragraphs (1) and (2).

7. Prohibition of piecework and task work.– (1) No person may require or permit a child worker to perform piecework or task work. Piecework is work in terms of which remuneration is based mainly on the quantity of work done. Task work is work in terms of which the remuneration of an employee is based mainly on the completion of set tasks.

(2) This does not prevent a child worker being paid a commission or receiving an incentive payment on the completion of a task if –

(a) the child is paid at least the minimum wage prescribed for that work in terms of any sectoral determination or bargaining council agreement;

(b) in the absence of any such minimum wage, the child, in addition to any commission or incentive payment received, is paid a basic wage, calculated on the basis of time worked, and this wage is more than the commission or incentive payment received, and is calculated on a consistent basis.

8. Maximum daily and weekly working time.–

(1) A child worker may not work more than 8 hours on any day.

(2) A child worker who is not enrolled at school may not work for more than 40 hours in any week.

(3) A child worker who is enrolled in school may not work for more than–

(a) 20 hours in any week during school term, and

(b) 40 hours in any week that falls entirely within school holidays

(c) two hours on any school day; or four hours on any school day followed by a non-school day (e.g. a Friday, or the last day of a school term.)

9. Night work.– (1) A child worker may not work before 6 am or after 6 pm on any day, except where allowed in sub-paragraph (2).

(2) A child worker, other than one who is expected to be at school the following day, may work between 6 pm and 11 pm if–

(*a*) the work is in a restaurant, cinema, theatre or shop where there is adequate adult supervision; or

(*b*) the work is baby-sitting or child minding;

(3) Unless the parent or legal guardian agrees otherwise in writing, any person who requires or permits a child worker to work after 6pm must, at the end of the shift, provide him/her with safe transport home, at no cost to the child, parent or care-giver.

10. Prohibited work.– An employer may not require or permit a child to work in any of the work–

(*a*) deep sea fishing;

(*b*) commercial diving or other hazardous work under water;

(*c*) slaughtering of animals;

(*d*) meat, poultry, or seafood processing;

(*e*) the manufacture or packing of tobacco products or any other work in which there is exposure to tobacco dust;

(*f*) logging;

(*g*) protecting or safeguarding any person or property or work involving the handling of firearms;

(*h*) refining petroleum products;

(*i*) filling cars with petroleum or other chemical fuels at a filling station, or doing work close to such activity;

(*j*) brewing, manufacturing or selling any liquid which in its final form would contain more than one per cent of alcohol;

(*k*) work in a bar, shebeen, tavern or pub or other establishment whose primary business is to sell alcoholic beverages to the general public, for consumption on the premises;

(*l*) the manufacture or application of tar or asphalt;

(*m*) work involving an exposure, or potential exposure, to blood-borne or airborne pathogens;

(*n*) work in a health care or related facility, in circumstances where there is likely exposure to biological agents, including but not limited to Hepatitis, HIV, and tuberculosis, anaesthetics, anti-neoplastic medications or addictive drugs;

(*o*) work involving exposure to a hazardous substance, to lead, asbestos, silica,coal or other hazardous dusts or to pressurised gases;

(*p*) the production, transport, handling, storage, use of, or other work involving exposure to

explosives or flammable substances;
(*q*) work in a casino or other gambling establishment;
(*r*) electrical work involving high voltage cables or other power sources in excess of 250 volts;
(*s*) welding, brazing or soldering;
(*t*) rock and stone crushing;
(*u*) operating vibrating equipment such as rock drills and riveters;
(*v*) operating tractors, winches, forklift vehicles, front-end loaders, earth moving equipment or similar heavy equipment;
(*w*) driving any motor vehicle or mobile plant;
(*x*) work in vehicles transporting passengers or heavy goods;
(*y*) work in a confined space.

11. Worst forms of child labour.–(1) In addition, no person may require or permit a child following–
(i) underground mining;
(ii) work in connection with the operation of a smelter or furnace, or rolling mills that form and cut metals;
(iii) the production of aluminium, brass, bronze or similar alloys, charcoal or the fuel, coke;
(iv) the manufacture of auramine, isopropanol or magenta;
(v) the gasification of coal;
(vi) diving operations using aqualungs;
(vii) free diving below depths of 10 metres;
(viii) work in which there is a reasonably foreseeable risk of exposure to bloodborne and airborne pathogens;
(ix) work involving exposure to ionising radiation;
(x) work in chemically-based mineral extraction or similar operations;
(xi) any work in an environment in which the actual dry-bulb temperature is below minus 18 oc;
(xii) hard manual labour for a period of longer than 15 minutes in any hour in an environment in which the time-weighted average WBGT index, (as defined in the Environmental Regulations for Workplaces, made in terms of the Occupational Health and Safety Act, 1993) determined over a period of one hour, is greater than 36;
(xiii) work in circumstances in which it is reasonably foreseeable that the child will be exposed to physical, psychological or sexual abuse.

(2) Any form of work listed in sub-paragraph (1) constitutes a worst form of child labour as contemplated in the Worst Forms of Child Labour Convention, 1999, adopted by the International Labour Organisation. These prohibitions may overlap to some extent with the prohibitions listed in paragraph 10 but the activities referred to in this paragraph are considered as exposing children to very serious harm. Penalties for breach should therefore be higher.

(3) No person may–
(a) employ a child in circumstances in which the child is unreasonably confined to the employer's premises;
(b) require or permit a child to engage for that person's benefit in one of following activities when this work is performed by a child as part of an organised business activity conducted by that person–
(i) begging;
(ii) scavenging or collecting waste from garbage or waste dumps; or
(iii) use, recruit, procure or offer a child for the commission of any serious offence (they are listed in schedules 1 and 2 of the Criminal Procedure Act, 1977).

(4) The BCEA regulations define which specific substances agents are considered very harmful to children.

12. Risk assessment.– (1) Every employer who employs or provides work to a child worker, or permits any child worker to work at any place under their control, or with any machinery under their control, must in respect of such work undertake a risk assessment process which must at least the following–
(a) identifying the risks and hazards to which any child worker may be exposed;
(b) analysing and evaluating the risks and hazards that are identified;
(c) preparing and implementing–
(i) a documented plan of safe work procedures to remove, mitigate, reduce or control the risks and hazards that have been identified;
(ii) a monitoring plan; and
(iii) a review plan.

(2) The following factors must be taken in to account when making the risk assessment–
(a) the increased biological sensitivity of children to chemicals, biological agents, carcinogens and hormone disruptors;
(b) the increased vulnerability of children to sleep disruption;
(c) the vulnerability of children to direct and indirect coercion or abuse from any person, particularly when working alone;
(d) the relative lack of experience and maturity of children in making safety judgments;
(e) the reduced ability of children to adapt to inflexible work routines;
(f) the reduced ability of children to perceive dangers correctly;
(g) the reduced capacity of children to understand safety messages;
(h) whether the design of any machinery, tools, equipment and protective equipment is appropriate for children's stature;
(i) the implications of children working at the period when their skeletal structures and bones are still developing;
(j) children's physical development in relation to ergonomics, in order to ensure a healthy and safe working environment;
(k) the physiological, hormonal and other vulnerabilities of children at puberty.

(3) In the risk assessment process, the employer must have regard to the guidelines contained in Schedule 1 to the Health and Safety of Children at Work Regulations issued in terms of the OHSA.

13. Respiratory hazards. –A child worker may not undertake any work where a person over the age of 17 performing the same work would be required in terms of the OHSA to wear respiratory protection equipment, i.e. equipment such as masks that protects workers from inhaling hazardous dusts or fumes.

14. Work in elevated position.–(1) A child worker may not work at a height of more than 5 metres above the floor/ground.

(2) A child worker working at a height of more than 2 metres from the floor/ground must work under the supervision of the employer or a competent adult employee, and reasonable fall protection must be provided, such as a safety harness or railings.

15. Lifting of heavy weights.–(1) A child worker performing any work may not, as part of their work, lift an object weighing more than–
(*a*) the lesser of 15 kg or 20% of the child's body weight;
(*b*) more than 7,5 kg more than once per minute.

(2) A child worker may not lift objects weighing more than 5 kg at work for more than 2 hours without being granted a 30-minute period in which he or she is not required to lift such a weight.

16. Work in a cold environment.–(1) The employer of a child worker working in an environment below the following actual dry-bulb temperature must be supplied with suitable protective warm clothing–
(*a*) 0°C where the work involves repeated entry into, or presence for more than two minutes in such environment;
(*b*) 6°C where the work involves repeated entry into or presence for more than one hour in such environment.

(2) The protective warm clothing supplied to child worker must comply with Regulation 2 (2) (*b*) (i) to (vi) of the Environmental Regulations for Workplaces

17. Work in a hot environment.–(1) No person may require or permit a child worker to work or perform hard manual labour where the average temperature over one hour exceeds 30°C unless the child–
(*a*) is acclimatised to such working environment before he/she is required or permitted to work in such environment;
(*b*) has drink breaks every 15 minutes; and
(*c*) is cognisant of the need to drink at least 150ml of liquid every break and the employer provides the child with the necessary liquids.

(2) The term 'average temperature' referred to here is technically the time-weighted average WBGT index as defined in the Environmental Regulations for Workplaces, made in terms of the Occupational Health and Safety Act, 1993, and determined over a period of one hour.

18. Work in noisy environment.– No person may require or permit a child worker to perform any work involving an exposure to a noise level in excess of 80 dB(A) unless the child is supplied with hearing protective equipment that complies with regulation 12 of the Noise-Induced Hearing Loss Regulations, made in terms of the Occupational Health and Safety Act, 1993. DB(A) is a unit used in measuring noise, and takes into account how often loud noises are heard, even if an environment is not noisy all the time.

19. Power tools and cutting or grinding equipment.–(1) A child worker may not use any power-driven machinery or power tool, or any cutting or grinding equipment unless a risk assessment conducted in terms of the regulations has determined that its use is safe and without significant risks for the child.

(2) If the risk assessment indicates that the power tool or other equipment is safe and without significant risks for the child worker to use, if used with safety equipment or facilities, the child–
(*a*) must be provided with the necessary safety equipment and facilities that are usually required in terms of occupational health and safety regulations; and
(*b*) must be instructed in the use, maintenance and limitations of such equipment.

(3) Before starting such work the child worker must receive adequate training in the safe and appropriate use of the power tools or machinery from a person competent in their use.

(4) The child worker must be supervised by a competent person when using power tools or other equipment.

(5) An inspector may issue a notice prohibiting the use by child workers of any power tool or other machinery.

20. Report to Department of Social Development.–(1) A labour inspector who finds a child worker being employed or used in contravention of the Act or of the BCEA or OHSA regulations shall refer the matter for investigation to a child protection organisation designated in terms of the Children's Act No. 38 of 2005 or to the provincial department of social development in the province where the child works or lives, unless the labour inspector is satisfied that the child will

not suffer any detriment due to steps being taken by the inspector to ensure compliance with the law.

(2) The relevant social worker must then investigate the circumstances of the child worker to determine whether he/she is in need of care and protection and, if so, take appropriate action to protect the child.

FOOTNOTES

1 The test of the Convention is available at www.ilo.org

2 Regulation 8 of the Construction Regulation (published in Government Gazette 25207, Government Notice R.1010 of 18 July 2003) requires any contractor undertaking construction work of prepare and implement a fall protection plan in respect of all employees, regarding all risks relating to working from an elevated position, which considers the nature of work undertaken, and sets out the procedures and methods to be applied in order to eliminate the risk. That regulation applies in addition to this regulation

3 Regulation 2(1) to (3) of the Environmental Regulations for Workplaces published in Government Gazette 10988, Government Notice R.2281 of 16 October 1987, further regulates work in a cold environment. That regulation applies in addition to this regulation.

4 Regulation 2(4) of the Environmental Regulations for Workplaces published in Government Gazette 10988, Government Notice R.2281 of 16 October 1987, further regulates work in a hot environment and applies in addition to this regulation.

5 The Noise induced hearing loss regulations apply to all employers or self-employed persons whose activities may expose persons to noises at or above the noise-rating limit set in the regulations, and apply in addition to this regulation

6 the text of the Conventions is available at www.ilo.org

ASBESTOS ABATEMENT REGULATIONS

GNR.1196 of 10 November 2020

[These regulations were published in GNR.773 of 10 April 1987, subsequently amended by GNR.1637 of 4 August 1989, repealed by GNR.155 of 10 February 2002 and subsequently repealed by GNR.1196 of 10 November 2020]

The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.–In these Regulations any word or expression to which a meaning has been assigned in the Act has the meaning so assigned and, unless the context otherwise indicates -

"approved plan of work" means a written site-specific methodology as contemplated in regulation 15 that is at least co-signed by the asbestos client, registered asbestos contractor and approved inspection authority;

"asbestos" means the following fibrous silicates:

(a) Asbestos actinolite, CAS No. 77536-66-4;
(b) asbestos grunerite (amosite), CAS No. 12172-73-5;
(c) asbestos anthophyllite, CAS No. 77536-67-5;
(d) chrysotile, CAS No. 12001-29-5 or CAS No. 132207-32-0;
(e) crocidolite, CAS No. 12001-28-4;
(f) asbestos tremolite, CAS No. 77536-68-6; and
(g) any mixture containing these fibrous silicates;

"asbestos cement products" means a range of building materials that were manufactured using moulding and compression techniques, consisting of a hardened mixture of asbestos fibres, cement and water;

"asbestos clearance certificate" means a written document verifying that the regulated asbestos fibre concentration in the air meets the clearance indicator;

"asbestos client" means any person for whom asbestos work is performed;

"asbestos coating" means a surface coating which contains asbestos for fire protection, heat insulation or sound insulation, but does not include textured decorative coatings;

"asbestos-containing material" means asbestos as well as any material that contains asbestos and includes asbestos cement products, asbestos coating, asbestos insulation board, asbestos insulation, asbestos textured decorative coatings, asbestos contaminated soil and other asbestos-containing materials;

"asbestos disposal site" means a site specifically designated for the purpose of asbestos disposal in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008);

"asbestos dust" means airborne or settled dust, which contains or is likely to contain regulated asbestos fibres;

"asbestos in place" includes any asbestos, asbestos cement products, asbestos coatings, asbestos-containing material, asbestos dust, asbestos insulation, asbestos insulation board and asbestos waste at the workplace;

"asbestos insulation" means any asbestos-containing material, which is used for thermal, acoustic or other insulation purposes, including fire protection, except -

(a) asbestos cement, asbestos coating or asbestos insulating board; or
(b) any article of bitumen, plastic, resin or rubber, which contains asbestos and which thermal and acoustic properties are incidental to its main purpose;

"asbestos insulating board" means any flat sheet, tile or building board consisting of a mixture of asbestos and cement or any other material, but which is not-

(a) asbestos coating; or
(b) an article of bitumen, plastic, resin or rubber, which contains asbestos and which thermal and acoustic properties are incidental to its main purpose;

"asbestos removal site" means a workplace where asbestos removal work is performed;

"asbestos removal supervisor" means a competent person responsible for supervision of physical asbestos work processes and co-ordination of asbestos removal on an asbestos removal site;

"asbestos risk assessment" means a risk assessment and risk categorisation of potential exposure to asbestos dust;

"asbestos waste" means an undesirable or superfluous asbestos or asbestos-containing product or by-product or the undesirable or superfluous asbestos or asbestos-containing emission or residue of any process or activity, which has been -

(a) discarded by any person; or
(b) accumulated and stored temporarily with the purpose of discarding it, with or without prior treatment connected with the discarding thereof;

"asbestos work" means work that exposes or is likely to expose an employee to asbestos dust, including transporting, storing, removing, handling, treating, repairing and disposing of asbestos;

"cas no." means the Chemical Abstracts Service Registry Number;

"chief director: provincial operations" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003, published as Government Notice R.929 in Gazette No. 25129 of 25 June 2003;

"clearance indicator" means the measured airborne concentration of regulated asbestos fibres is less than 0,01 fibres per millilitre (f/ml), as measured in accordance with HSG 248 or an equivalent method;

"competent person" means a person who -

(a) has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications specific to asbestos work or related tasks: Provided that, where appropriate qualifications and training are registered in terms of the National Qualifications Framework Act, 2008 (Act No. 67 of 2008), those qualifications and that training must

be regarded as the required qualifications and training; and

(b) is familiar with the Act and the applicable regulations made under the Act;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down a structure or part thereof by way of manual labour, machinery or the use of explosives;

"environmental air monitoring" includes static air monitoring for regulated fibres conducted downwind from outdoor type 2 asbestos work or outside asbestos enclosures where type 3 asbestos work is performed or in any area where there is the potential for asbestos contamination;

"exposed to asbestos" means exposed or likely to be exposed to asbestos dust while at the workplace, and 'exposure' has a corresponding meaning;

"hsg 248" means Health and Safety Guidance 248: Asbestos - The Analysts' Guide for Sampling, Analysis and Clearance Procedures, published in 2005, or latest update;

"incidental asbestos exposure" means unintentional exposure to airborne asbestos at a workplace where asbestos is present;

"non-asbestos-related work" includes work performed in the vicinity of asbestos-containing materials or asbestos cement products, but excludes work performed on or with asbestos-containing materials or asbestos cement products;

"oel" means the occupational exposure limit, the value of which is set by the Minister, for a stress factor in the workplace;

"oel for asbestos" means an occupational exposure limit of 0,1 regulated asbestos fibres per millilitre of air over a continuous period of four hours measured in accordance with HSG 248;

"registered asbestos contractor" means either a contractor, a mandatory or an employer who conducts type 2 asbestos work or type 3 asbestos work or asbestos removal work, who is registered with the chief inspector;

"regulated asbestos area" means an area demarcated and controlled as contemplated in regulation 18;

"regulated asbestos fibre" means a particle of asbestos with a length-to-diameter ratio greater than 3 to 1, a length greater than 5 micrometres and a diameter less than 3 micrometres;

"removal of asbestos" means all tasks included in the process of removing asbestos from the location specified in the inventory of asbestos in place to the final disposal site;

"repair of asbestos-containing materials" means restoring asbestos-containing materials to a safe condition, after damage, using non-destructive methods in a manner that does not cause the release of asbestos fibres;

"respiratory protective equipment" means a device which is worn over at least the mouth and nose to control the inhalation of air that is not safe;

"risk categorisation" means the grouping and ordering of potential asbestos exposure risks as contemplated in regulation 5(3);

"short-term exposure limit" means a short-term exposure limit of 0,6 regulated asbestos fibres per millilitre of air, measured over a continuous 10-minute period;

"the act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"type 1 asbestos work" means -

(a) painting of asbestos cement products in a manner that does not require surface preparation and does not cause the release of asbestos fibres; or

(b) the removal of less than 10 square metres of asbestos cement products or equivalent gutters and piping or asbestos insulating board, where removal work may not be repeated on the same site within a period of six months; and, does not require registration as a registered asbestos contractor with the chief inspector;

"type 2 asbestos work" means -

(a) the repair or encapsulation of asbestos cement products in a manner that does not require surface preparation; or

(b) the removal of asbestos cement products or asbestos insulating board; and, requires registration as a type 2 registered asbestos contractor with the chief inspector;

"type 3 asbestos work" means -

(a) the removal, repair or encapsulation of any asbestos and asbestos-containing material; and, requires registration as a type 3 registered asbestos contractor with the chief inspector;

"UN Transport of Dangerous Goods" means the UN Recommendations on the Transport of Dangerous Goods - Model Regulations, Volumes 1 and 2, which are guidance documents developed by the United Nations to harmonise dangerous goods transport regulations, may be updated from time to time, and are commonly known as the UN Orange Book.

2. Scope of application.-(1) Subject to subregulation (2), these Regulations apply to every employer and self-employed person who may expose any person to asbestos dust at the workplace.

(2) Regulations 5(2), 8(1), 9(4), 12(3)(d), 16(4), 17 and 23 do not apply to self-employed persons.

3. Identification of Asbestos in Place An employer or self-employed person must, as far as is reasonably practicable -

(a) ensure that all asbestos-containing materials at the workplace are identified by a competent person;

(b) if it is uncertain whether the suspected material contains asbestos, either deem the material to be asbestos-containing material or arrange for a sample of that material to be analysed for the presence of asbestos by a laboratory competent to carry out such analyses;

(c) if part of the workplace is inaccessible and considered by a competent person as likely to contain asbestos, assume that asbestos is present in that area;

(d) if no asbestos is identified as per subregulations (a), (b) and (c), ensure that the asbestos-free status of the workplace is substantiated in writing by a competent person: Provided that subregulation (d) does not apply to an employer who occupies or uses a structure as defined in the Construction Regulations, 2003, published as Government Notice R.1010 in Gazette No. 25207 of 18 July 2003, where construction commenced at least three years after promulgation of the Regulations for the Prohibition of the Use, Manufacturing, Import and Export of Asbestos and Asbestos-containing Materials, 2007, published as Government Notice R.341 in Gazette No. 30904 of 28 March 2008, under section 24B of the Environment Conservation Act, 1989 (Act No. 73 of 1989).

4. Inventory of Asbestos in Place (1) An employer or self-employed person must obtain the services of a competent person to ensure that all materials identified as, or assumed to be, asbestos-containing material, as contemplated in regulation 3, are entered into an inventory of asbestos in place, which is kept at the workplace or premises.

(2) With regard to any disagreement as to whether any substance is in fact asbestos, the health and safety representative, health and safety committee or a person nominated by the employees may require that a sample of that substance be taken and definitive identification of the substance be determined by an approved inspection authority, provided that the cost of the identification is borne by the employer.

(3) The inventory of asbestos in place must contain, as far as is reasonably practicable, the following information about each of the asbestos-containing materials-

(a) The date on which the material was identified;

(b) a description of the material, quantity and extent of deterioration;

(c) the location as detailed on a floor plan;

(d) confirmation of labelling and signage as required by regulation 20;

(e) the risk categorisation derived from the asbestos risk assessment as detailed in regulation 5(3); and

(f) a description of potential exposure scenarios as required in regulation 6(2)(b).

(4) The employer or self-employed person must ensure that a competent person reviews and, if necessary, revises the inventory of asbestos in place for the workplace at intervals not exceeding 24 months.

(5) The inventory of asbestos in place should be revised more frequently if -

(a) further asbestos-containing material is identified; and

(b) the asbestos-containing material has deteriorated significantly or is removed, damaged, sealed, coated or encapsulated.

(6) Where the removal of asbestos or repair of asbestos-containing material is planned, information in the inventory of asbestos in place must be adequately detailed with respect to the work to be carried out.

(7) The employer, self-employed person or asbestos client must ensure that a copy of the inventory of asbestos in place, or relevant part thereof, is -

(a) given to the mandatory before any asbestos removal or repair work commences;

(b) given to the registered asbestos contractor and approved inspection authority before asbestos removal or repair work commences;

(c) readily accessible to employees and health and safety representatives at the workplace;

(d) in the case of transfer of ownership, provided to the new owner of the premises; and

(e) given to the approved inspection authority before asbestos removal or repair work commences.

(8) The mandatory who carries out the removal of asbestos or the repair of asbestos-containing material at a workplace must -

(a) obtain a copy of the inventory of asbestos in place from the employer, self-employed person or asbestos client; and

(b) if suspected asbestos-containing materials are located on the structure, plant or machinery, inform the employer, self-employed person or asbestos client who must ensure that a competent person determines whether the substance in question is asbestos-containing material.

(9) In the event of work carried out at a workplace and potential exposure to airborne asbestos -

(a) the employer, self-employed person or asbestos client, as the case may be, must ensure that the person authorising such work is given a copy of the inventory of asbestos in place;

(b) the person authorising the work as contemplated in subregulation (a), from the inventory of asbestos in place, must determine what future task and incident-related potential exposure scenarios are applicable to the work, including identifying recommended controls; and

(c) the employer, self-employed person or asbestos client, as the case may be, must ensure that the recommended controls are implemented with regard to the work.

(10) All asbestos-containing material listed in the inventory of asbestos in place, as required by subregulation (3), must be clearly labelled or provided with signage in accordance with regulation 20.

5. Asbestos Risk Assessment (1) If asbestos is identified in terms of regulation 3, then the employer or self-employed person must ensure that an asbestos risk assessment is carried out, as far as is reasonably practicable, immediately by a competent person and thereafter at intervals not exceeding 24 months.

(2) An employer contemplated in subregulation (1) must, before causing an asbestos risk assessment to be made, consult with the relevant health and safety representative or relevant health and safety committee and inform them in writing of the arrangements made for the asbestos risk assessment, give them reasonable time to comment thereon, and ensure that the results of the asbestos risk assessment are made available to them for comment.

(3) The asbestos risk assessment must, as an outcome, have a risk categorisation based on the potential for exposure to asbestos for each item of asbestos-containing material, which must be derived from the following:

(a) The health impacts of asbestos;
(b) the number of persons potentially exposed at the workplace;
(c) the potential for damage or disturbance of asbestos-containing materials at the workplace, also by maintenance activities, potential incidents and normal occupant activities; and
(d) the condition of asbestos-containing material, including state of deterioration.

(4) The risk categorisation contemplated in subregulation (3) must be used to determine the need for keeping in place, repairing or removing the asbestos-containing material.

(5) The asbestos risk assessment for asbestos repair work, as required in subregulations (1), (2) and (3), must include the following:

(a) The assessed risk of any asbestos exposure relating to each job step;
(b) the controls necessary to reduce the risk of exposure to as low as is reasonably practicable;
(c) an indication whether environmental air monitoring is required; and
(d) if exposure risk indicates that the OEL may be exceeded, an indication that the employer must obtain the services of an occupational medical practitioner to fulfil the requirements of regulation 17(1)(b).

(6) The asbestos risk assessment for asbestos removal work, as part of the plan of work as contemplated in regulation 15 for asbestos-containing materials identified for removal, must consider the following:

(a) The aspects detailed in subregulation (5);
(b) the risk assessment carried out in accordance with regulation 12(2);
(c) the potential exposure of persons other than employees;
(d) the potential contamination of the air, ground and water;
(e) the thorough decontamination of employees and the workplace;
(f) the transportation of asbestos-containing materials and asbestos waste; and
(g) emergency scenarios.

(7) An employer or self-employed person must obtain the services of an approved inspection authority that must review and endorse the following at intervals not exceeding six years-

(a) The inventory of asbestos in place as required by regulation 4; and
(b) the asbestos risk assessment as required by subregulation (1):

Provided that the review and endorsement are not required if the work was carried out by an approved inspection authority.

6. Asbestos Management Plan (1) If asbestos-containing materials are identified, as required in regulation 3, the employer or self-employed person must ensure that a written asbestos management plan for the workplace is prepared by a competent person.

(2) The asbestos management plan must include at least the following:

(a) A procedure that contains at least measures related to -
  (i) the implementation of regulations 3, 4, 5, 8 and 20 at the workplace;
  (ii) the repair, removal and management of asbestos-containing materials; and
  (iii) the implementation of the Regulations for Prohibition of the Use, Manufacturing, Import and Export of Asbestos and Asbestos-containing Materials, 2007;
(b) where asbestos-containing materials have been identified in the inventory of asbestos in place, a specific procedure which will, as far as is reasonably practicable, reduce the risk of exposure of employees, as well as incidental asbestos exposure, for the following scenarios-
  (i) Incidents;
  (ii) emergencies;
  (iii) removal work; and
  (iv) repair work; and
(c) a policy, procedure and implementation plan for phasing out existing asbestos-containing materials at the workplace, which considers the following:
  (i) The principle of 'reasonably practicable'; and
  (ii) reasons for decisions.

(3) The employer or self-employed person must review and, if necessary, revise the asbestos management plan at intervals not exceeding eight years or if any information contemplated in subregulation (2) changes.

7. Information, Instruction and Training (1) An employer must -

(a) provide, to persons who may have incidental asbestos exposure, information, instruction and training -
  (i) through induction training upon employment; and
  (ii) when the inventory of asbestos in place is reviewed;
(b) ensure that the information, instruction and training contemplated in subregulation (a) include, at least -
  (i) the sources of potential exposure as identified in the inventory of asbestos in place contemplated in regulation 4;
  (ii) the potential health risks associated with exposure to asbestos;
  (iii) procedures, including exposure controls and personal decontamination to be followed when asbestos-containing materials have been damaged, or in the event of accidental spillage or any other similar emergency situation likely to result in the release of asbestos dust;
  (iv) the safe disposal of asbestos waste;
  (v) procedures for record keeping; and
  (vi) the inventory of asbestos in place as contemplated in regulation 4

(2) Where an employee undertakes non-asbestos-related work, where there is a potential for exposure to asbestos dust, the employer must ensure that the employee is adequately and comprehensively informed, instructed and trained in both practical and theoretical knowledge with regard to -

(a) the sources of potential exposure identified in the inventory of asbestos in place as contemplated in regulation 4;
(b) the potential health risks associated with exposure to asbestos;
(c) task and incident-related potential exposure scenarios, as well as precautionary measures to be taken to prevent exposure; and
(d) procedures to be followed in the event of accidental disturbance or any other similar emergency situation likely to result in the release of asbestos dust.

(3) In the case of removal of asbestos or repair of asbestos-containing materials, as contemplated in regulation 12, the employer must ensure that all supervisors and employees are adequately and comprehensively informed, instructed and trained in both practical and theoretical knowledge with regard to -

(a) the OEL and its meaning;
(b) the importance of good housekeeping at the workplace, fall protection, the correct use of personal protective equipment and personal hygiene;
(c) the contents of plans of work regarding the handling, removal and temporary storage of any asbestos-containing material;
(d) the correct use of control measures to limit the spread of asbestos dust outside the regulated asbestos area;
(e) the control measures to limit the exposure of employees inside the regulated asbestos area;
(f) procedures to be followed in the event of accidental spillage, disturbance or any other similar emergency situation likely to result in the release of asbestos dust;
(g) procedures for reporting and correcting failures of control measures likely to result in the release of asbestos dust; and
(h) the safe disposal of asbestos waste.

(4) Training contemplated in subregulation (3) must -

(a) be provided by a competent person;
(b) have a minimum contact duration of eight hours; and
(c) as an outcome, provide employees with asbestos training certificates.

(5) Refresher training with a minimum contact duration of two hours must be provided at least annually or at more frequent intervals if -

(a) work methods change;
(b) the type of work carried out changes significantly;
(c) the type of equipment used to control exposure changes; or
(d) deemed a requirement by the occupational health and safety committee.

(6) An employer must ensure that up-to-date records of employee training are made available at the workplace that has asbestos in place.

(7) An employer must ensure that current employee asbestos training certificates, as contemplated in subregulation (4)(c), are provided to employees upon termination of employment.

8. Duties of Persons who May be Exposed

(1) Employees who may be exposed to asbestos in place must -

(a) obey any lawful instruction pertaining to occupational health and safety given by or on behalf of the employer;
(b) attend asbestos awareness training in the inventory of asbestos in place for the building; and
(c) report any asbestos-containing material that has been damaged to the employer or health and safety representative of the workplace, as the case may be, who must report it to the employer.

(2) Persons involved in non-asbestos-related maintenance, who may be exposed to asbestos, must -

(a) obtain a copy of the relevant part of the inventory of asbestos in place for the applicable workplace where non-asbestos-related maintenance will be carried out;
(b) prevent damage to or disturbance of asbestos in place; and
(c) if damage or disturbance occurs, stop work

immediately and report such damage or disturbance to the employer or to the health and safety representative of the workplace, who must report it to the employer.

(3) Persons involved in type 1 asbestos work must obey any lawful instruction pertaining to occupational health and safety given by or on behalf of the employer, as applicable, regarding -

(a) the acquisition of a copy of the relevant part of the inventory of asbestos in place for the workplace;
(b) the demarcation of the regulated asbestos area, as required in regulation 18, to prevent unauthorised entry, using signage as per Annexure 1;
(c) as far as is reasonably practicable, the use of non-destructive wet methods during removal procedures;
(d) the use of appropriate tools and equipment to limit, as far as is reasonably practicable, the release of asbestos dust;
(e) the appropriate type and use of personal protective equipment and clothing;
(f) the thorough decontamination of equipment;
(g) the containment, and labelling in terms of regulation 20, and disposal of asbestos waste in terms of regulation 21; and
(h) the disposal of used disposable overalls and respiratory protective equipment, where applicable, as asbestos waste.

(4) Any person involved in type 2 or type 3 asbestos work, who may be exposed to asbestos at the workplace, must obey any lawful instruction pertaining to occupational health and safety, given by or on behalf of the employer or a self-employed person, regarding -

(a) compliance with requirements of the asbestos plan of work that was approved for that site-specific asbestos work in terms of regulation 15;
(b) as far as is reasonably practicable, the use of non-destructive wet methods during asbestos removal work;
(c) the prevention of asbestos dust becoming airborne;
(d) the appropriate type and use of personal protective equipment and clothing;
(e) wearing of monitoring equipment to measure personal exposure to asbestos;
(f) reporting for medical surveillance as required by regulation 17;
(g) the cleaning up and disposal of any asbestos waste;
(h) decontamination of the structure of a workplace, building or plant, of any visible dust residue where asbestos removal work has been undertaken;
(i) housekeeping at the workplace, personal hygiene and good environmental and health practices, including eating, drinking and smoking in designated places, as provided;
(j) information and training received as contemplated in regulation 7; and
(k) the correct decontamination procedures that must be followed as given in the approved plan of work.

9. Control of Exposure to Asbestos (1) An employer or self-employed person must ensure that the exposure of a person to asbestos is either prevented or, where this is not reasonably practicable, adequately controlled: Provided that the control of exposure is regarded as adequate if the measured airborne concentration of regulated fibres is -

(a) at or below the OEL for asbestos; or
(b) above the OEL for asbestos, but the reason has been identified and action is taken, as soon as is reasonably practicable, to lower airborne concentrations to a level as low as reasonably practicable below the OEL for asbestos.

(2) Where reasonably practicable, an employer or self-employed person must control exposure to asbestos -

(a) by limiting the number of persons who will be exposed or may be exposed;
(b) by limiting the period during which persons will be exposed or may be exposed;
(c) by limiting the amount of asbestos dust that may contaminate the working environment;
(d) by introducing engineering control measures for the control of exposure to asbestos, which include the following:
    (i) Process separation or enclosure;
    (ii) bonding of asbestos fibres with other materials to prevent the release of asbestos dust;
    (iii) the use of wet methods, where appropriate; and
    (iv) the provision of a negative pressure unit with a filtration efficiency of at least 99 per cent for particles one micrometre in size, in the case of type 3 asbestos work, with a fault indicator to provide early warning of a failure of the negative pressure unit; and
(e) by complying with the requirements of regulation 19.

(3) With regard to the contamination of water with asbestos, an employer or self-employed person must ensure that -

(a) any water that is contaminated with asbestos as a result of work being performed is passed through a filtration system before being released into any environment or water system;
(b) a suitable water filtration system is used, which will ensure that the quantity of asbestos being released or entering into any environment or water system is reduced as far as is reasonably practicable; and
(c) contaminated parts of the filtration system, when discarded, are disposed of as asbestos waste.

(4) By introducing appropriate written work procedures that an employee must follow, an employer or self-employed person must ensure that -

(a) asbestos-containing materials are safely handled and disposed of in the appropriate manner; and
(b) installations, equipment, tools and negative pressure units are safely used, decontaminated and maintained.

(5) An employer or self-employed person must report to the Chief Director: Provincial Operations, by telephone, electronic mail or similar means of communication, any spill, disturbance or uncontrolled release of asbestos, which may be considered a health hazard.

10. Notification of Asbestos Work (1) No employer, self-employed person or asbestos client may carry out any type 1 asbestos work unless the Chief Director: Provincial Operations has been notified in writing of the location, venue and contact details of where the asbestos work will be done, at least seven days prior to commencement of such work.

(2) No employer, self-employed person or asbestos client may carry out any type 2 or type 3 asbestos work unless the Chief Director: Provincial Operations has been notified, in writing, at least seven days prior to commencement of such work.

(3) A shorter time period for notification contemplated in subregulations (1) and (2) may be allowed by the Chief Director: Provincial Operations in the event of an emergency.

(4) Written notification contemplated in subregulation (2) must be provided in the format indicated in Annexure 2.

11. Duties of Asbestos Client for Asbestos Work (1) An asbestos client, employer or self-employed person carrying out type 1 asbestos work must -

(a) provide an up-to-date inventory of asbestos in place, as contemplated in regulation 4, when asbestos work is planned;
(b) ensure that an asbestos risk assessment, as contemplated in regulation 5, is carried out prior to asbestos work;
(c) ensure that a written safe work procedure is developed and followed; and
(d) as far as is reasonably practicable, provide adequate information, instruction and training, as contemplated in regulation 7, to any person who may be exposed to asbestos as a result of that asbestos work.

(2) An asbestos client, employer or self-employed person planning type 2 or type 3 asbestos work must -

(a) provide an up-to-date inventory of asbestos in place, as contemplated in regulation 4, to the registered asbestos contractor and approved inspection authority;
(b) if asbestos-containing material intended for removal or repair is not identified in the inventory of asbestos in place, review and update the inventory;
(c) ensure that an asbestos risk assessment is carried out prior to asbestos work;
(d) appoint, in writing, an approved inspection authority;
(e) ensure that the appropriately registered asbestos contractor performs type 2 or type 3 asbestos work as per the asbestos plan of work;
(f) ensure that notification of asbestos work is given as contemplated in regulation 10(2);
(g) ensure that they have co-signed the asbestos plan of work for the asbestos repair or removal work to be carried out;
(h) stop any registered asbestos contractor from executing any asbestos work which poses a health or safety risk to persons until such time that the risk has been appropriately mitigated;
(i) before any asbestos work commences on site, ensure that the registered asbestos contractor is registered and in good standing with the Compensation Fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993); and
(j) where a fatality or permanent disabling injury occurs during asbestos work, report such fatality or injury to the Chief Director: Provincial Operations as contemplated in section 24 of the Act and in accordance with regulations 8 and 9 of the General Administrative Regulations, 2003.

(3) After completion of type 2 or type 3 asbestos work, the asbestos client must obtain an asbestos clearance certificate from the approved inspection authority.

12. Duties of Registered Asbestos Contractor for Asbestos Work (1) In the case of type 2 and type 3 asbestos work, the registered asbestos contractor must -

(a) undertake only the type of asbestos work for which they are registered by the chief inspector;
(b) appoint an occupational health and safety representative as contemplated in section 17 of the Act; and
(c) obtain a copy of an up-to-date inventory of asbestos in place from the asbestos client, prior to asbestos work taking place.

(2) Before commencement of any asbestos work and during such work, the registered asbestos contractor must ensure that -

(a) a risk assessment is performed that includes -
    (i) identification of the hazards to which persons may be exposed;
    (ii) an assessment of the risks related to the hazards based on a documented method; and
    (iii) documented control measures to mitigate the risk;
(b) the risk assessment contemplated in sub-

regulation (a) is reviewed -
(i) at regular documented intervals;
(ii) when an incident has occurred; and
(iii) when the scope of work changes; and
(c) an up-to-date copy of the risk assessment is made available at the relevant asbestos work site.

(3) The registered asbestos contractor must -
(a) ensure that the approved plan of work is submitted to the Chief Director: Provincial Operations at least seven days prior to commencement of asbestos work;
(b) appoint in writing an asbestos removal supervisor for each asbestos work site, who must ensure -
(i) occupational health and safety compliance on the asbestos removal site;
(ii) compliance with safe asbestos removal or repair procedures;
(iii) the correct use of personal protective equipment; and
(iv) proper decontamination and waste disposal;
(c) adhere to the repair or removal methodology and associated control measures provided in the plan of work approved for that specific asbestos work;
(d) ensure that the employee medical and training records are available on site for inspection and validation;
(e) ensure that at least the following information for every employee is recorded and kept for a minimum period of 50 years -
(i) Physical address of every asbestos work project; and
(ii) names and identification numbers of employees potentially exposed;
(f) before commencement of asbestos work, ensure that -
(i) an approved inspection authority has been appointed in writing by the asbestos client; and
(ii) the registered asbestos contractor is registered and in good standing with the Compensation Fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993; and
(g) where a fatality or permanent disabling injury occurs during asbestos work, ensure that a report about the fatality or injury is provided to the Chief Director: Provincial Operations as contemplated in section 24 of the Act, and in accordance with regulations 8 and 9 of the General Administrative Regulations, 2003, and that the report includes the measures that the contractor intends to implement to ensure safe asbestos work.

13. Duties of Approved Inspection Authorities for Asbestos Work An approved inspection authority involved in type 2 or type 3 asbestos work must -
(a) ensure that the appropriately registered asbestos contractor performs only type 2 or type 3 asbestos work, as the case may be;
(b) obtain a copy of an up-to-date inventory of asbestos in place from the asbestos client prior to asbestos work taking place;
(c) in consultation with the registered asbestos contractor, compile a plan of work in accordance with regulation 15;
(d) approve and submit the plan of work at least seven days prior to commencement of asbestos work to the Chief Director: Provincial Operations for acknowledgement;
(e) deleted;
(f) confirm the employee medical certificate of fitness and asbestos training records for that asbestos work;
(g) provide guidance and site-specific instructions to the registered asbestos contractor on the approved plan of work;
(h) inspect adherence to the approved plan of work and requirements of these Regulations;
(i) stop any registered asbestos contractor from executing any asbestos work which poses a health or safety risk to persons until such time that the risk has been appropriately mitigated;
(j) perform planned asbestos air monitoring in accordance with regulation 16 and provide, as soon as is reasonably practicable, air monitoring results to the registered asbestos contractor and asbestos client;
(k) issue a written report, which includes findings and, where necessary, recommendations; and
(l) ensure that, upon completion of type 2 or type 3 asbestos work, clearance is performed as required in regulation 22.

14. Disputes (1) The following provisions apply if uncertainty exists with regard to, or if a dispute arises concerning, the classification of type 1, 2 or 3 asbestos work under this regulation -
(a) The employer responsible for the work area where asbestos work is to be carried out must obtain the services of an approved inspection authority that must make a decision concerning the type of asbestos work; or
(b) the employer or self-employed person responsible for the work area where asbestos work is to be carried out must refer the dispute to the chief inspector, who must make a decision concerning the type of asbestos work;
(c) the employer or self-employed person responsible for the work area, who notifies the approved inspection authority or chief inspector, must promptly inform other parties that such authority or inspector has been notified;
(d) the approved inspection authority or chief inspector must investigate the matter and give the parties a decision in writing within 30 days; and
(e) the asbestos work under dispute must cease until a decision under subregulation (2) is obtained.

(2) Should a dispute arise over the interpretation relating to matters in subregulation (1)(a), the affected person may appeal against the interpretation to the chief inspector.

15. Plan of Work (1) A written approved plan of work, as contemplated in regulation 12(3), must include at least the following:
(a) Name, contact details and responsibilities of the registered asbestos contractor, approved inspection authority, asbestos waste transporter, asbestos waste disposal site and asbestos client, where applicable;
(b) name and contact details of the asbestos removal supervisor for the asbestos work site;
(c) details of the asbestos to be removed, including the location, type, estimated quantity and condition of the asbestos;
(d) a list of employees' names and identification numbers with verification of valid asbestos training and medical surveillance records for the asbestos work site;
(e) expected commencement and completion dates;
(f) air monitoring method used, and frequency of air monitoring, in accordance with regulation 16;
(g) details of how the asbestos removal work will take place, including methods of removal, tools and equipment, and the appropriate personal protective equipment to be used;
(h) details relating to the requirements of decontamination facilities and decontamination procedures;
(i) details of demarcation, labelling and signage requirements for regulated asbestos areas, asbestos waste and temporary on-site storage areas;
(j) procedure for decontamination of the work area, tools and equipment;
(k) emergency procedures in the event of uncontrolled asbestos release;
(l) method for disposal of asbestos waste;
(m) detail of asbestos clearance certification; and
(n) specific relevant prohibitions.

(2) The approved plan of work, as contemplated in regulation 12(3), must contain the signatures of -
(a) the asbestos client accepting the duties as contemplated in regulation 11(2) and (3);
(b) the registered asbestos contractor accepting the duties as contemplated in regulation 12; and
(c) the approved inspection authority for asbestos accepting the duties as contemplated in regulation 13.

16. Air Monitoring (1) In the case of type 2 and type 3 asbestos work, an asbestos client must ensure that air monitoring of the concentration of airborne regulated fibres to which an employee may be exposed, is -
(a) performed by an approved inspection authority;
(b) carried out in terms of HSG 248;
(c) representative of employee exposure; and
(d) carried out at a frequency determined by the approved inspection authority based on the site-specific asbestos risk assessment.

(2) The results of air monitoring obtained must be compared with the OEL or the OEL short-term exposure limit to ensure that no employee is exposed to asbestos in excess of the prescribed OELs.

(3) Environmental air monitoring must be performed by an approved inspection authority during type 2 and type 3 asbestos work.

(4) Air monitoring referred to in subregulations (1) and (3) must be carried out only after the relevant health and safety representative or relevant health and safety committee has been consulted and given a reasonable opportunity, as mutually agreed, to comment thereon.

17. Medical Surveillance (1) An employer must establish and maintain a system of medical surveillance of employees if -
(a) the employer is registered as an asbestos contractor;
(b) in the opinion of an occupational medicine practitioner, after consideration of the results of the asbestos risk assessment carried out in terms of regulation 5(5)(d), it is reasonably likely that an asbestos-related disease may occur under the particular conditions of an employee's work; or
(c) an occupational medicine practitioner recommends that the relevant employee should be under medical surveillance.

(2) In order to comply with subregulation (1), an employer must appoint an occupational medicine practitioner to document the system of medical surveillance of employees, including -
(a) consideration of -
(i) the risk of developing occupational asbestos-related diseases; and
(ii) medical fitness to work requirements, including fitness to wearing a respirator;
(b) an initial health evaluation before commencement of asbestos work, which comprises -
(i) an evaluation of the employee's medical, occupational, exposure and social history;
(ii) an appropriate physical examination;
(iii) a chest radiograph; and
(iv) any other additional medical examination, such as pulmonary function testing, which, in the opinion of the occupational medicine practitioner, is necessary to enable such practitioner

to perform an appropriate health evaluation;
(c) periodic health evaluations conducted, considering medical tests contemplated in subregulation (2)(b), at intervals determined by subregulations (2)(a) and 4(b);
(d) the duties of an occupational health practitioner, conducted under the direction of the appointed occupational medicine practitioner; and
(e) making the documented system of medical surveillance available to the health and safety representative or health and safety committee, who is entitled to further clarification, if they so request.

(3) The appointed occupational medicine practitioner must notify the employer in writing of the outcomes of the health evaluation by issuing the certificate of medical surveillance subject to the following:
(a) The information provided to the employer is limited to the presence of an occupational disease and the fitness of the employee to perform the inherent requirements of the job, and may not include confidential medical information;
(b) the employee is informed of the outcome of the health evaluation; and
(c) an employee is assessed to be temporarily medically unfit to perform work if there is a reasonable expectation that the employee's health will improve, and that such employee will be able to return to work.

(4) An employer may not permit an employee who was certified by an occupational medicine practitioner as medically unfit to work in a regulated asbestos area: Provided that the employee may return to perform that work after being certified fit by an occupational medical practitioner, and after -
(a) being informed of the results of the exposure assessments; and
(b) being prescribed medical tests in the frequency they should be repeated based on the risks.

(5) The certificate of medical surveillance, as contemplated in subregulation (3) -
(a) must be provided by the employer to the employee upon termination of employment; and
(b) may be used for subsequent asbestos work for the full duration of its validity period.

(6) The employer must record, investigate and report the occupational disease contemplated in subregulation (3)(a) in compliance with section 25 of the Act and regulation 8 of the General Administrative Regulations, 2003.

(7) An employer must ensure that the employee provides written informed consent for inclusion in the medical surveillance programme, which forms part of the medical surveillance record.

18. Regulated Asbestos Area An employer or self-employed person undertaking type 1, type 2 or type 3 asbestos work must -
(a) clearly demarcate and identify the relevant area as a regulated asbestos area in accordance with regulation 20; and
(b) ensure that no person enters or remains in a regulated asbestos area unless he or she wears the appropriate type and correctly fitting respiratory protective equipment and protective clothing as contemplated in regulation 19.

19. Personal Protective Equipment and Facilities (1) An employer or self-employed person must -
(a) provide respiratory protective equipment and protective clothing suitable for protection against regulated asbestos fibres to all persons who may be exposed to asbestos;
(b) ensure that the respiratory protective equipment provides the appropriate level of protection for the type of asbestos work to be undertaken; and
(c) ensure that a person's exposure is adequately controlled as contemplated in regulation 9.

(2) Where respiratory protective equipment is provided, the employer or self-employed person must ensure that -
(a) the relevant equipment is capable of keeping the exposure level below the OEL for asbestos;
(b) the relevant equipment is correctly and properly used, stored and maintained;
(c) information, instruction, training and supervision that are necessary with regard to the use of the equipment are provided to the persons; and
(d) the equipment is kept in good condition and efficient working order.

(3) An employer or self-employed person must, as far as is reasonably practicable -
(a) issue no personal protective equipment to a person unless such equipment is cleaned, decontaminated and, where appropriate, sterilised;
(b) provide separate containers or storage facilities for personal protective equipment not in use; and
(c) ensure that all personal protective equipment not in use is stored only in the place provided.

(4) An employer or self-employed person must, as far as is reasonably practicable, ensure that all personal protective equipment contaminated with asbestos dust is thoroughly cleaned and handled in accordance with the following procedures -
(a) Where personal protective equipment is cleaned on the premises of the asbestos client, care must be taken to prevent contamination during handling, transport and cleaning; and
(b) water that is used for decontamination or cleaning of equipment must be filtered in accordance with regulation 9(3) before being released into any water system.

(5) Subject to subregulation (3)(a), an employer or self-employed person must ensure that no person removes dirty or contaminated personal protective equipment from the workplace: Provided that where personal protective equipment contaminated with asbestos dust has to be disposed of, it must be treated as asbestos waste as contemplated in regulation 21.

(6) Subject to the Facilities Regulations, 2004, published as Government Notice R.924 in Gazette No. 26636 of 3 August 2004, the employer must -
(a) provide employees involved in type 1 and type 2 asbestos work with adequate washing facilities, which are readily accessible and located in an area where the facilities will not become contaminated, to enable employees to meet a standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of asbestos dust;
(b) provide employees involved in type 3 asbestos work with a decontamination facility, in accordance with HSG 248, Chapter 9, which facility is readily accessible and located in an area where it will not become contaminated, to enable employees to meet a standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of asbestos dust.

20. Labelling and Signage (1) All asbestos in place listed in the inventory of asbestos in place, as required by regulation 4, must be clearly and legibly identified using the pictogram specified in Annexure 1.

(2) All asbestos waste must be clearly labelled -
(a) using the label specified in Annexure 1;
(b) as far as is reasonably practicable, using clearly visible and a sufficient number of labels that would adequately serve as a warning of potential exposure; and
(c) ensuring that a container or vehicle in which asbestos is transported is clearly identified in accordance with the UN Transport of Dangerous Goods or UN Orange Book.

(3) Any asbestos-contaminated soil or land contaminated with asbestos waste must be clearly demarcated and signposted using the asbestos warning signage specified in Annexure 1.

(4) Any regulated asbestos area must be clearly demarcated using the pictograms and signs specified in Annexure 1.

21. Disposal of Asbestos An employer or self-employed person must, as far as is reasonably practicable, ensure that -
(a) all asbestos waste is placed in containers that will prevent exposure during handling;
(b) the premises, structure or area are thoroughly checked to ensure that all asbestos waste intended for disposal has been removed;
(c) all vehicles, reusable containers or any other similar articles, which have been in contact with asbestos waste, are cleaned and decontaminated after use in such a way that such vehicles, containers or similar articles do not cause a hazard inside or outside the workplace concerned;
(d) a document is obtained from the asbestos disposal site, contemplated in subregulation (e), for all asbestos waste removed from the workplace; all asbestos waste is disposed of only on sites specifically designated for this purpose in terms of the Environment Conservation Act, 1989, and the National Environmental Management: Waste Act, 2008;
(e) all persons involved in the collection, transport and disposal of asbestos waste, who may be exposed to that waste, are provided with suitable personal protective equipment;
(f) the drivers of vehicles carrying asbestos waste are provided with written instructions on safety precautions and emergency procedures; and
(g) where the services of a contractor for the transport and disposal of asbestos waste are used, the contractor complies with the provisions of these Regulations.

22 Asbestos Clearance Certificate Following the completion of type 2 or type 3 asbestos work, an approved inspection authority must -
(a) conduct a thorough visual inspection of the relevant work area;
(b) conduct air sampling to ensure compliance with the clearance indicator;
(c) ensure that all asbestos waste has been removed in accordance with the requirements of regulation 21; and
(d) issue a written declaration for the purpose of clearance certification.

23. Records An employer must -
(a) keep records of all inventories of asbestos in place, asbestos risk assessments, air monitoring results, medical surveillance reports, disposal certificates and clearance certificates as required by regulations 4, 5, 16, 17, 21(d) and 22(d), respectively: Provided that personal medical records may be made available to only an occupational health practitioner;
(b) subject to subregulation (c), make the records contemplated in subregulation (a), excluding personal medical records, available for inspection by an inspector;
(c) allow any person, subject to formal written consent by an employee, to peruse the records with respect to that particular employee;
(d) make the records of all assessments, surveys and air monitoring results, and the asbestos inventory, available for perusal by

the relevant health and safety representative or relevant health and safety committee;
(e) keep all records contemplated in subregulation (a) for a minimum period of 50 years;
(f) hand over or forward by registered post all records contemplated in subregulation (a) to the relevant Chief Director: Provincial Operations, if the employer ceases activities relating to asbestos work;
(g) keep a record of training given to an employee in terms of regulation 7 for as long as the employee remains employed at the workplace where the employee is potentially exposed to asbestos.

24. Prohibition No person may -
(a) sell, donate, reuse, reinstall or recycle any asbestos or asbestos-containing materials;
(b) clean or prepare surfaces of asbestos cement materials;
(c) temporarily store any asbestos or asbestos-containing materials for longer than three months after completion of asbestos removal work, before final disposal;
(d) temporarily store asbestos-containing materials destined for disposal, which are uncovered or unprotected or stored in a manner that may contaminate ground or water systems or may cause the release of asbestos dust;
(e) use compressed air or permit the use of compressed air to remove asbestos dust from any surface or person;
(f) use electrical power tools, such as angle grinders, or any other fast-moving equipment to cut, grind or drill asbestos-containing material;
(g) smoke, eat, drink or keep food or beverages in a regulated asbestos area or require or permit any other person to smoke, eat, drink or keep food or beverages in such area;
(h) vacuum asbestos dust using vacuum cleaning equipment other than vacuum cleaning equipment with a filtration efficiency of at least 99 per cent for particles one micrometre in size; or
(i) carry out any demolition work before all asbestos and asbestos-containing building material has been identified in the inventory of asbestos in place, safely removed or otherwise controlled, as far as is reasonably practicable, so as to eliminate the uncontrolled release of asbestos and asbestos dust.

25. Offences and Penalties Any person who contravenes or fails to comply with any provision of regulation 3 up to and including regulation 24 is guilty of an offence and upon conviction liable to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R500,00 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment must in no case exceed 90 days.

26. Repeal of Regulations
(1) The Asbestos Regulations, 2001, published as Government Notice R.155 in Gazette No. 23108 of 10 February 2002, are hereby repealed.

27. Short Title (1) These Regulations are called the Asbestos Abatement Regulations, 2020, and come into operation on the date of publication thereof in the Gazette.
(2) Regulation 3 and regulation 20 will come into effect 18 months after the promulgation of these Regulations.

ANNEXURE 1

Asbestos warning labels and signs

1.1 Asbestos warning sign

DANGER: ASBESTOS
May cause Cancer

1.2 Asbestos warning labels

ASBESTOS

DANGER
MAY CAUSE CANCER THROUGH INHALATION
CAUSES SKIN IRRITATION

Do not handle until all precautions described in the Asbestos Regulations and Safety Data Sheet have been read and understood. Do not breathe asbestos dust. Wear the correct type of respirator that fits properly. When showering, take off the disposable gloves and your overall before removing the respirator.

Dispose of asbestos waste in line with the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

ANNEXURE 2

NOTIFICATION OF ASBESTOS WORK

Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
(Regulation 10 of the Asbestos Abatement Regulations, 2020)

1.

(a) Name and registration number of the registered asbestos contractor**.

_____

_____

(b) Physical address of the registered asbestos contractor:

_____

_____

(c) Name and phone number of the contact person of the registered asbestos contractor:

_____

_____

2.

(a) Name of asbestos client:

_____

_____

(b) Name and phone number of the contact person of the asbestos client:

_____

_____

3.

(a) Name of approved asbestosinspection authority (AIA)** and its Department of Employment and Labour AIA registration number:

_____

_____

(b) Name and phone number of the contact person of the approved inspection authority:

_____

_____

4. Exact location/address of where the asbestos work will be done:

_____

GPS coordinates: S_____ E _____

5. Type and volume of asbestos to be removed/repaired (as applicable):

_____

6. Expected commencement date: _____

7. Expected completion date: _____

_____ _____

Registered Asbestos Contractor** **Date**

_____ _____

Asbestos Client **Date**

The completed document must be sent to the Chief Director: Provincial Operations of the province where asbestos work is to take place, seven days prior to commencement of asbestos work.

** Not applicable in the case of type 1 asbestos work.

DIVING REGULATIONS

GNR.41 of 29 January 2010: Diving Regulations, 2009

[These regulations were first published in GNR.12 of 4 January 1991 and subsequently amended by GNR.343 and repealed by GNR.10 of 11 January 2002 and by GNR.41 of 29 January 2010.]

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates -

"air" means normal compressed air suitable for breathing while diving;

"airlock operator" means a person registered as an airlock operator for compressed air work contemplated in regulation 13, who enables compressed air workers to enter and exit a pressurised working area on the other side of the personnel lock (such as a caisson, tunnel or shaft), but does not include operators of chambers during diving operations involving class I, II, III, IV, V and VI divers;

"assistant life-support technician" means a person registered as an assistant life support technician contemplated in regulation 7 (1), who assists a life support technician with his duties of life support and treatment in chambers and has been trained in all aspects of saturation life support;

"benign conditions" means a tank or pool artificially constructed for the purpose of swimming or diving or for use as an aquarium, where-

(*a*) the diver is in full view from the surface or viewing windows at all times;
(*b*) there are no hazards from entanglement or entrapment; and
(*c*) the water depth does not exceed 8m;

"caisson" means a structure extending below ground or water level into which workers may enter through a lock into a pressurised atmosphere, and includes a pressurised tunnel, shaft or similar structure;

"chamber" means a pressure vessel for human occupation having internal dimensions sufficient to accommodate at least one diver lying in a horizontal position as well as one other person, and which allows the ingress and egress of personnel while the occupants are under pressure;

"chamber operator" means a person registered as a chamber operator contemplated in regulation 15 (1), who is qualified to operate an air-diving chamber under the auspices of a qualified diving supervisor;

"class I diver" means a registered saturation diver contemplated in regulation 10 (1), who is, trained in all aspects of saturation and bell diving;

"class II mixed gas diver" means a registered diver contemplated in regulation 10 (1), who is trained in all aspects of mixed gas diving using surface supplied diving equipment to a maximum depth of 75 metres, with an open bell or diving stage, excluding saturation diving;

"class II air diver" means a registered diver contemplated in regulation 10 (1), who is, trained in all aspects of air diving using surface supplied diving equipment with an open bell or diving stage, to a maximum depth of 50 metres;

"class III nitrox diver" means a registered diver contemplated in regulation 10 (1), who is trained in all aspects of nitrox diving using surface supplied diving equipment, to a maximum depth of 30 metres;

"class III air diver" means a registered diver contemplated in regulation 10 (1), who is trained in all aspects of air diving using surface supplied diving equipment, to a maximum depth of 30 metres;

"Class IV nitrox diver" means a registered diver contemplated in regulation 10 (1), who is trained in all aspects of nitrox diving using SCUBA, to a maximum depth of 30 metres;

"class IV air diver" means a registered diver contemplated in regulation 10 (1), who is trained in all aspects of air diving using SCUBA, to a maximum depth of 30 metres;

"class V diver" means a registered scientific diver contemplated in regulation 10 (1), who is trained in air SCUBA diving to a depth not exceeding 20 metres and diving under the code of practice for scientific diving;

"class VI diver" means a registered diver contemplated in regulation 10 (1), who is trained in air SCUBA diving to a depth not exceeding 8 metres and diving under the code of practice for diving in benign conditions;

"client" means a person for whom diving work is performed

"code of practice" means a code of practice made under regulation 24 (*b*);

"competence" in relation to diving work, means having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training; declared competent by an accredited assessor or institution

"compressed air work" means working in a caisson, where the structure is pressurised to render the working area dry or stable, and includes such structures that are compressed with air or other mixtures of gases;

"compressed air worker" means a person registered as a compressed air worker contemplated in regulation 16 (1), who is trained in compressed air work;

"designated medical practitioner" means a medical practitioner designated in accordance with regulation 19;

"dive" means-

(*a*) entering water or any other liquid, or a pressurised environment in which a person is subjected to pressure greater than 100 millibars above atmospheric pressure, where in order to survive in such an environment a person breathes air or other gas at pressure greater than atmospheric pressure, and "a dive" and ''to dive" shall have a corresponding meaning; or
(*b*) operation of a ROV;

"diver's logbook" means a logbook in a form set out in Annexure A of these Regulations;

"diving advisory board" means the advisory board established under regUlation 23;

"diving apparatus" means any type of diving equipment that can enable a person to breathe while diving;

"diving contractor" means-

(*a*) a person who is the contractor of a diver engaged in a diving project,
(*b*) a ROV contractor who employs ROV pilots; or
(*c*) a compressed air work contractor who employs compressed air workers;

and includes a self-employed person who is not working as a subcontractor;

"diving operation" which includes ROV dives, means the activities in which at least one person takes part or will take part as a diver and extends from the time when that person, or the first such person, commences to prepare to dive until that person, or the last such person, has left the water, chamber or other environment in which the dive, or any part of the dive, took place and has completed any decompression procedures, including any therapeutic recompression and time spent breathing oxygen or other gas mixture at the surface for the purposes of precautionary accelerated inert gas washout, and includes the safety decompression sickness monitoring period

after the dive;

"diving operations record" means the record containing the required particulars for each diving operation set out in Annexure B to these Regulations;

"diving project" means any activity, made up of one or more diving operations, including the preparation for, participation in and activities following a diving operation that are directly linked to a diving operation;

"diving project plan" means a plan contemplated in regulation 5;

"diving supervisor" means a registered diving supervisor contemplated in regulation 9 (1), who is trained as a diving supervisor;

"diving system" means all equipment in support of a diving operation, including chambers, bells, handling systems and diving apparatus;

"hyperbaric operation supervisor" means a registered hyperbaric operations supervisor contemplated in regulation 14 (1), who supervises compressed air work;

"Instructor" means a registered instructor contemplated in regulation 6 (1);

"life-support supervisor" means a life support technician contemplated in regulation 7 (2);

"life support technician" means a registered life-support technician contemplated in regulation 7 (1), who is trained in all aspects of saturation life support;

"nitrox" means a mixture of oxygen and nitrogen, where the percentage of oxygen in the mixture is greater than that of normal air and does not exceed a maximum partial pressure of 1.6 atmospheres absolute of oxygen at any given time, but does not include therapeutic gas mixtures;

"operations manual" means a manual contemplated in regulation 21 ;

"ROV" means a submersible remotely operated vehicle;

"ROV operations record" means a record containing the required particulars for each diving operation set out in Annexure B;

"ROV pilot" means a registered ROV pilot contemplated in regulation 12 (1), who is trained as an ROV pilot;

"ROV supervisor" means a registered ROV supervisor contemplated in regulation 11 (1);

"SAUHMA" means the Southern African Undersea and Hyperbaric Medical Association;

"SCUBA" means self-contained underwater breathing apparatus, in which the supply of breathing mixture carried by the diver is independent of any other source;

"systems' technician" means a technician appointed in accordance with regulation 8 (3);

"trainee diving supervisor" means a registered trainee diving supervisor contemplated in regulation 9 (1), who has successfully completed the theoretical training for diving supervision and is working under the auspice of the qualified diving supervisor;

"training standard" means a training standard made under regulation 24 (*a*).

2. Scope of application.-(1) Subject to sub-regulation (2), these Regulations apply to all diving operations and all persons engaged in diving operations in the Republic of South Africa or the territorial waters thereof: Provided that all diving operations performed by the South African National Defence Force in accordance with the South African Naval Operations Publication number 96 and all persons involved in those operations, must be regarded as having complied with these Regulations.

(2) These Regulations shall not apply to persons who-

(*a*) use no diving apparatus;

(*b*) are recreational dive masters or diving instructors;

(*c*) are engaged in diving projects where they are not considered employees at work;

(*d*) are medical personnel who have to take part in compression chamber dives in case of an emergency; or

(*e*) are involved in the care or treatment of patients in a hyperbaric facility in a hospital or other place not under the control of a diving contractor, compressed air work contractor or ROV contractor: Provided that such facility is accredited by SAUHMA for the treatment of those patients.

3. Client.-(1) A client shall be responsible for the following in order to ensure compliance with the provisions of the Act-

(*a*) to prepare a documented health and safety specification for the diving work, and provide any diving contractor who is making a bid or appointed to perform diving work for the client with the same;

(*b*) to promptly provide the diving contractor and his or her agent with any information which might affect the health and safety of any person at work carrying out diving work;

(*c*) to appoint each diving contractor in writing for the project or part thereof on a diving site;

(*d*) to take reasonable steps to ensure that each diving contractor's health and safety plan is implemented and maintained on the diving site: Provided that the steps taken, shall include periodic audits at intervals mutually agreed upon between the client and diving contractor, but at least once every month;

(*e*) to stop any contractor from executing diving work which is not in accordance with the diving contractor's health and safety plan for the site or which poses to be a threat to the health and safety of persons;

(*f*) to ensure that where changes are brought about, sufficient health and safety information and appropriate resources are made available to the diving contractor to execute the work safely;

(*g*) to ensure that every diving contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site; and

(*h*) to ensure that potential diving contractors submitting tenders, have made provision for the cost of health and safety measures during the diving project.

(2) A client shall discuss and negotiate with the diving contractor the contents of the health and safety plan and thereafter finally approve the health and safety plan for implementation.

(3) A client shall ensure that a copy of the diving contractor's health and safety plan is available on request to an employee, inspector or contractor.

(4) No client shall appoint a diving contractor to perform diving work, unless the client is reasonably satisfied that the diving contractor that he or she intends to appoint has the necessary competencies and resources to carry out the work safely.

(5) A client may appoint an agent in writing to act as his or her representative and where such an appointment is made, the responsibilities as are imposed by these regulations upon a client, shall as far as reasonably practicable apply to the person so appointed.

(6) No client shall appoint any person as his agent, unless the client is reasonably satisfied that the person he or she intends to appoint has the necessary competencies and resources to perform the duties imposed on a client by these regulations.

4. Diving contractor.-(1) No person at work may dive in a diving project and no contractor may employ any person in such a diving project unless the client has appointed a single diving contractor for that diving project.

(2) If no diving contractor is appointed as contemplated in sub-regulation (1), the client must perform the functions of a diving contractor in accordance with these Regulations

(3) The duties of a diving contractor are to ensure that as far as it is reasonably practicable-

(*a*) the diving project is planned, managed and conducted in a manner which protects the health and safety of all persons taking part in that diving project;

(*b*) before the commencement of the diving project, a diving project plan Is prepared in respect of that project In accordance with regulatIon 5, and that the plan Is thereafter updated as necessary during the continuance of the project;

(*c*) before the commencement of any diving operation-

(i) subject to regulations 7, 9, 11 and 14 a person Is appointed in writing to supervise that operation; and

(ii) the person contemplated in subparagraph (i) is supplied with a copy of the diving project plan;

(*d*) the required number of competent people are appointed to carry out, safely and without risk to health, the diving project and any action, including the application of first-aid, which may be necessary in the event of a reasonably foreseeable emergency connected with the diving project;

(*e*) equipment is available to carry out both the diving project and any action without risk to health and safety, including the application of first-aid, which may be necessary in the event of a reasonably foreseeable emergency connected with the diving project;

(*f*) the equipment contemplated in subparagraph (*e*) is maintained in a safe working condition;

(*g*) that any person taking part in the diving project complies with the requirements and prohibitions imposed on him or her by or under the relevant statutory provisions and observes the provisions of the diving project plan; and

(*h*) a diving operations record containing the minimum required particulars contemplated in Annexure B is completed within 24 hours of completion of a diving operation and kept for each diving operation for a minimum of two years

(4) The appointment of a diving contractor does not relieve the client of any duty imposed on him or her by the Act.

(5) The appointment of any subcontractors does not relieve the diving contractor of any duty imposed on him or her by the Act.

5. Diving project plan.-(1) A diving project plan must be based on an assessment of the risks to the health and safety of any person taking part in the diving project and must consist of a record of the outcome of the planning carried out in accordance with the Regulations, including all the information, instructions and procedures that are necessary to give advice to and to regulate the behavior of those so taking part to ensure, as far as is reasonably practicable, their health and safety.

(2) A diving project plan must identify and incorporate-

(*a*) the relevant approved codes of practice which apply to the diving project;

(*b*) any relevant legislative document that may be applicable in the specific diving project; and

(*c*) any guidance note that may be applicable in the specific diving project.

6. Instructors.-(1) No person may be registered as a diving instructor under class I, II, III or IV or as an instructor for compressed air work or

as a ROV instructor, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) An instructor must ensure that all training provided is in accordance with these Regulations and the relevant training standards made under regulation 24 (*a*).

(3) No instructor may provide training unless he or she is appointed in writing and authorised by a diving school registered as contemplated in regulation 17 (1): Provided that training for first aid may be provided by an institution registered to provide first aid.

7. Life support technicians.-(1) No person may be registered as an assistant life-support technician or a life support technician, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) A diving contractor must appoint a life-support technician with appropriate levels of experience and competency for a particular diving operation as a life support supervisor.

(3) No life-support technician may be appointed as the life-support supervisor for a diving operation unless that technician is registered in accordance with sub-regulation (1).

(4) An appointment as a life support supervisor must be in writing.

(5) A life-support technician must in respect of a diving operation in which he or she is involved-

(*a*) perform the relevant duties and functions under the supervision of the life-support supervisor and follow instructions given to him or her by the life-support supervisor; and

(*b*) ensure that a record is maintained in his or her logbook in accordance with Annexure A.

(6) A life-support supervisor must in respect of a diving operation for which he or she has been appointed-

(*a*) ensure that it is carried out as far as it is reasonably practicable-

(i) without risk to the health and safety of all of those taking part in that operation and of any other person who may be affected thereby;

(ii) in accordance with the requirements and prohibitions imposed on him or her by or under any relevant statutory provision; and

(iii) in accordance with the diVing project plan;

(*b*) ensure before the commencement of the operation that each person taking part is aware of the contents of the diving project plan which relate to that operation;

(*c*) ensure that the particulars, required by Annexure B, are entered In the diving operations record and the saturation chamber record In the course of the diving operation; and

(*d*) ensure that a record Is maintained In his or her logbook In accordance with Annexure A.

(7) A life-support supervisor may, while supervising a diving operation in respect of which he or she has been appointed, give reasonable directions to any person taking part in that operation or who may affect the safety of that operation that are necessary to enable that person to comply with these Regulations.

(8) A life-support technician must report for a medical examination to a designated medical practitioner at least once every 12 months.

8. Systems' technicians.-(1) A diving contractor must ensure that a competent person is appointed as a systems' technician to perform mechanical and electrical maintenance and repairs on a diving system.

(2) An appointment as a systems' technician must be in writing.

(3) A systems' technician must-

(*a*) carry out routine maintenance and checks to identify faults or problems with the diving system and implement corrective measures;

(*b*) carry out any in-service maintenance as required;

(*c*) maintain an accurate record of all work done on the diving system; and

(*d*) maintain a record of his or her work in a systems' technician logbook in accordance with Annexure A.

(4) A systems' technician may not perform any work on a diving system in the course of a diving operation without the approval of the diving supervisor.

(5) A systems' technician must report for a medical examination to a designated medical practitioner at least once every 12 months.

9. Diving supervisors.-(1) No person may be registered as a trainee supervisor or a supervisor under class I, II, III or IV, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) The diving supervisor for a particular diving operation must be appointed In writing by the diving contractor.

(3) No person may be appointed as the supervisor for a diving operation, unless that person is registered in accordance with subregulation (1).

(4) A supervisor must in respect of a diving operation for which he or she has been appointed-

(*a*) ensure that it is carried out as far as it is reasonably practicable-

(i) without risk to the health and safety of all those taking part in that operation and of any other person who may be affected thereby;

(ii) In accordance with the requirements and prohibitions imposed on him or her by or under any relevant statutory provision; and

(iii) in accordance with the diving project plan;

(*b*) ensure before the commencement of the operation that each person taking part is aware of the contents of the diving project plan which relate to that operation;

(*c*) enter the particulars, required by Annexure B in the diving operations record;

(*d*) maintain a daily record in his or her logbook in accordance with Annexure A;

(*e*) ensure that the particulars of any recompression therapy are recorded in the logbook of the diver in accordance with Annexure A; and

(*f*) at all times be available to deal with emergencies at the site where diving operations are carried out.

(5) A supervisor may not-

(*a*) dive while supervising other divers; or

(*b*) act as a standby diver.

(6) A trainee supervisor may supervise dives only while under the direct supervision of a diving supervisor.

(7) A supervisor may, while supervising a diving operation in respect of which he or she has been appointed, give reasonable directions to any person taking part in that operation or who may affect the safety of that operation that are necessary to enable that person to comply with these Regulations.

(8) A diving supervisor must report for a medical examination to a designated medical practitioner at least once every 12 months.

10. Divers.-(1) No person may be registered as a diver under class I, II, III, IV, V or VI, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) A diver engaged in a diving project must-

(*a*) maintain a daily record of his or her diving in his or her diver's logbook in accordance with Annexure A;

(*b*) inform the diving supervisor if he or she is not competent to carry out the diving tasks required as part in the diving operation in a safe manner;

(*c*) if he or she knows of anything, including any illness or other condition, which makes him or her unfit to dive, inform the diving supervisor of his or her unfitness;

(*d*) comply with any direction given to him or her by the supervisor appointed for that diving operation; and

(*e*) comply with any instruction applicable to him or her in the diving project plan.

(3) A diver must report for a medical examination to a designated medical practitioner at least once every 12 months.

11. ROV supervisors.-(1) No person may be registered as a ROV supervisor, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) The ROV supervisor for a particular diving operation must be appointed in writing by the diving contractor.

(3) No person may be appointed as the ROV supervisor for a diving operation, unless that person is registered in accordance with subregulation (1) .

(4) A ROV supervisor must in respect of the ROV operation for which he or she has been appointed-

(*a*) ensure that as far as it is reasonably practicable it is carried out-

(i) without risk to the health and safety of all those taking part in that operation and of any other person who may be affected thereby;

(ii) in accordance with the requirements and prohibitions imposed on him or her by or under any relevant statutory provision; and

(iii) in accordance with the diving project plan;

(*b*) before the commencement of the operation, ensure that each person taking part is aware of the contents of the diving project plan which relate to that operation;

(*c*) enter the particulars required by Annexure B in the ROV operations record; and

(*d*) maintain a daily record in his or her logbook in accordance with Annexure A.

(5) A ROV supervisor may, while supervising a ROV operation in respect of which he or she is appointed, give reasonable directions to any person taking part in that operation or who may affect the safety of that operation that are necessary to enable that person to comply with these Regulations: Provided that in the case of a diving supervisor supervising divers in the vicinity of a ROV operation, the ROV supervisor must follow the instructions given by the diving supervisor.

(6) A ROV supervisor must report for a medical examination to a designated medical practitioner at least once every 12 months.

12. ROV pilots.-(1) No person may be registered as a ROV pilot, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*) ,

(2) A ROV pilot engaged in a diving project must-

(*a*) maintain a daily record in his or her logbook in accordance with Annexure A;

(*b*) inform the ROV supervisor if he or she is not competent to carry out the tasks required as part in the ROV operation in a safe manner;

(*c*) comply with any direction given to him or her by the ROV supervisor;

(*d*) comply with any instruction applicable to him or her in the diving project plan; and

(*e*) report for a medical examination to a designated medical practitioner at least once every 12 months.

13. Airlock operators for compressed air

work.-(1) No person may be registered as an airlock operator for compressed air work, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) The airlock operator for a particular compressed air diving operation must be appointed in writing by the contractor.

(3) No person may be appointed as an airlock operator to operate the transfer of personnel or material unless that person is registered in accordance with subregulation (1).

(4) An airlock operator must In respect of the diving operation for which he or she has been appointed-

(*a*) ensure that as far as It Is reasonably practicable It Is carried out without risk to the health and safety of all those taking part In that operation and of any other person who may be affected thereby;

(*b*) inform the hyperbaric operations supervisor if he or she Is not competent to carry out the tasks required as part in the diving operation in a safe manner;

(*c*) comply with any direction given to him or her by the hyperbaric operations supervisor appointed for that diving operation;

(*d*) enter the particulars required by Annexure B in the diving operations record; and

(*e*) maintain a daily record in his or her logbook in accordance with Annexure A.

(5) An airlock operator must report for a medical examination to a designated medical practitioner at least once every 12 months.

14. Hyperbaric operations supervisors for compressed air work.-(1) No person may be registered as a hyperbaric operations supervisor for compressed air work, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*),.

(2) The hyperbaric operations supervisor for a particular compressed air work operation shall be appointed in writing by the contractor.

(3) No person may be appointed as a hyperbaric operations supervisor for a compressed air work operation, unless that person is registered in accordance with sub-regulation (1).

(4) A hyperbaric operations supervisor must in respect of the compressed air work operation for which he or she has been appointed-

(*a*) ensure that as far as it is reasonably practicable it is carried out-

(i) without risk to the health and safety of all those taking part in that operation and of any other person who may be affected thereby;

(ii) in accordance with the requirements and prohibitions imposed on him or her by or under any relevant statutory provision; and

(iii) in accordance with the diving project plan;

(*b*) before the commencement of the operation, ensure that each person taking part is aware of the contents of the diving project plan which relate to that operation;

(*c*) ensure that the particulars required by Annexure B are recorded in the hyperbaric work operations record; and

(*d*) ensure that the particulars of any therapeutic treatment provided in accordance with regulation 15 are entered into the logbook of the compressed air worker in accordance with Annexure A.

(5) A hyperbaric operations supervisor may, while supervising a diving operation in respect of which he or she is appointed, give reasonable directions to any person taking part in that operation or who may affect the safety of that operation that are necessary to enable that person to comply with these Regulations.

(6) A hyperbaric operations supervisor must report for a medical examination to a designated medical practitioner at least once every 12 months.

15. Chamber operators and operation of chambers.-(1) No person may be registered as a chamber operator for diving operations and compressed air work operations, unless that person complies with the requirements of the relevant training standards made under regulation 24 (*a*).

(2) No person may operate a diving chamber-

(*a*) in the case of the chamber being compressed with gas other than air, unless that person is registered as a life-support technician; or

(*b*) in the case of the chamber being compressed with air, unless-

(i) that person is registered as a class I diver or a class II diver and operate the chamber under the supervision of a class I diving supervisor or a class II diving supervisor; or

(ii) that person is registered as a chamber operator in accordance with subregulation (1) and operates the chamber under the supervision of-

(*aa*) a class I diving supervisor;

(*bb*) a class II diving supervisor;

(*cc*) a class III diving supervisor registered as a chamber operator;

(*dd*) a class IV diving supervisor registered as a chamber operator; or

(*ee*) a hyperbaric operations supervisor registered as a chamber operator.

(3) Before a chamber dive, a chamber operator must ensure that -

(*a*) all the pre-dive chamber checks have been completed in accordance with the chamber checklists: and

(*b*) the chamber dive will take place as far as it is reasonably practicable without risks to the health and safety of persons that will enter that chamber.

(4) During a chamber dive a chamber operator must-

(*a*) comply with any direction given to him or her by the supervisor for that operation; and

(*b*) comply with any direction applicable to him or her in accordance with the diving project plan.

(5) A chamber operator must-

(*a*) maintain a record of the chamber dives in the chamber log in accordance with Annexure B; and

(*b*) maintain a daily record in his or her logbook in accordance with Annexure A.

(6) A chamber operator must report for a medical examination to a designated medical practitioner at least once every 12 months.

18. Compressed air worker.-(1) No person may be registered as a compressed air worker, unless that person complies with the relevant requirements of the training standards made under regulation 24 (*a*).

(2) The hyperbaric operations supervisor must for each dive appoint a compressed air worker as the team leader for that dive.

(3) A compressed air worker engaged in a diving project must-

(*a*) maintain a daily record of his or her diving in his or her compressed air worker's logbook in accordance with Annexure A;

(*b*) inform the lock operator if he or she is not competent to carry out the compressed air work tasks required as part in the diving operation in a safe manner;

(*c*) if he or she knows of anything, including any Illness or other condition, which renders him or her unfit to dive, inform the lock operator of his or her unfitness;

(*d*) comply with any direction given by the airlock operator

(*e*) comply with any instruction applicable to him or her in the diving project plan.

(4) A compressed air worker must report for a medical examination to a designated medical practitioner at least once every 12 months.

17. Approved qualifications.-The chief inspector may approve in writing the qualifications that he or she considers suitable to ensure that divers, diving supervisors, life-support technicians, systems' technicians, instructors, ROV pilots, ROV supervisors, chamber operators, compressed air workers, airlock operators and hyperbaric operations supervisors are adequately trained for the purposes of these Regulations.

18. Diving schools.-(1) Any person who has at his or her disposal the staff, plant, equipment and other ancillary facilities that enables him or her to offer the curriculum of instruction and training framed by the code of practice for training and the training standards may apply in writing to the chief inspector for registration of a diving school.

(2) No facility may be registered as a diving school, unless it complies with the requirements of the relevant standards made under regulation 24 (*a*).

19. Designated Medical Practitioners.-(1) The chief inspector may designate level 1 medical practitioners, level 2 (air) medical practitioners and level 2 (mixed gas) medical practitioners.

(2) No person may be designated as contemplated in subregulation (1) unless he or she is a medical practitioner registered with the Health Professions Council of South Africa and has completed a course in underwater medicine approved by the chief inspector .

(3) A designation contemplated in sub-regulation (1) lapse after a period of four years, unless the designated medical practitioner concerned furnishes proof before the expiry of each such period that he or she has undertaken refresher training approved by the chief inspector.

(4) A level 1 designated medical practitioner must-

(*a*) carry out a medical examination, including any test required by the chief inspector: Provided that when an examination of a specialised nature is required, the designated medical practitioner needs not personally perform such examination, but remains responsible for the decision based on the result of such specialised examination;

(*b*) issue a medical certificate of fitness based on the results of a medical examination of a person or endorse such certificate subsequent to each medical re-examination; and

(*c*) forward the diving fitness registry information required in regulation 20 (10) to SAUHMA

(5) A level 2 designated medical practitioner must, if so requested, in addition to the functions of a level 1 designated medical practitioner, render medical assistance as part of a diving project, including operational medical advice and recompression treatment assistance for-

(*a*) operations involving classes VI, V, IV, III and II divers, but not class II (mixed gas) or class I divers, if registered as a level 2 (air) designated medical practitioner;

(*b*) all classes of diving, including classes II (mixed gas) divers and class I divers, if registered as a level 2 (mixed gas) designated medical practitioner;

(*c*) compressed air work not using mixed gas if registered as a level 2 (air) designated medical practitioner and an occupational medicine practitioner ; or

(*d*) compressed air work using air or mixed gas if registered as a level 2 (mixed gas) designated medical practitioner and an occupational medicine practitioner .

20. Medical examinations and medical fitness.-(1) Where a medical examination is required by these Regulations the relevant diving contractor is responsible for the arrangements

and costs connected with such examination: Provided that such contractor shall not be responsible in respect of examinations regarding indisposition or injuries not sustained during the execution of the person's normal duties.

(2) A medical certificate of fitness must indicate-

(*a*) the full name of the person to whom it relates;

(*b*) the passport and or identity number, as the case may be, of the person to whom it relates;

(*c*) the date of the medical examination;

(*d*) whether the person is considered fit for the inherent requirements of the job;

(*e*) any limitation or restriction pertaining to the fitness of the person;

(*f*) the period, not exceeding 12 months, for which the person is considered fit;

(*g*) by way of a clear stamp of the designated medical practitioner issuing the certificate-

(i) the initials and surname of the designated medical practitioner;

(ii) the address and contact numbers of the designated medical practitioner;

(iii) the Health Professions Council of South Africa registration number of the designated medical practitioner; and

(iv) the designation number issued by the chief inspector to the designated medical practitioner in terms of regulation 19 (1);

(*h*) the date on which the designation of the medical practitioner lapse in terms of regulation 19 (3); and

(*i*) the signature of the medical practitioner issuing the certificate.

(3) A certificate of fitness must be recorded in the logbook of the person to whom it relates, in accordance with Annexure A.

(4) If a medical certificate of fitness is lost or destroyed and the original designated medical practitioner who issued the certificate can not issue a copy of the original, the person concerned must resubmit him or herself for a medical examination.

(5) If a person is found to be unfit for work, or fit with a restriction, he or she may apply for a review, in writing, to the chief inspector.

(6) A review under subregulation (5) must-

(*a*) be lodged with the chief inspector within 30 days of the relevant decision or finding; and

(*b*) state the grounds of the request for review.

(7) When the chief inspector receives a review request under sub-regulation (5), the chief inspector must choose another designated medical practitioner and arrange for that person to be re-examined by that designated medical practitioner, at the cost of the chief inspector,

(8) A designated medical practitioner contemplated in sub-regulation (7) must report to the chief inspector, who must then consider the review request and-

(*a*) confirm, set aside or vary the decision or finding of the designated medical practitioner; or

(*b*) substitute any other decision or finding for that decision or finding.

(9) Nothing in this regulation precludes a person from-

(*a*) obtaining and paying for a medical opinion from any other medical practitioner; or

(*b*) pursuing any other legal remedy.

(10) SAUHMA must keep a registry of diving fitness for the chief inspector and the registry shall contain the following minimum irformation:

(*a*) the date of the examination;

(*b*) the period of validity of the examination;

(*c*) the name of the person;

(*d*) the passport or identity number, as the case may be, of the person;

(*e*) whether the person is considered fit or not;

(*f*) any restriction that may apply; and

(*g*) the name, address, telephone number and designation number of the designated medical practitioner who performed the medical examination.

21. Operations manual.-(1) A diving contractor must ensure that an operations manual is complied and made available to each diving team at the diving location before the commencement of each diving operation.

(2) An operations manual must contain directions regarding the health and safety of employees in accordance with these Regulations and the relevant approved codes of practice

22. Control of diving operations.-(1) A diving contractor must ensure that-

(*a*) all diving operations are controlled in accordance with the Act, including all applicable regulations and the relevant Codes of Practice;

(*b*) a hazard identification and risk assessment is conducted to identify the risks to the health and safety of any person taking part in the diving operation;

(*c*) the risks contemplated in paragraph (*b*) are appropriately mitigated.

(*d*) a plan is implemented to monitor risks and how they are addressed; and

(*e*) a plan is implemented to review the hazards, risks and plan to mitigate and monitor the risks.

(2) The diving contractor shall ensure that a diving operation conform to the minimum manning levels in accordance with Annexure C.

(3) No person may dive to a depth greater than that for which he or she is qualified: Provided that a class III diver may dive to a maximum depth not exceeding 50 metres if the total decompression time does not exceed 20 minutes.

(4) All divers, diving supervisors, instructors, life support technicians, compressed air workers, hyperbaric operations supervisors, airlock operators and chamber operators must hold a valid, in-date first aid certificate, taught in accordance with the training standards made under regulation 24 (*a*).

23. Diving Advisory Board.-(1) The chief inspector must establish a Diving Advisory Board consisting of-

(*a*) an officer of the Department of Labour, who is the chairperson;

(*b*) one inspector;

(*c*) one person representing the Department of Minerals and Energy;

(*d*) one level 2 designated medical practitioner, who is a member of SAUHMA;

(*e*) one instructor;

(*f*) one diving contractor; and

(*g*) one supervisor, holding the minimum of a Class II supervisor's qualification.

(2) The chief inspector may authorise the Diving Advisory Board to co-opt persons who have specialised knowledge of the matters dealt with by the Diving Advisory Board.

(3) The chief inspector must appoint the members of the Diving Advisory Board for a period that he or she may determine at the time of appointment.

(4) The chief inspector may discharge a member of the DMng Advisory Board before the termination of his or her period of appointment after that member has been afforded a reasonable opportunity to respond to the reasons for the intended discharge.

(5) The Diving Advisory Board must-

(*a*) make recommendations and submit reports to the chief inspector regarding any matter to which these Regulations relate;

(*b*) advise the chief inspector regarding any matter referred to the Diving Advisory Board by the chief inspector;

(*c*) perform other functions that may be requested by the chief inspector;

(*d*) refer appeals against decisions of the Diving Advisory Board to the chief inspector; and

(*e*) conduct its work in accordance with the instructions and rules of conduct made by the chief inspector.

24. Training standards, assessments and Codes of Practice.-The chief inspector must, in consultation with the Diving Advisory Board-

(*a*) make or amend the standards for the conduct of assessments and training as the occasion may require; and

(*b*) make or amend approved codes of practice relevant to diving and compressed air work to regulate diving operations.

25. Application for registration.-An application for registration as a diver, diving supervisor, life-support technician, systems' technician, instructor, ROV pilot, ROV supervisor, chamber operator, compressed air worker, airlock operator or hyperbaric operations supervisor and any application for the reissue of a certificate that has been lost, damaged or destroyed, shall be made in the form and manner approved by the chief inspector.

26. Records.-(1) A registered diving school must keep training records with the minimum details required in accordance with Annexure B for a minimum period of 10 years.

(2) A diving contractor must keep the records contemplated in Annexure B for a minimum period of five years

(3) If a registered diving school or diving contractor ceases activities, all its records contemplated In this regulation must be handed over or forwarded by registered post to the relevant provincial office.

27. Withdrawal of certificate of registration. -(1) Subject to subregulation (2), the chief inspector may withdraw a certificate of registration issued in accordance with these Regulations, if the person -

(*a*) no longer complies with any of the conditions referred to in the Regulations or approved code of practice, or

(*b*) is convicted of an offence contemplated in regulation 30.

(2) The chief inspector may not withdraw a certificate of registration unless he or she has-

(*a*) informed the holder of that certificate of registration in writing of the intended withdrawal thereof and of the grounds upon which it is based; and

(*b*) afforded the holder a reasonable opportunity to state his or her case and, if the holder is a person contemplated in subregulation (1) (*a*), afforded such holder an opportunity to comply with those conditions within the period specified by the chief inspector.

28. Fees payable.-The fees payable in respect of an application contemplated in regulation 25 shall from time to time be determined by the Minister after consultation with the Minister of Finance by notice in the *Gazette*.

29. Notification of diving operations.-(1) A diving contractor or diving school who intends to carry out any diving operation must before the commencement of those operations notify the provincial office in writing of the diving operations.

(2) Any client making use of the services of a diving contractor must before the commencement of that work notify the provincial director in writing of the diving work, irrespective of whether the diving contractor has notified the provincial office as contemplated in sub-regulation (1).

(3) A notification contemplated in sub-regulations (1) and (2) must contain the minimum information required in Annexure D.

(4) The diving contractor must ensure that a copy of the completed form contemplated in subregu-

lation (3) is kept at the dive site for inspection by an inspector, client, client's agent or employee.

30. Offences and penalties.-Any person who contravenes or fails to comply with any of the provisions of regulation 2, 3,·4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,16, 18,19,20,·21, 22, 23, 24, 26, 27, or 29 is guilty of an offence and liable upon conviction to a fine or to imprisonment for a period not exceeding 12 months.

31. Repeal.-The Diving Regulations, 2001, promulgated by Government Notice No. R.10 of 11 January 2002, are hereby repealed.

32. Short title.-These Regulations are called the Diving Regulations, 2009.

Annexures

A. Minimum details for personnel logbooks (Parts 1 to 10)
B. Minimum details of the diving operations record (Parts 1 to 8)
C. Minimum manning levels (Parts 1 to 3)
D. Notification of diving work

(Editorial Note:Numbering in all Annexures as per original *Government Gazette.*)

ANNEXURE A
MINIMUM DETAIL REQUIRED
PROFESSIONAL DIVER'S LOGBOOK

PART 1 - OFFSHORE DIVERS

1. Personal Details
1.1. Full name
1.2. Signature
1.3. Date of birth
1.4. Address
1.5. Contact telephone number
1.6. Email address
1.7. Photograph of diver
1.8. Changes in address and contact details
1.9. Next of kin contact details

2. Medical Certificates and Notes
2.1. Full name of diver
2.2. Passport and/or identity number of diver
2.3. Date of medical examination
2.4. Result of medical examination
2.5. Medical restriction on diving or compression (if applicable)
2.6. Date of commencement
2.7. Date of expiry
2.8. Space for designated medical practitioner practice stamp, indicating:
2.8.1. Initials and surname of designated medical practitioner
2.8.2. Address and contact numbers of the designated medical practitioner
2.8.3. HPCSA registration number of designated medical practitioner
2.8.4. Designation number of medical practictioner
2.9. Date on which the medical practitioner designation will lapse
2.10. Signature of designated medical practitioner

3. Qualifications and Certificates
3.1. Date
3.2. Qualification/certificate
3.3. Subject
3.4. Awarding body/organisation
3.5. Course certification reference (if applicable)

4. Training Record
4.1. Date
4.2. Training received
4.3. Training body/organisation
4.4. Location
4.5. Authorisation

5. Competence Assessment Records
5.1. Date
5.2. Competence code
5.3. Comments
5.4. Assessor's name
5.5. Assessor's company and position
5.6. Assessor's signature/stamp

6. Record of Dive
6.1. Date of dive
6.2. Signature of diver
6.3. Name of diving contractor
6.4. Address of diving contractor
6.5. Dive location
6.6. Vessel/installation
6.7. Type of dive
6.8. Bell bounce or surface dives
6.8.1. Maximum depth of dive
6.8.2. Time left surface or started
6.8.3. Bottom time
6.8.4. Decompression completed at:
6.8.5. Surface decompression only:
6.8.5.1. Surface interval
6.8.5.2. Time spent in chamber
6.8.6. Accumulated bottom time
6.8.7. Accumulated total time under pressure
6.9. Saturation dives
6.9.1. Storage depth
6.9.2. Maximum depth of dive
6.9.3. Bell lock-off time
6.9.4. Diver left bell
6.9.5. Diver returned to bell
6.9.6. Lock-out time
6.9.7. Bell lock-on
6.9.8. Accumulated lock-outs
6.9.9. Accumulated total time under pressure
6.10. Details of work and equipment
6.10.1. Breathing apparatus used
6.10.2. Breathing mixture used
6.10.3. Work description, equipment and tools
6.10.4. Name of decompression schedules used
6.10.5. Notes regarding any decompression incident or other illness or injury
6.10.6. Any other remarks
6.10.7. Name of diving supervisor
6.10.8. Signature of diving supervisor
6.10.9. Date
6.10.10. Company stamp
6.11. General
6.11.1. Page x of xx

7. Record of medical Illness or Injury
7.1. Date
7.2. Decompression illness or other illness or injury
7.3. Supervisor's name
7.4. Supervisor's signature
7.5. Company name

8. Cumulative Diving Experience
8.1. Page number from part 6
8.2. Surface supplied bottom time
8.3. Surface supplied total time under pressure
8.4. Number of commercial surface dives
8.5. Number of saturation lock-outs
8.6. Lock-out hours
8.7. Number of commercial saturation dives
8.8. Saturation total time under pressure

ANNEXURE A
MINIMUM DETAIL REQUIRED
PROFESSIONAL DIVER'S LOGBOOK
PART 2 - CLASS VI, V, IV AND III DIVER'S LOGBOOK

Note:These are minimum requirements.Dives under these classes may be logged in the offshore diver's logbook (Annexure A - Part 1)

1. Personal Details
1.1. Full name
1.2. Signature
1.3. Date of birth
1.4. Address
1.5. Contact telephone number
1.6. Email address
1.7. Photograph of diver
1.8. Changes in address and contact details
1.9. Next of kin contact details

2. Medical Certificates and Notes
2.11. Full name of diver
2.12. Passport and/or identity number of diver
2.13. Date of medical examination
2.14. Result of medical examination
2.15. Medical restriction on diving or compression (if applicable)
2.16. Date of commencement
2.17. Date of expiry
2.28. Space for designated medical practitioner practice stamp, indicating:
2.18.1. Initials and surname of designated medical practitioner
2.18.2. Address and contact numbers of the designated medical practitioner
2.18.3. HPCSA registration number of designated medical practitioner
2.18.4. Designation number of medical practitioner
2.19. Date on which the medical practitioner designation will lapse
2.20. Signature of designated medical practitioner

3. Qualifications and Certificates
3.1. Date
3.2. Qualification/certificate
3.3. Subject
3.4. Awarding body/organisation
3.5. Course certification reference (if applicable)

4. Training Record
4.1. Date
4.2. Training received
4.3. Training body/organisation
4.4. Location
4.5. Authorisation

5. Competence Assessment Record
5.1. Date
5.2. Competence code
5.3. Comments
5.4. Assessor's name
5.5. Assessor's company and position
5.6. Assessor's signature/stamp

6. Record of Dive
6.1. Date of dive
6.2. Signature of diver
6.3. Name of diving contractor
6.4. Address of diving contractor
6.5. Dive location
6.6. Vessel/installation
6.7. Type of dive
6.8. Dive details
6.8.1. Maximum depth of dive
6.8.2. Time left surface
6.8.3. Bottom time
6.8.4. Decompression completed at·
6.8.5. Accumulated bottom time
6.9. Details of work and equipment
6.9.1. Breathing apparatus used
6.9.2. Breathing mixture used
6.9.3. Work description, equipment and tools used
6.9.4. Name of decompression schedules used
6.9.5. Notes regarding any decompression incident or other Illness or Injury
6.9.6. Any other remarks
6.9.7. Name of diving supervisor
6.9.8. Signature of diving supervisor
6.10. General

6.10.1. Page x of xx

7. Record of medical illness or injury
7.1. Date
7.2. Decompression Illness or other Illness or Injury
7.3. Supervisor's name
7.4. Supervisor's signature
7.5. Company name

ANNEXURE A
SUPERVISOR'S LOGBOOK
MINIMUM DETAIL REQUIRED
PART 3 - OFFSHORE DIVING SUPERVISOR'S LOGBOOK

1. Personal Details
1.1. Full name
1.2. Signature
1.3. Date of birth
1.4. Address
1.5. Contact telephone number
1.6. Email address
1.7. Photograph of diver
1.8. Changes in address and contact details
1.9. Next of kin contact details

2. Medical Certificates and Notes
2.21. Full name of diver
2.22. Passport and/or identity number of diver
2.23. Date of medical examination
2.24. Result of medical examination
2.25. Medical restriction on diving or compression (if applicable)
2.26. Date of commencement
2.27. Date of expiry
2.28. Space for designated medical practitioner practice stamp, indicating:
2.28.1. Initials and surname of designated medical practitioner
2.28.2. Address and contact numbers of the designated medical practitioner
2.28.3. HPCSA registration number of designated medical practitioner
2.28.4. Designation number of medical practitioner
2.29. Date on which the medical practitioner designation will lapse
2.30. Signature of designated medical practitioner

3. Qualifications and Certificates
3.1. Date
3.2. Qualification/certificate
3.3. Subject
3.4. Awarding body/organisation
3.5. Course certification reference (if applicable)

4. Training Record
4.1. Date
4.2. Training received
4.3. Training body/organisation
4.4. Location
4.5. Authorisation

5. Record of Supervision
5.1. Date
5.2. Signature of supervisor
5.3. Name of diving contractor
5.4. Address of diving contractor
5.5. Dive location
5.6. Vessel/installation
5.7. Type of supervision (direct or overall)
5.8. Bell bounce or surface dives
5.8.1. No. of dives
5.8.2. Type 5.8.3. Depth
5.8.4. No. of divers
5.8.5. Type of decompression:
5.8.6. Total duration of dive
5.9. Description of work
5.9.1. Running total: no. of dives
5.9.2. Running total: total duration of dives
5.9. Saturation dives
5.9.1. No. of dives
5.9.2. Storage depth
5.9.3. Excursion depth
5.9.4. No. of divers
5.9.5. Decompression range
5.9.6. Duration of dive
5.9.7. Description of work
5.9.8. Running total; no. of dives
5.9.9. Running total; total duration of dives
5.10. General
5.10.1. Incidents and remarks
5.10.2. Diving contractor's stamp
5.10.3. Diving contractor's representative's signature
5.10.4. Diving contractor's representative's title and name
5.10.5. Page x of xx

ANNEXURE A
SUPERVISOR'S LOGBOOK
MINIMUM DETAIL REQUIRED
PART 4 - INSHORE DIVING SUPERVISOR'S LOGBOOK

1. Personal Details
1.1. Full name
1.2. Signature
1.3. Date of birth
1.4. Address
1.5. Contact telephone number
1.6. Email address
1.7. Photograph of supervisor
1.8. Changes in address and contact
1.9. Next of kin contact details

2. Medical Certificates and Notes
2.1. Full name of supervisor
2.2. Passport and/or identity number of supervisor
2.3. Date of medical examination
2.4. Result of medical examination
2.5. Medical restriction on diving or compression (if applicable)
2.6. Date of commencement
2.7. Date of expiry
2.8. Space for designated medical practitioner practice stamp, indicating:
2.8.1. Initials and surname of designated medical practitioner
2.8.2. Address and contact numbers of the designated medical practitioner
2.8.3. HPCSA registration number of designated medical practitioner
2.8.4. Designation number of medical practitioner
2.9. Date on which the medical practitioner designation will lapse
2.10. Signature of designated medical practitioner

3. Qualifications and Certificates
3.1. Date
3.2. Qualification/certificate
3.3. Subject
3.4. Awarding body/organisation
3.5. Course certification reference (if applicable).

4. Training Record
4.1. Date
4.2. Training received
4.3. Training body/organisation
4.4. Location
4.5. Authorisation

5. Record of Supervision
5.1. Date
5.2. Signature of supervisor
5.3. Name of diving contractor
5.4. Address of diving contractor
5.5. Dive location
5.6. Vessel/installation
5.7. Type of supervision (direct or overall)
5.8. Bounce or surface dives
5.8.1. No. of dives
5.8.2. Type
5.8.3. Depth
5.8.4. No. of divers
5.8.5. Type of decompression:
5.8.6. Total duration of dive
5.9. Description of work
5.9.1. Running total: no. of dives
5.9.2. Running total: total duration of dives
5.10. General
5.10.1. Incidents and remarks
5.10.2. Diving contractor's stamp
5.10.3. Diving contractor's representative's signature
5.10.4. Diving contractor's representative's title and name
5.10.5. Page x of xx

ANNEXURE A
MINIMUM DETAILS REQUIRED
PERSONNEL LOGBOOKS
PART 8 - CHAMBER OPERATOR LOGBOOK
(These details may be logged In the Professional Diver's Logbook, Diving Supervisor's Logbook, Life Support Technician's Logbook or In a separate Chamber Operator's Logbook)

1. Personal Details
1.1. Full name
1.2. Signature
1.3. Date of birth
1.4. Address
1.5. Contact telephone number
1.6. Email address
1.7. Photograph of diver
1.8. Changes in address and contact details

2. Medical Certificates and Notes
2.1. Full name of chamber operator
2.2. Passport and/ or identity number of chamber operator
2.3. Date of medical examination
2.4. Result of medical examination
2.5. Medical restriction on chamber operations(if applicable)
2.6. Date of commencement
2.7. Date of expiry
2.8. Space for designated medical practitioner practice stamp, indicating:
2.8.1. Initials and surname of designated medical practitioner
2.8.2. Address and contact numbers of the designated medical practitioner
2.8.3. HPCSA registration number of designated medical practitioner
2.8.4. Designation number of medical practitioner
2.9. Date on which the medical practitioner designation will lapse
2.10. Signature of designated medical practitioner

3. Qualification and Certificate
3.1. Date
3.2. Qualification/ certificate
3.3. Subject
3.4. Awarding body/ organisation
3.5. Course certification reference (if applicable)

4. Training Record
4.1. Date
4.2. Training received
4.3. Training body/ organisation
4.4. Location
4.5. Authorisation

5. Competence Assessment Record
5.1. Date
5.2. Competence code

5.3. Comments
5.4. Assessor's name
5.5. Assessor's company and position
5.6. Assessor's signature/ stamp

6. Record of Chamber Dive
6.1. Date of chamber dive
6.2. Signature of chamber operator
6.3. Name of diving chamber owner/ contractor
6.4. Address of diving chamber owner/ contractor
6.5. Chamber location
6.6. Type of chamber
6.7. Purpose of chamber dive
6.8. Maximum depth of chamber dive
6.9. Time left surface or started pressurisation
6.10. Bottom time
6.11. Decompression completed at:
6.12. Total time spent in chamber
6.13. Accumulated chamber operation time
6.14. Breathing apparatus used
6.15. Breathing mixture used
6.16. Name of decompression schedules used
6.17. Notes regarding any incident or other illness or injury
6.18. Any other remarks
6.19. Name of diving supervisor
6.20. Signature of diving supervisor
6.21. Date (signature)
6.22. Company stamp
6.23. General
6.23.1. Page x of xx

7. Cumulative Chamber Operation Experience (hours)
7.1. Page number from part 6
7.2. Number of chamber dives operated

ANNEXURE A
MINIMUM DETAIL REQUIRED
PERSONNEL LOGBOOKS
PART 9 - COMPRESSED AIR WORKER'S LOGBOOK

1. Personal Details
1.1. Photograph of hyperbarlc worker
1.2. Full name
1.3. Address
1.4. Date of birth
1.5. Signature
1.6. Contact telephone number
1.7. Email address
1.8. Changes in address and contact details
1.9. Next of kin name
1.10. Next of kin contact details

2. Medical Certificates and Notes
2.1. Full name of compressed air worker
2.2. Passport and/ or identity number of compressed air worker
2.3. Date of medical examination
2.4. Result of medical examination
2.5. Medical restriction on diving or compression (if applicable)
2.6. Date of commencement
2.7. Date of expiry
2.8. Space for designated medical practitioner practice stamp, which must indicate:
2.8.1. Initials and surname of designated medical practitioner
2.8.2. Address and contact numbers of the designated medical practitioner
2.8.3. HPCSA registration number of designated medical practitioner
2.8.4. Designation number of medical practitioner
2.9. Date on which the medical practitioner designation will lapse
2.10. Signature of designated medical practitioner

3. Qualifications and Certificates
3.1. Date
3.2. Qualification/certificate
3.3. Subject
3.4. Awarding body/ organisation
3.5. Course certification reference (if applicable)

4. Training Record
4.1. Date
4.2. Training received
4.3. Training body/organlsatlon
4.4. Location
4.5. Training organization stamp

5. Competence Assessment Record
5.1. Date
5.2. Competence code
5.3. Comments
5.4. Assessor's name
5.5. Assessor's company and position
5.6. Assessor's signature/ stamp

6. Record of Dive
6.1. Dive number
6.2. Date of dive
6.3. Signature of compressed air worker
6.4. Name of diving contractor
6.5. Address of diving contractor
6.6. Worksite location
6.7. Purpose of the dive
6.8. Maximum depth of dive
6.9. Time pressurisation started
6.10. Bottom time
6.11. Decompression completed at:
6.12. Decompression schedules used
6.13. Accumulated bottom time
6.14. Accumulated total time under pressure
6.15. Breathing mixture used
6.16. Work description, equipment and tools
6.17. Notes regarding any decompression incident or other illness or injury
6.18. Name of lock attendant
6.19. Signature of lock attendant
6.20. Name of hyperbaric operations
6.21. Signature of hyperbaric operations supervisor
6.22. Company stamp
6.23. Notes/remarks
6.24. Page x of xx

7. Record of medical Illness or injury
7.1. Date
7.2. Decompression illness or other occupational illness or injury
7.3. Treatment provided
7.4. Hyperbaric operations supervisor's name
7.5. Hyperbaric operations supervisor's signature
7.6. Company name

8. Cumulative Diving Experience
8.1. Number of dives
8.2. Cumulative compressed air work bottom time
8.3. Cumulative compressed air work total time under pressure

ANNEXURE A
MINIMUM DETAIL REQUIRED
PERSONNEL LOGBOOKS
PART 10 - AIRLOCK OPERATOR LOGBOOK

1. Personal Details
1.1 Photograph of lock attendant
1.2 Full name
1.3 Address
1.4 Date of birth
1.5 Signature
1.6 Contact telephone number
1.7 Email address
1.8 Changes in address and contact details
1.9 Next of kin name
1.10 Next of kin contact details

2. Medical Certificates and Notes
2.11. Full name of lock attendant
2.12. Passport and/or identity number of lock attendant
2.13. Date of medical examination
2.14. Result of medical examination
2.15. Medical restriction regarding work (if applicable)
2.16. Date of commencement
2.17. Date of expiry
2.18. Space for designated medical practitioner practice stamp, which must indicate:
2.18.1. Initials and surname of designated medical practitioner
2.18.2. Address and contact numbers of the designated medical practitioner
2.18.3. HPCSA registration number of designated medical practitioner
2.18.4. Designation number of medical practitioner
2.19. Date on which the medical practitioner designation will lapse
2.20. Signature of designated medical practitioner

3. Qualifications and Certificates
3.1 Date
3.2 Qualification/certificate
3.3 Subject
3.4 Awarding body/organisation
3.5. Course certification references(if applicable)

4. Training Record
4.1 Date
4.2 Training received
4.3 Training body/organisation
4.4 Location
4.5 Training organization stamp

5. Competence Assessment Record
5.1 Date
5.2 Competence code
5.3 Comments
5.4 Assessor's name
5.5 Assessor's company and position
5.6 Assessor's signature/stamp

6. Record of Dive
1.1 Date
1.2 Signature of lock attendant
1.3 Name of diving contractor
1.4 Address of diving contractor
1.5 Worksite location
1.6 Purpose of the dive
1.7 Number of compressed air workers
1.8 Maximum depth of dive
1.9 Bottom time
1.10 Total pressure time
1.11 Accumulated bottom time
1.12 Decompression schedules used
1.13 Name of hyperbaric operations supervisor
1.14 Signature of hyperbaric operations supervisor
1.15 Company stamp
1.16 Notes/remarks

7. Incidents and remarks
7.1 Incidents and remarks
7.2 Diving contractor's stamp
7.3 Diving contractor's representative's signature
7.4 Diving contractor's representative's title and name

8. Cumulative Lock Attendant experience
8.1 Number of dives
8.2 Cumulative compressed air work bot-

tom time attended
8.3 Cumulative compressed air work total time under pressure attended

ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 1 - OFFSHORE DIVING OPERATIONS

1. Date of dive
2. Name of diving contractor
3. Address of diving contractor
4. Dive location
5. Vessel/installation
6. Project reference
7. Type of dive (bounce/saturation)
8. Name of diving supervisor
9. Name of life support supervisor
10. Names of system's technicians
11. Dive number
12. Name of diver(s), standby diver(s)
13. Maximum depth of dive/excursion(s)
14. Time left surface or started pressurisation
15. Storage depth (if applicable)
16. Bottom time/lock-out time
17. Time arrived surface
18. Decompression completed at
19. Time spent in chamber
20. Total time under pressure (TTUP)
21. Breathing apparatus used
22. Breathing mixture used
23. Work description
24. Name of decompression schedules used
25. Notes regarding any decompression illness or other illness or injury
26. Name and designation number of designed medical practitioner on standby
27. Remarks

ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 2 - ROV Operations

1. Date of ROV dive
2. Name of ROV contractor
3. Address of ROV contractor
4. Work location
5. Vessel/installation
6. Project reference
7. Type and class of ROV
8. Name of ROV supervisor
9. Name of ROV pilot
10. Dive number
11. Maximum depth of dive
12. Time left surface
13. Time vehicle back on deck/surface
14. Work description
15. Remarks
16. Signature of ROV supervisor

ANNEXURE B
DIVING OPERATIONS RECORD
MiNIMUM DETAIL REQUIRED
PART 3 -INSHORE DIVING OPERATIONS

1. Date of dive
2. Name of diving contractor
3. Address of diving contractor
4. Dive location
5. Vessel/installation
6. Project reference
7. Type of dive
8. Name of diving supervisor
9. Dive number
10. Name of diver(s), standby diver(s)
11. Maximum depth of dive
12. Time left surface or started pressurisation
13. Bottom time
14. Time arrived surface
15. Decompression completed at
16. Time spent in chamber
17. Total time under pressure
18. Breathing apparatus used
19. Breathing mixture used
20. Work description
21. Name of decompression schedules used
22. Notes regarding any decompression illness or other illness or injury
23. Name and designation number of designated medical practitioner on standby
24. Remarks
25. Signature of diving supervisor

ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 4 - SATURATION CHAMBER RECORD

1. Date of operation
2. Name of diving contractor
3. Address of diving contractor
4. Name of client
5. Dive location
6. Storage depth
7. Dive (saturation) number
8. Blowdown started
9. Project reference
10. Log number
11. Name of diving superintendent
12. Name(s) of diving supervisor(s)
13. Name(s) of life support supervisor(s)
14. Name(s) of life support technician(s)
15. Name(s} of system's technician(s}
16. Names of divers
17. Gas storage pressure (start)
18. Gas storage pressure (end)
19. Details of pre-dive medical on-site checks
20. Name of diverfs on bell-run
21. Maximum depth of divef excursion(s)
22. Time left surface of started pressurisation
23. Storage depth for various chambers and names of people in the various chambers
24. Transfer under pressure (TUP) lock-off time and lock-on time(s)
25. Medical lock runs and items locked in and out
26. Temperature at appropriate intervals
27. Humidity at appropriate intervals
28. Partial pressure of oxygen at appropriate intervals
29. Carbon dioxide contents at appropriate internals
30. Oxygen metabolic make-up recorded times
31. Calibration of analysers
32. Toilet and shower flushes and activity
33. Sodasorb/sodalime recorded changeouts
34. Bilge drain operations
35. Time decompression started
36. Decompression depth log to surface
37. Decompression completed at
38. Number of days in saturation/total time spent in the chamber
39. Breathing mixture inert gas
40. Name of decompression schedules used
41. Notes regarding any decompression illness or other illness or injury
42. Name and designation number of designated medical practitioner on standby
43. Remarks
44. Signature of life support supervisor
45. Signature of diving superintendent

ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 5 - COMPRESSED AIR WORK

1. Dive number
2. Date of dive
3. Name of diving contractor
4. Address of diving contractor
5. Worksite location
6. Project reference
7. Name of hyperbaric operation supervisor
8. Name of the lock attendant
9. Signature of the lock attendant
10. Names of compressed air workers
11. Name(s) of the standby compressed air worker(s)
12. Whether it is a repetitive dive or not
13. Description of the work/objectives of the dive
14. Time compression started
15. Time compression ended
16. Duration of compression
17. Maximum depth of dive
18. Time decompression started
19. Arrival time at each decompression stop
20. Depth of each decompression stop
21. Air quality in personnel lock (oxygen and carbon dioxide) during each stop
22. Time leaving each decompression stop
23. Duration of each decompression stop
24. Airlock door open time
25. Actual working time
26. Total time under pressure
27. Breathing mixture used at each depth
28. Decompresskm schedules used
29. Notes regarding any decompression illness or other illness or injury
30. Name and designation number of designated medical practitioner on standby
31. Remarks
32. Signature of hyperbaric operations supervisor

ANNEXUREB
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 6 - TRAINING OPERATIONS

1. <u>Course details:</u>
a. Course number
b. Course start date
c. Course end date
d. Students
   i. Full names
   ii. ID/Passport number
   iii. Gender
   iv. Age
e. Course instructor(s)
2. <u>Details for each student:</u>
a. Copy of medical certificate
b. Details of all dives undertaken (for each diver)
   i. Class of training
   ii. Name of diving supervisor
   iii. Name of diving instructor
   iv. Name of diver,
   v. Name of buddy/standby diver
   vi. Date of dive
   vii. Dive number
   viii. Dive location/vessel/installation
   ix. Diving apparatus used
   x. Breathing mixture used
   xi. Time left surface
   xii. Maximum depth of dive
   xiii. Training task
   xiv. Time left bottom
   xv. Log of decompression stops (times and depths)
   xvi. Time arrived surface
   xvii. Name of decompression schedules used
   xviii. Notes regarding any decompression illness or other illness or injury
   xix. Name and designation number of designated medical practitioner on standby
   xx. Remarks
   xxi. Signature of instructor

c. Practical competency and assessment records

d. Theoretical competency and assessments
e. Final examination results
f. DOL registration and certification

ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 7 - SATURATION BELL OPERATIONS

1. Date of dive
2. Name of diving contractor
3. Address of diving contractor
4. Name of client
5. Dive log number
6. Dive location
7. Vessel/installation
8. Project reference
9. Type of dive (bounce/saturation)
10. Name of diving superintendent
11. Name of diving supervisor
12. Name of bellman
13. Name(s) of diver(s)
14. Equipment
15. Standby equipment
16. Winch operator
17. Bell locked off
18. Bell on bottom
19. Bell left bottom
20. Bell locked on
21. Maximum depth of dive/excursion(s)
22. Total dive time
23. Sea state
24. Visibility
25. Lock-out times of each diver
26. Lock-in times of each diver
27. Breathing mixture used
28. Onboard gas pressures and percentage oxygen: bell,bellman, divers
29. Bailout bottles: pressures percentage oxygen: bellman, diver(s)
30. Work description
31. Notes regarding any decompression illness or other illness or injury
32. Name and designation number of designated medical practitioners on standby
33. Signature of supervisor
34. Signature of diving superintendent
35. Remarks

ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 8 - AIR CHAMBER RECORD

1. Date of chamber dive
2. Name of diving contractor
3. Address of diving contractor
4. Chamber location
5. Name of diving supervisor
6. Name of chamber operator
7. Name(s) of diver(s)
8. Dive number
9. Depth of chamber dive
10. Primary gas source pressure (start)
11. Secondary gas source pressure (start)
12. Blowdown started
13. Time arrived at bottom
14. Medical lock runs and items/locked in and out
15. Entry lock runs and items/persons locked in and out
16. Time decompression started
17. Decompression completed at
18. Total time spent in chamber
19. Built-in breathing system's breathing mixture
20. Name of decompression schedules used
21. Notes regarding any decompression illness or other illness or injury
22. Name and designation number of designated medical practitioner on standby
23. Remarks
24. Primary gas source pressure (end)
25. Secondary gas source pressure (end)
26. Signature of chamber operator
27. Signature of diving supervisor

ANNEXURE C
MINIMUM MANNING LEVELS

PART 1 - Diving (excluding Class V and VI) and ROV Operations

	SCUBA AIR (excluding Class V & Class VI)	SCUBA NITROX	SURFACE SUPPLIED AIR/ NITROX	SURFACE SUPPLIED MIXED GAS	SATURATION DIVING	ROV
0-15m	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	1 x Dive Supervisor 1 x System's Tech 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	12 HOUR OPS 1 x Sat Supervisor 2 x LST's 2 x System's Techs 2 x Sat Divers 2 x Sat Standby Divers 1 x DMP (on call) 24 HOUR OPS 1 x Supt/OCM 2 x Sat Supervisors 4 x LST's 2 x System's Techs 4 x Sat Divers 2 x Sat Standby Divers 1 x DMP (on call)	12 HOUR OPS 1 x ROV Supervisor 2 x Pilot 24 HOUR OPS 2 x ROV Supervisors 4 x Pilot
15-30m	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)	1 x Dive Supervisor 1 x System's Tech 1 x Diver 1 x Standby Diver 1 x Line Attendant 1x DMP (on call)		
30-50m	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**	1 x Dive Supervisor 1 x Diver 1 x Standby Diver 2 x Line Attendants 1x DMP (on call)	1 x Dive Supervisor 1 x System's Tech 1 x Diver 1 x Standby Diver 2 x Line Attendants 1x DMP (on call)		
50-75m	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**	1 x Dive Supervisor 1 x System Tech's 1 x Diver 1 x Standby Diver 2 x Line Attendants 1x DMP (on call)		
75-300m	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**		

DMP = Designated Medical Practitioner [level 2 (air) for class IV. III and II (air) diving; level 2 (MG) for class II (MG) and class I diving]
LST = Life support technician
MG = mixed gas

OCM = Offshore Contract Manager

ANNEXURE C
MINIMUM MANNING LEVELS

PART 2 - Class VI and V diving operations

MAXIMUM DEPTH OF DIVE	CLASS VI DIVING	CLASS V DIVNG
0-8m	2 x divers 1 x supervisor 1 x DMP-2air (on call)	1 x supervisor 1 xdiver 1 x standby diver 1 x DMP-2air (on call)
8-20m	**NO DIVING ALLOWED**	
20-40m	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**
> 40m	**NO DIVING ALLOWED**	**NO DIVING ALLOWED**

DMP-2air =Designated Medical Practitioner: level 2 (air)

ANNEXURE D
NOTIFICATION OF A DIVING OPERATION

1.	Name of diving contractor	
2.	Postal address of diving contractor	
3.	Diving contractor's contact person	
4.	Tel no. of diving contractor's contact person	
5.	Diving contractor's compensation registration number	
6.	Name of client	
7.	Postal address of client	
8.	Client's contact person	
9.	Tel no. of client's contact person	

10. Name of diving contractor's supervisor on site (appointed in terms of Regulation 9 (2))

11.	Tel no. of diving contractor's supervisor	
12.	Exact physical address of diving site	
13.	Nature of the diving work	
14.	Expected commencement date	
15.	Expected completion date	
16.	Estimated maximum number of persons involved in the diving project	

Signatures

17.

Diving Contractor	OR	Principle contractor/client/school	Date

CODE OF PRACTICE INSHORE

GN 1235 of Government Gazette No. 41237 dated 10 November 2017

DEPARTMENT OF LABOUR
REPUBLIC OF SOUTH AFRICA

CODE OF PRACTICE" INSHORE DIVING

1. Introduction

1.1 Purpose

The Inshore commercial diving industry, while providing services to inland/inshore industry, can be the subject of various regulations and standards imposed by the Government, Clients who require the diving work being carried out, Insurers of the Diving Contractor and other outside bodies.

This Code of Practice is intended to provide information and guidance on acceptable industry practice for inland and inshore commercial diving work.

1.2 Target Community

The Inshore Code of Practice is intended to assist the following, amongst others:

- Personnel involved in inshore diving operations
- Client's staff involved in the preparation of bid documents and contracts
- Client and contractor representatives
- Vessel owners and marine crews involved with diving operations
- Various installations and managers using divers
- Personnel involved in quality assurance and occupational health and safety.

1.3 Status of this Code

This Code is issued in terms of Regulation 24(b) of the Diving Regulations, 2009 and is based on the principles of providing a workplace that is acceptably safe and without undue risks to health.

If there is conflict between this Code and the Diving Regulations, the Diving Regulations take precedence. Failure to observe the Code shall render a person liable in any proceedings. When courts interpret and apply the Diving Regulations with respect to the type of diving procedures covered by this code, they should consider this code to be an accepted standard of good practice.

Employers, employees and their organizations shall use this Code to develop, implement and refine their diving practices to address the health and safety issues in their own workplaces. This code shall specifically be consulted when preparing operations manuals. This Code is intentionally general, because every person and situation is unique and departures from the guidelines in this code may be justified in appropriate circumstances. This Code is not a substitute for company operation manuals and procedures, although it provides some guidance in aspects that should be covered in those manuals.

1.3.1 The Occupational Health and Safety Act, Diving Regulations and Other Regulations

The Occupational Health and Safety Act is the overarching legislative text, determining the duties of employers, employees, health and safety representatives, health and safety committees, etc. The Diving Regulations are provided in order to provide details on how the Act should be applied in the diving industry. Greater detail is provided for specific sectors of the diving industry in the Codes of Practice provided under the Diving Regulations.

This Code is the default code of practice for commercial diving in South Africa. It should be referred to in the absence of any code more specifically applying to the circumstances of any commercial diving operation within the scope of the Diving Regulations. When another diving code of practice is more specifically relevant to a diving contract, that code should generally be followed providing the advice given is applicable to the operation. When a more specific code does not provide sufficient guidance in particular circumstances, and this code does, this code may be used. Other regulations published under the Act may be applicable from time to time. These must also be consulted whenever appropriate, including Codes of Practice that may be published in terms of those regulations.

Other Acts may also be relevant to a specific diving project and the diving contractor should ensure that all the relevant texts are consulted.

The Occupational Health and Safety Act (Act No 85 of 1993) and its regulations take precedence

over this code and the advice of this Code should be followed only where it does not conflict with said legislation.
Any contractor carrying out inshore/inland diving operations shall establish whether there are any other National Regulations that may apply to the diving project . For instance, if construction work is undertaken, due regard should be given to aspects covered in the Construction Regulations; Diving in contaminated waters may require consultation with the Regulations for Hazardous Chemical Substances or the Regulations for Hazardous Biological Agents; If any loud noise is present in the workplace, the Noise Induced Hearing Loss Regulations should be consulted, etc. These are all aspects that are not covered in the Diving Regulations nor in detail in this code.

1.4 Deviation from the Code
Whenever deviation from this code is contemplated, such deviation must be clearly described and limited in the operations manual or authorised by the contractor for specific operations. An additional HIRA that specifically covers the deviations must be performed and recorded, containing the following aspects:
- Diving and working practice planned.
- How the practice deviates from this code.
- Specific reason(s) for the deviation.
- Which specific hazards are introduced because of the deviation.
- How these specific hazards are addressed to control and mitigate the risk.

1.5 Work Covered by the Code
This Code is intended to provide advice and guidance in respect of inland/inshore diving operations carried out in South Africa, and specifically covers diving operations conducted in support of inland, inshore, civil or harbour works.

1.5.1 Exclusions
This code does not cover diving practices using Class V and Class VI divers, nor does it cover diving using mixed gas at depths greater than 50m, closed bell or saturation diving techniques, offshore diving practices or underwater mining operations.

1.5.2 Alternatives
(*a*) Scientific diving operations using divers other than Class V and Class VI is covered by the Code of Practice for Scientific Diving, but may be conducted according to this code at the option of the Client or Contractor.
(*b*) Diving practices using Class V divers for the purposes of scientific diving to a maximum depth of 20 meters is covered by the Code of Practice for Scientific Diving.
(*c*) Diving practices using Class VI divers, for the purposes of diving in benign conditions , is covered by the Code of Practice for Diving in Benign Conditions.
(*d*) Diving using mixed gas below 50 metres, closed bell, saturation diving techniques and offshore diving practices, including diving work in the oil and gas industry is covered in the Code of Practice for Offshore Diving (IMCA?).
(*e*) Commercial and scientific diver training is conducted according to the Code of Practice for Commercial Diver Training.
(*f*) Underwater mining operations are covered in the Underwater Mining Regulations under the Mine Health and Safety Act, 1996 and the guideline for the compilation of a mandatory code of practice for inshore underwater mining.

1.6 Implementation
This code shall be implemented by publishing on the Department of Labour website.

1.7 Updating
This Code is a dynamic document and the advice given in it will change with developments in the industry. It is intended that this Code shall be periodically reviewed and any necessary changes or improvements made.
The latest version of this document will be available for download on the website of the Department of Labour. The version with the most recent date will automatically supersede previous versions. The version current at the time of a diving operation will apply as far as is reasonably practicable.
Detailed motivation for amendments to the code and reports of errors should be provided to the Chief Inspector as editable electronic documents for the attention of the Diving Advisory Board.

2 Definitions
A number of specialized terms are used in this document. These terms are referenced or defined below to ensure that readers understand what is meant by them in this document:
the Act means, unless the context indicates otherwise, the Occupational Health and Safety Act, 1993.the Regulations means, unless the context indicates otherwise, the Diving Regulations, 2009.the Code, or this Code means, unless the context indicates otherwise, the Code of Practice for Inshore Diving, i.e. this document.
Any word used in this Code of Practice that is defined in the Act or the Regulations shall have the meaning assigned to it in the Actor the Regulations. The definitions provided in the Act are used whenever conflict exists between these two texts. These definitions do not necessarily apply in other codes of practice. Section refers to this Code, Regulation refers to the Diving Regulations 2009.
Acceptable risk: A level of risk as indicated by a properly performed HIRA, which is acceptable in terms of the requirements and conditions set out in the Occupational Health and Safety Act and its Regulations, and is as low as is reasonably practicable. When deciding whether a risk is acceptable or not, consideration should be given to precedent, severity of possible consequences and legal liability.
Alpha flag - International Code Flag Alpha
Bailout set or bailout system (Emergency Gas Supply) - See section 5.2.1.3
Bottom time - The elapsed time from when the diver starts descent from the surface to the time when the diver starts final ascent from the working dive , unless otherwise defined by the decompression schedule in use.
Buddy line - See section 5.4.3
Client - See section 3.1, and Regulation 3
Decompression stop - An interruption of the ascent towards the surface for purposes of allowing dissolved gases to be eliminated from the diver without producing symptoms of decompression sickness.
Diving Contractor - Regulation 4
Diving mode - System of diving equipment type and associated standard operating procedures. See section 4.1.4
Diving Operation - Regulation 1
Diving Project - Regulation 1
Diving Project Plan - Regulation 5
Hazard - See section 4.1.3.6.1
HIRA (Hazard Identification and Risk Assessment) - See section 4.1.2.1
Life line - See section 5.4.1
MOD (Maximum Operating Depth) - The depth at which the oxygen partial pressure of a breathing gas reaches the maximum accepted value. The maximum acceptable oxygen partial pressure will depend on the mode of diving and should be specified in theOperations Manual .
Operations Manual - Regulation 21
Reasonably practicable - has the range of meaning defined in the Occupational Health and Safety Act
Shot line - See section 5.4.2
Stand-by diver - See sections 4.2.2, 5.2.1.2, 5.3, 8.1.1.5, 8.2, 8.4, 4.1.4.2, 10.7.4
SSDE (Surface - Supplied Diving Equipment) - See section 0
Toolbox talk - An informal group discussion that focuses on a particular safety issue, also intended to facilitate health and safety discussions on the work site.
Umbilical - See section 5.2.1.2

3 Organisation
There is in particular a need for clients and contractors to recognize and accept their responsibility for providing sufficient appropriately qualified and competent personnel to conduct operations safely at all times. This includes periods of routine preventative maintenance and repairs.

3.1 The Client
The client is the person or company who has entered into a contract with a diving contractor for a diving project The Client will usually be the operator or owner of a proposed or existing worksite where diving work is going to take place or a contractor acting on behalf of the operator or owner. If the client appoints an on-site representative then such a person should have the necessary experience and knowledge to be competent for this task. The following are examples of persons who may be representatives of the client:
- The installation or site manager who is responsible for the area inside which diving work is to take place.
- The master of a vessel from which diving work is to take place who controls the vessel and who has overall responsibility for the safety of the vessel and all personnel on it.

3.1.1 Duties of the Client
In terms of Regulation 3, a client (or his designated representative) shall be responsible for the following:
(*a*) to prepare a documented health and safety specification for the diving work, and provide any diving contractor who is making a bid or appointed to perform diving work for the client with the same;
(*b*) to promptly provide the diving contractor and his or her agent with any information which might materially affect the health and safety of any person at work carrying out diving work;
(*c*) to appoint each diving contractor in writing for the project or part thereof on a dive site;
(*d*) to take reasonable steps to ensure that approved health and safety policies are implemented and maintained on the dive site: Provided that the steps taken shall include periodic audits at intervals mutually agreed upon between the client and diving contractor, but at least once per month; A record of these audits must be available for inspection.
(*e*) to stop any diving contractor from executing diving work which is not in accordance with the principal contractors' health and safety specifications for the site or which poses a threat to the health and safety of any persons;
(*f*) to ensure that where changes are brought about, sufficient health and safety information and appropriate resources are made available to the diving contractor to execute the work safely;
(*g*) to ensure that every diving contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on the dive site; and
(*h*) to ensure that potential diving contractors submitting tenders, have made provision for the cost of health and safety measures during the diving project.

3.1.2 Contractual Requirements

The contract shall ensure that the following responsibilities are accepted by the Client:

- Agreeing to provide facilities and extend all reasonable support to the Diving Contractor or supervisor in the event of an emergency. The diving contractor must ensure that details of the matters agreed are recorded as part of the planning for the project.
- Considering whether any underwater or above-water items of plant or equipment under their control may cause a hazard to the diving team. Such items include water intakes or discharge points causing suction or turbulence, vent valve mechanisms that may activate without warning, propellers and sea chests of vessels, or equipment liable to start operating automatically. The diving contractor will need to be informed of the location and exact operational details of such items in writing and in sufficient time to account for them in the risk assessments.
- Ensuring that sufficient time and facilities are made available to the diving contractor at the commencement of the project in order to carry out all necessary site-specific safety and familiarization training.
- Ensuring that other activities in the vicinity do not affect the safety of the diving operation . They may, for example, need to arrange for the suspension of tugboat activity, vessel unloading, overhead scaffolding work, etc.
- Ensure that a formal control system, for example - a permit-to-work & lock out system, exists between the diving team, the installation manager and/or the vessel's master.
- Providing the diving contractor with details of any possible substance likely to be encountered by the diving team that would be a hazard to their health, e.g. chemicals in a plant's tank, sewage or waste in a dam, etc. They will also need to provide relevant material safety data sheets for these substances. This information will need to be provided in writing and in sufficient time to allow the diving contractor to carry out the relevant risk assessments.
- Keeping the diving supervisor informed of any changes that may affect the diving operation, e.g. vessel movements, deteriorating weather, valves opening, etc.

  The Client will need to ensure, as far as it is reasonably practicable, that any diving contractor contracted for the diving work has the appropriate plant and equipment and diving equipment, the minimum dive team as specified in the Regulations and operating procedures to meet any relevant regulations before work begins.

3.1.3 Client and Diving Contractor Relationships Responsibilities and liabilities of the client and the contractor must be clearly defined.

A client may appoint an agent in writing to act as his or her representative and where such an appointment is made, the responsibilities as are imposed by the regulations and the Code of Practice upon a client, shall as far as reasonably practicable apply to the person so appointed.

No client shall appoint any person as his agent, unless the client is reasonably satisfied that the person he or she intends to appoint has the necessary competencies and resources to perform the duties imposed on a client by the regulations and the Code of Practice

3.2 The Diving Contractor

On any diving project there must be one contractor in overall control for the diving operations (Regulation 4), This will normally be the company who employs the divers. If there is more than one company employing divers on a single diving project, then there must be a written agreement as to which of these companies is in overall control. This company is the Diving Contractor in terms of the Regulations. The name of the diving contractor shall be clearly displayed at the worksite if persons not directly involved in the diving operation may be present, and all personnel, clients and others involved in the diving operation shall be aware who the diving contractor is.

The Diving Contractor is required to define the project management structure in writing. This shall include arrangements for handover of supervisory responsibilities at appropriate stages in the operation.

3.2.1 Responsibilities

The Diving Contractor's responsibilities include provisions to ensure that:

- risk assessments have been carried out and signed by the required personnel.
- a diving operations manual is compiled in consultation with employees.
- the place from which operations are to be carried out is suitable and safe.
- there are sufficient personnel of the required competences in the diving team (see minimum manning levels in the Diving Regulations).
- the personnel are qualified and competent.
- suitable plant and equipment is supplied.
- the plant and equipment is correctly certified and properly maintained.
- a suitable diving project plan is prepared which includes relevant emergency and contingency plans adequate for the scope of reasonably foreseeable incidents. This should be signed and dated by the person/s preparing it.
- suitable site-specific safety and familiarization training is provided to all members of the dive team.
- project records are kept of all relevant details of the project, including all dives.
- adequate arrangements exist for first aid and medical treatment of personnel, including consultation with the contracted Level 2Designated Medical Practitioner .
- there is a clear, documented, reporting and responsibility structure supervisors are appointed in writing and extent of their control documented.
- all relevant regulations are complied with.
- any person or company not directly involved in the diving project is informed of the diving project and their roles therein, whenever their work or practices may impact on the health and safety aspects of the diving project.
- the provincial office of the Department of Labour is notified whenever any diving project is taking place.
- all the relevant aspects covered in the Regulations and this Code are complied with.

The level of detail or involvement required of the diving contractor, and information on how to meet the responsibilities is provided in greater detail in the relevant sections of this Code.

3.2.2 Employer - Employee Relationships

Any person who works for, or renders services to, the diving contractor , is presumed, until the contrary is proved, to be the employee of the diving contractor , regardless of the form of the contract (including when "freelance" services are provided), if any one or more of the following factors is present:

- The manner in which the person works is subject to the control or direction of the diving contractor.
- The person's hours of work are subject to the control or direction of the diving contractor.
- In the case of the person working for a diving company, the person is part of the company.
- If the person has worked for the diving contractor for an average of at least 40 hours per month over the last three months.
- The person is economically dependent on the diving contractor for whom that person works or renders services.
- The person is provided with tools of trade or work equipment by the diving contractor. (Excluding specialised tools and equipment specific to the task, which would not normally be owned by a sub- contractor).
- The person only works for or renders services to one diving contractor.

Whenever this employer-employee relationship exists between the diving contractor and divers, diving supervisors or other persons, the diving contractor must fulfil the duties of the employer as specified in the Act and the Regulations; and the divers, diving supervisors or other persons must fulfil the duties of employees as specified in the Act and the Regulations.

3.2.3 Diving Contractor and Contracted Level 2 Diving Medical Practitioner Relationship

The contracted designated medical practitioner shall be closely involved in the diving operation and provide appropriate medical support as needed.

The Diving Contractor contracts the medical assistance and advisory services of a level 2 DMP. The Diving Contractor however stays in overall control of the diving operation and the DMP may not take over the diving operation (e.g. during an emergency) or prescribe to the Diving Contractor which course of action to follow. The DMP is thus contracted in an advisory capacity only, unless other levels of responsibility and involvement in the diving operation are specified in the operations manual.

The Diving Contractor must carefully consider the advice provided by the Level 2 DMP and in particular consider how it impacts the health and safety of the diving operation as a whole before the advice is accepted or rejected. Conflicts of opinion should not take unnecessary time to resolve and therefore as much relevant procedural instruction as reasonably possible should be contained in the operations manual in an easily accessible format.

Whenever the Diving Contractor rejects the advice of the Level 2 DMP, the DMP may request that such refusal be provided in writing and this shall not be unreasonably refused by the Diving Contractor. The Level 2 DMP may not refuse to provide further medical advice and assistance for that specific diving operation. Further advice may be sought from other level 2 DMPs or other consultants with appropriate knowledge and/or experience. These provisions shall apply to all diving operations under the control of the diving contractor. However, whenever a diver is evacuated from the workplace for medical reasons and reaches a medical facility, the Diving Contractor shall not have control over the case any longer.

3.2.4 Co-operation between the Client or Diving Contractor's Contracted Level 2 DMP and Other DMPs

A close collaborative relationship is needed between the contracted Level 2 Designated Medical Practitioner performing the responsibilities listed in the Regulations and this Code and other Designated Medical Practitioners. A diver may have had his annual medical examination with one specific Designated Medical Practitioner and then goes diving with a number of different Diving Contractors in the course of the year, which means that a number of different level 2 Designated Medical Practitioners (each contracted with a different diving contractor) will also be involved. There is no need to perform a full medical examination on each occasion, as the medical examination performed by the initial Designated Medical Practitioner may still be valid. However, there may be a need to perform specific examinations (in collaboration with occupational health personnel) as a result of specific hazards being

present in the workplace (e.g. diving in a contaminated environment), which is specific to a diving operation.
The Designated Medical Practitioner performing the initial diving medical examination must provide copies of the annual medical examination to the level 2 Designated Medical Practitioner responsible for the diver during a specific diving project. The written consent of the diver is still required in each case. If copies of the diving medical examination are provided to the diver, an additional original signature of the Designated Medical Practitioner and the original stamp of the Designated Medical Practitioner are required on each page as evidence of authenticity.

3.3 Manuals and Procedures
3.3.1 Operations Manual
All contractors carrying out diving operations are required by Regulation 21 to prepare standard diving Operations Manuals and procedures covering their operations and reasonably foreseeable contingencies and emergencies. If the specific task they are undertaking is not standard then they should prepare specific written procedures for that work in the Diving Project Plan.
The Operations Manual should cover all relevant aspects in this Codes as well as any additional aspects identified in the company's standard Hazard Identification and Risk Assessments (HIRA)
The Operations Manual shall be prepared in consultation with the employees and contain all relevant elements addressed in the Regulations and in this Code. The manual shall be made available to each diving team at the diving location before the commencement of each diving operation, and shall be accessible to members of the diving teams as appropriate so that they may become adequately familiar with those sections which apply to them.

3.4 The Diving Supervisor (see 8.1.1.1 for Competence : Diving Supervisors)
Diving supervisors are responsible for the operations that they have been appointed to supervise and they shall only hand over control to another supervisor appointed in writing by the diving contractor. Such a handover must be entered and signed in the relevant operations logbook.
A supervisor can only supervise as much of a diving operation as they can personally control both during routine operations and if an emergency should occur. A supervisor cannot supervise two different dive sites at once.
The supervisor with overall responsibility for the operation is the only person who can order the start of a dive subject to appropriate work permits, etc. and will normally also be the person to terminate the dive. Other relevant parties, such as a ship's master or site manager, can however instruct the supervisor to terminate the dive for safety or operational reasons.
The supervisor is entitled to give direct orders in relation to health and safety to any person taking part in, or who has any influence over, the diving operation. These orders take precedence over any company hierarchy. These orders could include instructing unnecessary personnel to leave a control area, instructing personnel to operate equipment, etc.
To ensure that the diving operation is carried out safely, the supervisor will need to consider a number of points, including:

- The supervisor should satisfy them self that they are competent to carry out the work, and that they understand their own areas and levels of responsibility and who is responsible for any other relevant aspects. Such responsibilities must be specified in the relevant documentation. They should also ensure that they are in possession of a letter from the Diving Contractor appointing them as a diving supervisor for the company.
- The supervisor will need to satisfy them self that the personnel that they are to supervise are competent to carry out the work required of them. They should also check that these personnel are in possession of a valid medical certificate of fitness, and, as far as they are reasonably able, physically, psychologically, and medically fit for the operation.
- The supervisor will need to check that the equipment they propose to use for any particular operation is fit for purpose, adequate, safe, properly certified and maintained. They can do this by confirming that the equipment meets the requirements set down in this Code. They should ensure that the equipment is adequately checked by himself or herself or another competent person prior to its use. Such checks should be documented, for example, on a pre-prepared checklist which should be signed and recorded in or appended to the operations log for the project.
- When the operation uses, or plans to use, complex or potentially hazardous equipment, the supervisor will need to ensure that the possible hazards have been evaluated and are fully understood by all relevant parties and that, if required, training is given. This will be carried out as part of the risk assessment during the planning of the operation and should be documented. If the situation changes, however, further risk assessment must be considered. Supervisors will meet their responsibilities by ensuring the documentation exists and following any guidance contained in the documentation, for example, in manufacturer's operating and maintenance instructions.
- The supervisor will need to ensure that the operation they are being asked to supervise complies with the requirements of this Code or that variations are authorized, either in the Operations Manual, or for the specific operation.
- The supervisor must establish that all involved parties are aware that a diving operation is going to start or continue. They will also need to obtain any necessary permission before starting or continuing the operation, normally via a "permit-to-work" system.
- The supervisor will need to have clear audible and, if possible, visual communications with any personnel under their supervision. For example, a supervisor will be able to control the raising and lowering of a diving bell adequately if there is a direct audio link with the winch operator, even though the winch may be physically located where the supervisor cannot see it or have ready access to it.
- During wet bell diving operations, supervisors will need to be able to see the divers inside the wet bell. This will normally be achieved on the surface by means of direct viewing through the view ports but when the wet bell is under water this will be by means of a CCTV camera.
- The supervisor will need to have direct communications with any diver, standby diver, or bellman in the water at all times, even if another person also needs to talk to, or listen to, the diver.
- The supervisor shall comply with all the requirements imposed on him or her in accordance with Regulation 9 of the Regulations.

3.5 The Divers (see 8.1.1.2 for Competence : Diver)
Divers have the following duties and responsibilities:

- A diver will take reasonable care of his own health and safety and not endanger the health or safety of any other person by any act or omission.
- Comply with the requirements imposed on him or her by the operations manual, (in as far as this does not endanger the health and safety of any person).
- Co-operate with the diving supervisor and the diving contractor in the fulfilment of their duties.
- Carry out any lawful order given to him or her by the diving supervisor or diving contractor.
- As soon as he or she becomes aware of any situation which is unsafe or unhealthy, bring this to the attention of the diving supervisor, who will record this in the operations log and incorporate this in the HIRA update.
- If he is involved in any incident at work that may affect his health or has caused an injury to himself, report this to the supervisory who will note it in the operations log and ensure that the designated medical practitioner is consulted.
- Comply with the duties listed in the Regulations.

3.6 Level 2 Designated Medical Practitioners
One or more Level 2 DMPs will be contracted to the diving contractor for the duration of any diving project , and must be available for remote consultation at all times during any diving operation.
The level 2 DMP should ensure the health aspects of the diving project are appropriately addressed. This may include the following aspects:

- Performing fitness-to- dive examinations on the divers.
- Reviewing, scrutinizing and updating medical examinations performed by level 1. DMP and/or medical practitioners not contracted by the company.
- Providing specific inputs in the operations manual regarding relevant health aspects that should be addressed, including emergency medical protocols and procedures.
- Providing specific inputs regarding contents of the first aid kit and assistance in sourcing the contents thereof.
- Providing inputs in the HIRA from the medical point of view.
- Arrange for the workplace visit of an occupational medicine specialist or occupational medicine practitioner (as appropriate) when required to assess specific workplace hazards.
- Arranging (in consultation with occupational medicine specialists or practitioners) for the measurement of workplace hazards by an Approved Inspection Authority.
- Consultation with an occupational medicine specialist, occupational medicine practitioner or occupational health practitioner (as appropriate) when required in terms of specific health hazards in the workplace, or when an occupational injury has occurred or when an occupational disease is diagnosed.
- Consultation with travel medicine practitioners whenever specific issues occur, e.g. diving in malaria areas, the need for specific vaccinations, etc.
- Providing assistance and advice in the case of workplace accidents, injuries and illnesses.
- Providing inputs in diving apparatus selection and working tool selection when appropriate.
- Providing telephonic and/or on -site advice and assistance in each case of decompression illness and organise any special investigation, follow -up and rehabilitation that may be required, including the performance of fitness assessments after recovery.
- Recording of the appropriate medical information in the diver's logbook, including treatment provided, for each case of decompression sickness.
- Providing practical advice regarding the application of divers with restricted fitness for diving, which may include adding additional

restrictions or, in consultation with the examining DMP, remove such restrictions temporarily or permanently.
- Providing project specific medical support.
- Provision of any other medical advice, services and equipment as required from time to time.
- Reviewing of workplace health and safety indicators and development of appropriate action plans to address health issues in such a way that continuous improvement is evident.
- Provision of a yearly medical report to the diving contractor /employer.
- Complying with the provisions listed in the Diving Regulations.

To effectively perform these duties, the level 2 designated medical practitioner must be available for consultation with the diving contractor and the diving team should be able to telephonically contact the level 2 Designated Medical Practitioner without difficulty during any scheduled diving operation.

4 Operations

4.1 Work Planning

Before any diving is carried out there must be a relevant dive plan available. The dive plan will consist of, at minimum, the diving contractor's standard Operations Manual and any appropriate site-and task specific risk assessments and procedures.

The dive plan must specify the diving equipment and techniques to be used as well as the requirements of the particular operation. It must specify contingency procedures for any reasonably foreseeable emergency.

Many factors need to be considered when preparing a dive plan for a diving project . The risk assessment must identify site-specific hazards and their risks. Based on this information, the plan will state how these hazards and risks will be controlled.

Whenever a diving project is planned, the information required in terms of the Diving Regulations must be forwarded to the provincial office of the Department of Labour in the prescribed manner.

4.1.1 The Diving Project Plan

The diving project plan defines the scope of diving work to be performed for a diving project and contains records of the conclusions, findings and decisions of the planning activities relevant to the project. It is both guidance for the dive team and evidence of due diligence by the Diving Contractor.

4.1.2 The Dive Plan

Dive plans contain the proposed profile and tasks of each dive and these are updated when required. The dive plan may refer to more detailed information in the diving project plan when appropriate.

4.1.2.1 Quantity of Gas

The quantities of gases likely to be needed for diving operations, including for treatments and emergencies, must be calculated when planning a diving project. Allowances should be made for leakage, wastage, contingencies, etc. Diving must be stopped if the quantity of gas needed for safety purposes falls below the minimum specified in the operations manual and the dive plan.

A reserve supply of medical oxygen with a free volume of 40m3 is required at the chamber for the purposes of treatment in the chamber. A minimum supply of reserve air for the chamber is also required on site.

4.1.3 HIRA (Hazard Identification and Risk Assessment)

The dive planning for a diving operation is unique to that specific operation, and therefore only general guidelines can be given. The safe planning and implementation of the dive operation will be based on the Hazard Identification and Risk Assessment (HIRA) for that operation, in conjunction with the Diving Regulations, the contractor's Operations Manual and the task requirements.

4.1.3.1 Requirement

HIRA is required in terms of Regulation 22(1).

No diving operation is to take place without HIRA being carried out before the diving operation commences, and all relevant hazards identified and the associated risks assessed. The risk assessment will determine what diving mode is to be used and if diving is to take place at all.

The HIRA forms part of the project plan and the dive plans and is updated as required.

4.1.3.2 Communication

The results of the HIRA must be communicated to all dive team members and other stakeholders before the dive commences during a dive briefing or toolbox talks.

4.1.3.3 Consultation

The diving contractor shall carry out a HIRA and risk management process in consultation with the whole dive team and include inputs from third party specialists (e.g. Approved Inspection Authorities) when required by legislation or when otherwise considered appropriate.

4.1.3.4 Updates

A comprehensive HIRA should be performed for each diving project, but provision should be made for an update prior to each dive. This process must allow for changes in the dive plan, based on the findings. When performing the HIRA update, the diving supervisor shall consult with the other members of the dive team and include inputs from other persons whose activities may influence the health and safety of the divers.

4.1.3.5 Records

A copy of the relevant updated site and task specific HIRA documents must be kept as part of the diving operations records.

All of the findings of the HIRA shall be formally recorded including the names of the persons involved in the process. All of the aspects listed below should be included where appropriate Records of health hazards should be kept in accordance with the Regulations pertaining to those hazards, e.g. Regulations for Hazardous Chemical Substances, Regulations for Hazardous Biological Agents, etc.

4.1.3.6 HIRA Process

The HIRA process shall:
- identify and record significant hazards associated with the operation;
- ensure that an assessment is made to determine and record the risks associated with such identified hazards;
- control such risks by implementing measures to either eliminate or reduce risks to an acceptable level;
- implement contingency and emergency plans and medical surveillance for risks that remain.

4.1.3.6.1 Hazard Identification Process

Health and safety hazards exist at all workplaces. A hazard is any agent , activity, situation or substance that can cause harm. Hazards can be divided into three groups, health hazards, safety hazards and hazards to the environment.

Existing and potential hazards shall be identified during the preparation of the Diving Project Plan and reviewed prior to the commencement of each diving operation. Any additional hazards which arise during the operation should immediately be brought to the attention of the supervisor and the operational plan adapted as necessary to ensure the health and safety of the workers, or the operation should be aborted.

4.1.3.6.1.1 Health Hazards

An occupational health hazard is any agent that can cause illness to an individual. A health hazard may produce serious and immediate (acute) affects, or may cause long-term (chronic) problems. Someone with an occupational illness may not recognise the symptoms immediately. For example, noise-induced hearing loss is often difficult for the affected individual to detect until it is well advanced.

Health hazards include: chemical hazards, biological hazards, physical hazards, psychosocial hazards and work design (ergonomic) hazards.

(*a*) Chemical hazards: Chemical hazards include, but are not limited to:
- Breathing gases and the possibility of breathing contaminants.
- Toxicity from gases breathed, e.g. nitrogen narcosis, oxygen toxicity, etc.
- Diving in chemically contaminated waters (e.g. harbours).
- Exposures to any dusts, fumes, vapours, metals, chemical irritants, pesticides and other chemical agents.

(*b*) Biological hazards: Biological hazards include, but are not limited to:
- Risk of marine life injuries
- Diving in biologically contaminated waters
- Cross-contamination using diving gear
- Travel diseases, like malaria or travellers' diarrhoea
- Exposures to viruses, bacteria in the workplace
- Any agent that can cause an infection in the diver

(*c*) Physical hazards: Physical hazards include but are not limited to:
- Radiation hazards
- Noise
- Temperature extremes
- Pressure (causing barotrauma, decompression sickness, etc.)
- Electrical shocks

(*d*) Psychosocial hazards: Psychosocial hazards include, but are not limited to:
- Working shifts (shift work)
- Diving in hazardous environments
- Involvement in stressful situations (e.g. body recovery, mass casualties, etc.)

(*e*) Ergonomic hazards: Ergonomic hazards include, but are not limited to:
- lifting and bending with heavy equipment in and out of the water
- Abnormal postures
- Working with vibrating tools

4.1.3.6.1.2 Safety Hazards

A safety hazard is any agent which may cause injury, or damage to property. An injury caused by a safety hazard is usually obvious. For example, a worker may be badly cut. Safety hazards cause harm when workplace controls are not adequate. Some examples of safety hazards include, but are not limited to:

(*a*) Environmental conditions: include, but are not limited to:
- physical conditions at the operation's site and the sea state
- visibility
- cleanliness of the premises and plant

(*b*) Task-related aspects: Include, but are not limited to:
- the use of explosives
- use of tools and equipment

(*c*) Associated activity factors: Includes, but are not limited to:
- accessing the site (including emergency response)
- other equipment at the site
- other structures at the site
- Working alone
- Slipping/tripping hazards
- Fire hazards
- Moving parts of machinery, tools and equipment
- Work at height
- Pressure systems and differential pressure situations
- Vehicles
- Lifting operations
- Diving under, near ships, vessels, small craft, and boats - propellers, rudders, sea suction intake chests, etc.
- Live boating injuries
- Entrapment or entanglement
- Implementation of permit-to-work systems
- Lockout-procedures

(*d*) Emergency response factors: includes but are not limited to:
- location and availability of appropriate emergency systems and emergency response procedures.
- Unconscious diver recovery procedures
- Severely injured diver recovery procedures
- Availability of first aid kit and support

4.1.3.6.1.3 Environmental Hazards

An environmental hazard (hazard to the environment) is a release to the environment that may cause harm or deleterious effects. An environmental release may not be obvious.

For example, a worker who drains a glycol system and releases the liquid to a storm sewer may not be aware of the effect on the environment. Environmental hazards usually cause harm when controls and work procedures are not followed.

4.1.3.6.2 Risk Assessment

Risk Assessment evaluates the frequency, probability and the consequences of a hazard, into a semi-quantitative measure of risk.

The aims of a risk assessment are to:
- Identify and evaluate risks to enable contingency planning and minimise potential risk to health, environment and equipment.
- Provide a baseline mechanism for communicating to operational personnel the risks and means of minimising them, of a particular task or project.
- Ensure staff compliance to the company health, safety and environmental requirements, as well as compliance with relevant statutory regulations, guidelines and contractual obligations.

4.1.3.6.2.1 Risk Assessment Process

The risk assessment shall be conducted in the following way:

(*a*) Assess who may be exposed
Exposure may take place during the dive or the person may be exposed while on the surface. The HIRA must include the health and safety of surface personnel also.

(*b*) Assess how the persons will be exposed
The exposure route may be important, for instance chemical exposures may be via the lungs or be absorbed through the skin. Skin exposure may cause local effect (e.g. chemical burns) or may cause systemic effects due to absorption of the chemical.
Mechanical injury (safety risks) may happen due to improper equipment being used or if a person is not familiar with the operation of the equipment or not experienced in its use.

(*c*) Assess the exposure "dose"
The levels of the hazards are important factors to consider. (For example: The specific noise level can predict the level of hearing loss expected). The dose is estimated as a combination of severity and time of exposure. In order to measure the levels of chemical substances, some physical hazards, etc., the services of an Approved Inspection Authority ("Occupational/Industrial Hygienist") is required in terms of some of the Regulations.
Some exposures e.g. noise levels, cannot be measured under water.

(*d*) Assess the exposure frequency
The more often the person is exposed to the hazard, the higher the risk of injury or disease.

(*e*) Assess the influences of exposures on each other
Some exposures may have an influence on each other, for instance mixed chemical exposures. Exposure to any one of the elements may not be considered a health risk, but the combined effect of exposure may be considerable. Exposure to chemicals and noise may have a bigger effect in combination to any one of these in isolation. The assessment should thus take the 'big picture" into consideration.

(*f*) Assess the consequences of exposure
Some exposures cause acute effects while others may cause long4erm effects, like causing cancer, hearing loss, etc.
Consultation with the Designated Medical Practitioner and the Occupational Medicine Practitioner (or Occupational Medicine Specialist) is required.

(*g*) Note all your findings

All of the findings should be clearly noted in the HIRA. This will provide a record of systematic approaches taken to address risks and evidence of due diligence.

4.1.3.6.3 Risk Control

Control of risk is achieved by selecting from the hierarchy of control measures one or more measures which individually or in combination achieve the required risk reduction. Only those hazards identified during the hazard identification process that pose a real (unacceptable) risk (as determined in the risk assessment process) need to be addressed. if the risk assessment determined that a hazard is associated with acceptable risk, this should be indicated in the HIRA and it need not be addressed further.

Where the level of risk cannot be controlled to an acceptable level, no diving work shall take place while the hazard is present.

Appropriate control measures shall be applied to the risks, using the hierarchy of controls in the following order:

(*a*) Elimination
In some cases risk may be eliminated by removing the hazard or operating when it is not present.

(*b*) Substitution
Where the risk can be controlled by performing the task using alternative methods, consideration shall be given to using these alternative methods.

(*a*) Design
Plant and procedures can be selected or designed to reduce risk.

(*b*) Isolation
Persons should be isolated from the identified hazards where practicable. Diving equipment can provide adequate protection from a number of hazards, e.g. hypothermia, marine stings, etc.

(*c*) Administrative Control Measures
Every operational plan should seek to minimize the degree and duration of the worker's exposure to risk. Rotation of workers is a good example to minimize exposure.
Almost every aspect of planning falls into this administrative category.
Administrative controls include, but are not limited to:
- training, supervision, experience and selection of employees, including staffing levels;
- provision of an appropriate operations manual;
- organization and planning before, during and after the operation;
- selection of appropriate plant; and
- selection of the appropriate form and level of communication.

(*d*) Personal Protective Equipment
Appropriately designed and sized personal protective equipment shall be provided, used and maintained. The limitations of all equipment used shall be identified as part of the risk assessment process. Information from manufacturers and from records of prior experience should be used to identify limitations.

[Editor's Note: The paragraph numbering in the above subsection as per government gazette]

4.1.3.6.4 Risk Mitigation

Risk is mitigated by planning or taking measures to reduce the effect of an incident associated with that risk on personnel, equipment and the environment.

These may include:
- Emergency and contingency plans
- Provision of first aid and rescue equipment
- Retaining a DMP and/or recompression chamber on standby
- Spare tools and equipment

4.1.3.6.5 Recording of Occupational Exposures and Medical Surveillance

If the HIRA process is followed and risk mitigation strategies are put in place, there will still be a level of risk that is accepted as part of the operation. In case any employee is exposed to such a risk that remains, appropriate measures shall be put in place to specifically screen such an employee for consequences of the exposure (including the levels of exposure, e.g. using Biological Exposure Indices) and the possibility of an occupational disease.

Screening for occupational diseases shall be conducted in consultation with an occupational medicine specialist, occupational medicine practitioner or an occupational health practitioner (as appropriate).

An accurate record should be available in the diver's medical file. This is a requirement in addition to the normal "fitness to dive" evaluation of divers.

4.1.4 Diving mode

Diving mode is selected for the operation based on the requirements of the specific task and the logistics of the operation, based on the indications of the HIRA.

Three modes of diving are possible under this Code:

4.1.4.1 Surface Supplied Diving

This is the default mode and is applicable to the full scope of diving activities covered by this Code.

4.1.4.2 Scuba Diving

This may be used for activities which are not proscribed for scuba , provided that the HIRA indicates an acceptable level of risk, and provided that the procedures are authorised in the company Operations Manual for the applicable circumstances.

Scuba equipment is specified in section 5.2.2

Scuba has inherent limitations and difficulties such as limited breathing gas supply, last diver, etc. and scuba should therefore not be used if surface supplied equipment is available and its use is reasonably practicable.

Whenever scuba diving is performed, life lines (tended by competent divers' tenders), buddy lines surface markers and emergency gas supplies (bailout sets) must be used as reasonably practicable, and provided they do not increase overall risk. The divers should be tethered to the surface marker with an 8mm diameter synthetic line (or equivalent) and this must be constantly visually monitored from a location that allows immediate assistance to be rendered in case of an emergency. If the diving contractor, the diver and the diving supervisor all considers the use of one or more of these hazardous, then alternative measures shall be put in place to ensure that:
- Voice communications between the divers and the diving supervisor is used; and
- A buddy system is employed whereby two divers remain at all times in constant visual or physical contact and that both end the dive immediately if contact is lost; and
- The diver can be easily located by his fellow divers; and
- The diver can be located without any difficulty by the standby diver; and
- The diver can be rescued without any delay or difficulty in case of an emergency;
- A life-line is used for the standby diver.

4.1.4.2.1 Proscribed Activities for Scuba Diving

Scuba may not be used at construction or industrial diving operations that involve the following: welding, burning/cutting, high-pressure jetting, hoisting, dredging, using power tools, or working in an environment contaminated by hazardous materials or micro-organisms.

Scuba may not be used for penetration of overhead environments where the exit cannot be clearly seen by the diver under all reasonably

foreseeable circumstances.

4.1.4.3 Airline Diving

This may be used for activities which are not proscribed for airline, provided that the HIRA indicates an acceptable level of risk, and provided that the procedures are authorised in the company Operations Manual for the applicable circumstances.

Airline equipment is specified in section 5.2.3

Use of airline equipment may be considered when:

- The risk of diver entrapment is low.
- The risk of snagging the airline is low (in most applications the risk of snagging the airline is minimised by use of a buoyant airline which is sufficiently strong to serve as the lifeline.
- Full surface supply equipment is not appropriate for economic or logistical reasons.
- no proscribed work required.
- Airline mode is required or recommended by a government department for the specific industry.

A bailout system must be carried by the diver when there is any significant risk of the diver being unable to make an immediate, direct and acceptably safe ascent to the surface and to immediately achieve positive buoyancy in the case of a failure of primary air supply. Any ditching of equipment required for such a free ascent may not involve more than one quick release buckle, operable by either hand in a single movement, and all equipment required to fall clear must do so in any reasonably foreseeable circumstance. A bailout system must be used if obligatory decompression is a plausible contingency.

The standby diver may be equipped with any mode of diving equipment permitted by this Code and acceptable in terms of the HIRA. The standby diver should use a lifeline if on Scuba unless the HIRA shows this to be impracticable or it increases the risk.

4.1.4.3.1 Proscribed Activities for Airline Diving

Airline diving may not be used at construction or industrial diving operations that involve the following: welding, burning/cutting, high -pressure jetting, hoisting, dredging, using power tools, or working in an environment contaminated by chemicals, hazardous materials or micro-organisms. Nor may it be used in circumstances where a differential pressure environment exists (e.g. dams, dry-dock locks, in the presence of valves, etc). Diving depths exceeding 15m, or where the no-decompression-stop limits are likely to be exceeded.

4.1.4.3.2 Permitted Activities for Airline Diving

Airline diving may be stipulated by a government department for some applications.

4.2 Emergency and Contingency Plans

Before a dive commences, all members of the diving team must be systematically and thoroughly informed and trained with regard to the procedures to be followed in case of an emergency.

This is usually done in the form of induction training and the “toolbox talk”.

4.2.1 Diving Emergencies

The diving contractor’s operations manual should contain a section laying out the actions required of each member of the diving team in the event of a foreseeable emergency occurring during operations.

The following list, which is not exhaustive, identifies the type of possible emergencies to be considered:

- Dealing with an injured or unconscious diver: both in the water and on the surface
- Provision of recompression therapy in the case of decompression illness
- Communication with emergency services, local medical facilities and hospitals
- Providing first aid
- Faulty or broken equipment
- Managing contaminated divers (biological/chemical/radiological/etc)
- Emergency evacuation of the worksite

Specific checklists should be provided whenever appropriate to facilitate management in an emergency.

4.2.2 Standby Diver

Before the dive commences, the standby diver must be adequately dressed, checked and ready to go with mask or helmet off and have adequate diving equipment with an independent breathing gas appropriate for the depths and circumstances in which the standby diver would have to operate should a rescue become necessary.

4.2.3 Recovery of Unconscious Diver

All dive sites shall have a means of recovering an unconscious or injured diver from the water safely and effectively in a timely manner.

4.2.4 Medical Assistance

4.2.4.1 Level 2 Designated Medical Practitioners

The diving contractor shall ensure that arrangements are made with one or more level 2 Designated Medical Practitioners, either with the Designated Medical Practitioners directly or with a medical facility employing Designated Medical Practitioners whenever diving projects are planned.

The operations manual should clearly indicate the responsibilities of the designated medical practitioner and the extent of involvement in diving operations. The following guidelines should be considered:

- Irrespective of the type of diving performed, each diving team should have reasonable access to the advice of a designated medical practitioner.
- Whenever a significant injury occurs during a diving project, the diving supervisor is required to follow the company protocol. The Designated Medical Practitioner must be contacted in all cases and the injury should be recorded as an occupational injury on duty.
- Whenever decompression sickness occurs (or symptoms in a diver are suggestive of decompression sickness), the diving contractor is required to consult the designated medical practitioner in all cases (even if routine treatment is needed) and the incident must be recorded as an occupational disease.
- In certain cases, depending on the HIRA, the on-site attendance of the designated medical practitioner may be required for the entire duration of the diving operation.

4.2.4.2 Emergency Medical Services

Certain circumstances may require the diving contractor to make use of emergency services, e.g. to assist in managing injuries or to assist with decontamination procedures after diving in hazardous materials.

The contact number for the local emergency services (or the national emergency number) should be readily available to the diving team.

The specific procedures for contacting emergency services should be clearly outlined in the operations manual and checklists should be provided to facilitate appropriate management in an emergency.

4.2.5 Termination of Dive

At the onset of any sign of malfunction of equipment or sign or symptom of distress, the diver shall, when possible, notify the dive supervisor, the dive tender, and any diving buddy by an appropriate signal and terminate the dive.

4.3 Working Periods

Working periods should not be extended or prolonged to an extent that health and safety is compromised. It should be remembered that accidents are more likely when personnel work long hours because their concentration and efficiency deteriorate and their safety awareness is reduced.

When breaks are taken in the course of a diving operation, the diving contractor will need to ensure that the health and safety is not compromised in any way and that qualified and experienced personnel are available to act as reliefs during these breaks. This is particularly important in relation to supervisors whose responsibilities are often onerous and stressful. Any such handovers of responsibility should be recorded in writing in the operations log.

4.4 Documentation

If an inspector makes an inspection of a worksite and the required documentation is not available on site, the operation may be stopped until evidence is provided that the documentation is in order and the equipment is suitable and in test. It is strongly recommended that the required documentation is kept on site where reasonably practicable.

5 Diving Equipment

5.1 Equipment Location and Integrity

The diving contractor must ensure that the dive team is provided with all the necessary equipment and procedures to undertake the diving work without undue compromise to health and safety. The choice of equipment location will be determined by the type of diving work, the detail of the type of diving equipment involved, the integrity of any handling system with respect to lifting points or load bearing welds, and structures etc. In this respect it should be ensured that indate test certificates for all relevant equipment are available.

In some applications the diving system may be required to operate in a hazardous area (for example: an area in which there is the possibility of danger of fire or explosion from the ignition of gas, vapour or volatile liquid). All diving equipment used in such an area must comply with the safety requirements for that area.

5.2 Diving Equipment

Diving contractors working under the scope of this code must use surface supplied diving equipment whenever reasonably practicable, and only use scuba or airline equipment when conventional surface supplied equipment is not practicable, or there is a significant logistical advantage and the HIRA indicates that there is no significant additional risk.

No diver may undertake a dive to a depth greater than that for which the equipment he or she is using is suitable. Suitability of equipment for purpose should be confirmed by the manufacturer. This is usually specified in the user manual for the equipment. All equipment used for a dive must be suitable for the planned depth.

5.2.1 Surface-Supplied Diving Equipment (SSDE)

Surface-supplied diving equipment includes as a minimum:

- a full-face mask or helmet;
- a diver’s umbilical;
- a bail-out system, connected to the primary breathing apparatus by a valve operable by the diver;
- a full body diver safety harness;
- a voice communication system between the diver and the control point;
- a surface breathing gas control panel;
- a suitable pressurised breathing mixture supply.

5.2.1.1 Diving Masks and Helmets

A full-face mask or diving helmet is an essential component of surface supplied diving equipment. Helmets and full-face masks may be supplied with breathing gas by a demand or free-flow system.

5.2.1.2 Diver’s Umbilicals

The required length of the diver’s umbilical in relation to the worksite will need to be included in the dive plan, particularly where an emergency situation might require rapid location and recovery of the diver.

The standby diver’s umbilical must be at least 2m

longer than the working diverts umbilical.
The length of the umbilical should take into account the distance to hazards.
A diver's umbilical must comply with the following minimum requirements:

- Contain a breathing gas hose of non-toxic composition (suitable for breathing gas) and a minimum internal diameter of 9mm and a working pressure of 350 kPa (35 bar).
- Contain a pneumofathometer hose of non-toxic composition and a minimum internal diameter of 6mm.
- Contain a hardwire communications cable for voice communications.
- Have a strength of at least 5kN.

The diver's umbilical must be connected to the diver's safety harness by means of a screw gate caribiner to prevent the umbilical pulling on the diver's helmet or full-face mask.

5.2.1.3 Bailout Systems

A bailout system is an independent supply of a breathing mixture that is carried and activated by the diver. An adequate bailout system must be worn by all divers and the breathing mixture in the bailout system must be appropriate for the dive.
The bailout system capacity must be sufficient to allow the diver to reach a place of safety in emergency situations (e.g. for the time needed by the standby diver to reach the submerged diver and for both to return to the surface; or to return to the stage or wet bell, if this is being used in the diving operation).

5.2.1.4 Safety Harness

A diverts safety harness must be:

- capable of supporting the weight of the fully dressed diver in air.
- attached to the diver in such a way that it cannot be accidentally unfastened.
- adjustable to comfortably fit the diver.
- provided with an attachment point for lifting the diver in a posture which will minimise potential injury to an unconscious diver during lifting.
- provided with an attachment point for connecting the umbilical in such a way that loads will not be transmitted to the mask or helmet.

Other features such as support for the bailout system, ballast weights, tool pockets and clips, and adjustable buoyancy are optional.

5.2.1.5 Voice Communications System

See section 4.2.9

5.2.1.6 Surface Control Panel

The surface gas control panel has the following functions:

- provide an adequate flow of primary breathing gas to each diver through the primary umbilical hose at the appropriate pressure.
- provide an alternative supply of primary breathing gas to each diver through the pneumofathometer hose when required.
- Indicate the breathing gas supply pressure.
- indicate the depth of each diver by measuring the pressure in the pneumofathometer hose, to a resolution of 0.5msw.
- provide an adequate flow of backup breathing gas to each diver through the primary and pneumofathometer hoses.
- Switch between primary and backup breathing gas supplies without noticeably interrupting supply to the divers.
- Prevent breathing gas loss from each diver on the panel if any hose to another diver is cut.
- All valves and gauges must be labelled to indicate function and, where appropriate, which diver they serve.
- If gases other than air are to be supplied to the diver, an oxygen analyser must be supplied from to the supply manifold.

5.2.2 Self-contained diving equipment (SCUBA)

Scuba is a non-preferred option for diving under this code, however there may be occasions when the use of scuba may be justified by logistical constraints and a HIRA that indicates acceptable risk under the specified circumstances.
Two classes of scuba exist: Open circuit, where all the breathing gas is lost to the environment on exhalation, and Rebreather systems, where all or part of the exhaled gas is retained in the breathing circuit, carbon dioxide is removed, and oxygen added before the gas is made available for breathing again.
Open circuit systems have the disadvantage of limited gas endurance, but are more robust and have fewer critical failure modes than rebreather systems.
Rebreather systems can provide considerably longer gas endurance for an equivalent gas supply, and minimise the amount of gas released as bubbles, but have an inherently greater risk of failure while in use, even when correctly maintained and checked before use. It is possible, but unlikely that a rebreather would be acceptable for any diving operation under this code, and any contractor considering their use should ensure a particularly rigorous risk assessment for the equipment, and is strongly advised to ensure that this is done by an expert.
Open circuit scuba may be used with either a full-face mask or a half mask and demand valve. A full-face mask allows voice communications equipment to be used and is the preferred option under this code. Most full-face masks allow a bailout system to be connected to the mask in such a way that the diver can change from primary to bailout gas without removing the mask. The switchover system must allow the diver to easily check which supply is in use at any time, and to monitor the remaining gas pressure in both supplies. A large range of configurations are possible, and the contractor is responsible for ensuring that the system chosen is fit for purpose.
Scuba equipment under this code includes at minimum the following:

- Primary breathing air supply from high pressure cylinder/s carried by the diver on a harness, including regulator with demand valve and accurate and legible pressure monitoring gauge.
- Buoyancy compensator device capable of providing the diver with neutral and positive buoyancy without the need to jettison weights or other diving equipment The BCD is not required or expected to support heavy tools or equipment.
- Full-face mask, or if not appropriate, half mask.
- Bailout system as specified in section 5.2.1.3 comprising independent gas supply carried by the diver and demand regulator, with means of changeover and pressure monitoring gauge.
- A diver's safety harness as specified in section 5.2.1.4.
- Lifeline as specified in section 5.4.1.
- Cutting tool suitable for clearing entanglement by rope or line.
- A means of monitoring depth.

A personal dive computer or recording bottom timer is strongly recommended for all dives in open waters.

5.2.3 Airline Diving Equipment

Airline (also known as Hookah) is a non-preferred option for diving under this code, however there may be occasions when the use of airline may be justified by logistical constraints, and a HIRA that indicates acceptable risk under the specified circumstances. Airline is customarily used for shallow water aquaculture and harvesting operations, and has a satisfactory safety record in these applications. Airline may be used by Class IV divers with a suitable training endorsement.
Airline equipment under this code includes at minimum the following:

- Airline supply hose with minimum inside diameter of 9mm suitable for breathing gas, complete with demand regulator system, attached to the safety harness by a screw-gate carabiner, in such a way that loads are not transmitted to the mask or DV from the airline or lifeline;
- Airline supply hose is usually buoyant when filled with air at working pressure. Neutrally buoyant or negatively buoyant airline may be considered in special circumstances;
- Lifeline as specified in section 5.4.1 strapped to the airline if the airline is not suitable for this purpose alone;
- Primary air supply from low pressure breathing air compressor or regulated flow from high pressure cylinders;
- A loss of pressure in the airline must not allow air to flow back into the line from the mask or demand valve, or from the bailout system;
- A loss of pressure in the airline must not compromise the breathing gas supply to any other diver;
- Full-face mask, or if not appropriate, half mask;
- Bailout system as specified in section 5.2.1.3 comprising independent gas supply carried by the diver and demand regulator, with means of changeover and pressure monitoring;
- A diver's safety harness as specified in section 5.2.1.4.

5.3 Diver's Breathing Gas Supply

The diving apparatus must be arranged in such a manner that every diver, including the standby diver receives a breathing gas of the correct composition, volume, temperature and flow for all reasonably foreseeable situations, including emergencies.
All divers must receive an uninterrupted supply of breathing gas. In particular, the supply must be arranged so that no other diver (including the standby diver) is deprived of breathing gas if another diver's umbilical is cut or ruptured.
If breathing gases are not analysed immediately prior to use, an incline oxygen analyser with an audible Hi-Lo alarm must be fitted to the diver's gas supply line in the dive control area. This will prevent the diver being supplied with the wrong percentage of oxygen.

5.3.1 Compressors

Compressors used to supply air to divers in the course of a diving operation shall be capable of maintaining a supply of air to meet the air requirements of the diver/s.
All receiver tanks and pressure vessels used in connection with compressors shall meet the required regulations and standards.
Compressors shall be operated by a competent person who, if circumstances permit, may also act as a diver's tender. The compressor operator shall ensure that all equipment necessary to supply an adequate quantity of air to the diver is in good working order. Particular attention shall be given to valves, stop valves, drain cocks, gauges, and all parts liable to be damaged.

5.3.2 Prevention of Contamination of Breathing Air Supply

The diving contractor shall ensure that adequate procedures are in place to ensure that compressed air supplied to divers comply with the minimum requirements set out elsewhere in this document. This will include procedures, checklists, maintenance and tests with regards to compressor air intakes, the compressor itself, the filtration systems and any other part of the equipment. Some of these aspects are covered in other Regulations under the Act.

5.3.3 Storage Cylinders

Gases stored in cylinders at high pressure are potentially hazardous. The dive plan must specify adequate protection for the gas storage areas. All gases used during diving projects will be handled with appropriate care. Gas storage cylinders must be suitable in design , fit for purpose and safe for use. Each cylinder must be in date in terms of SANS 10019.
Cylinders used for diving within the scope of this

Code may be subjected to special conditions, such as use in salt water, and will therefore need special care. Cylinders used under water in direct contact with the water should be tested according to the requirements for Scuba cylinders, as they are subject to the same environmental conditions. Detailed requirements are contained in other Regulations under the Act.

5.3.3.1 Contents of Gas Cylinders

Gas cylinders containing breathing gases coming from suppliers will be colour coded in accordance with industry guidance and will be accompanied by an analysis certificate. Neither of these should be accepted as correct until a competent member of the dive team has analysed at least the oxygen content. This analysis should be repeated immediately before use of the gas.

5.3.3.2 Marking and Colour Coding of Gas Storage Fatal accidents have occurred because of wrong gases or gas mixtures being used in a diving project. The diving contractor will ensure that all gas storage units comply with a recognized and agreed standard of colour coding and marking of gas storage cylinders and banks. Where appropriate, pipework should also be colour coded.

Unless special circumstances apply, gas cylinders for inshore and inland operations will be marked and colour coded in accordance with SANS 10019.

5.3.4 Breathing Gas Composition

Constituent gases for breathing mixtures should be within 0.5% by volume of the nominal composition.

5.3.4.1 Breathing Gas Toxicity

Divers breathing a mixture of oxygen and nitrogen under pressure, whether compressed natural air or an artificial mixture, are at risk of both oxygen toxicity and nitrogen narcosis as the depth increases. The dive plan will therefore need to specify the maximum depth for the mixture being used. The recommended maximum partial pressure range for oxygen used under water is 1.4 bar to 1.6 bar for the working part of the dive. The partial pressure for oxygen used must never be lower than 0.2 bar.

Partial pressure of oxygen during decompression should comply with the requirements of the decompression schedule in use, taking into account the breathing apparatus and security of the diver's gas supply and airway in case of loss of consciousness.

Breathing mixtures other than oxygen and nitrogen (or air) should be used when diving takes place deeper than 50m of water. Diving at these depths is covered in the Code of Practice for Offshore Diving.

5.3.4.2 Breathing Air Purity Standards

Breathing air for diving under this Code will comply with the SANS 10019.

5.3.4.3 Air Purity Testing

To ensure that breathing air complies with these minimum standards, the diving contractor will ensure that the air is tested in the following manner:

- The compressor should have a monthly functionality test for delivery and pressure.
- An air purity test must be performed at a maximum interval of 6 months.
- An air purity test may be performed more frequently if deemed necessary.
- Testing for contaminants other than those listed in the SANS 10019 shall be conducted if their presence is suspected.

Quantitative testing for particulate matter (including oil) shall be conducted if its presence is evident in a qualitative test. A record of these tests should be kept with the compressor log for inspection.

5.3.4.4 Purity of Gases for Breathing Mixes

These criteria apply equally to the gases in storage and after mixing, before delivery to the diver. Gases should be tested for specific contaminants when there is reason to suspect that they may be present above the limits. A HIRA survey should be used to determine the likelihood of these or any other potentially toxic contaminants being present in the breathing gas.

Potential contaminants should be limited to:

Contaminant	Limit
Carbon dioxide	1000 ppm_v
Carbon monoxide	5 ppm_v
Water	Storage: 40 to 200bar 50 mg/m^3 (62 ppm_v) >200 bar 35 mg/m^3 (44 ppm_v) Low pressure: RH ideally 50% to 60%
Oil	0.1 mg/m^3
Solid particles	0.5 mg/m^3 for particle 5 µm
Odour	None
Volatile hydrocarbons excluding methane	5 ppm^v
Methane	25 ppm^v
Hydrogen sulphide	1 ppm^v
Sulphur dioxide	1 ppm^v
Oxides of nitrogen	2 ppm^v

(Ref: ECHM Book of Experts Reports, Section 5,1, Table 6: Proposed contaminant units for compressed air).

5.3.5 Oxygen Banks and Oxygen Installations

Pressurised oxygen can cause a serious fire or an explosion, but can be used safely if stored and handled correctly. Any gas mixture containing more than 25% oxygen by volume should be handled like pure oxygen.

Any components used in plant which is intended to be exposed to high partial pressures of oxygen will need to be cleaned of hydrocarbons to avoid explosions. Formal cleaning procedures for such equipment must be specified by the diving contractor , together with documentary evidence that such procedures have been followed.

5.3.5.1 Oxygen Hoses

The use of hoses for oxygen in lieu of piping shall be kept to a minimum. Hoses and associated fittings shall be constructed of material that is compatible with oxygen at the operating pressure and temperature.

5.3.5.2 Flow Velocity

High flow velocities of oxygen through hoses shall be such that the differential pressure along a hose does not exceed 700 kPa (7 bar).

5.3.5.3 Valves

Quick-opening valves such as ball valves should not be used in oxygen systems where the pressure exceeds 700 kPa (7 bar).

5.3.5.4 Oxygen Storage Area

An area where oxygen is stored shall be:

- adequately ventilated;
- properly identified with warning signs;
- kept clean and located as far as practical from combustible materials.

5.3.6 Chambers

All chambers used under this code shall be of a twin-lock configuration and have sufficient space available to treat all the ill or injured divers in an emergency, with at least one ill diver lying in the horizontal position.

5.3.6.1 Availability of Recompression Chambers

A recompression chamber is required at the dive site whenever any one of the following conditions is present:

- diving takes place at a depth exceeding fifty metres; or
- decompression stops are required as part of the dive; or
- a functional facility for recompression of a diver is not available within two hours; or
- the diving project is an offshore operation.

Whenever an on-site recompression chamber is not required in terms of the previous paragraph, arrangements must be made to ensure that all divers could receive recompression therapy within two hours from the time when the need for recompression is identified.

The diving contractor must identify the location of the nearest diving or hyperbaric chamber appropriate for the depth at which the diving operations are to be carried out and make sure it is within two hours travelling time by available transport from the dive site to the diving chamber . The diving contractor will confirm that the decompression facility is in a safe and operational state.

5.3.6.2 Operation of Chambers

Diving chambers may only be operated by persons with the appropriate qualification and competence. Chamber operators must be available while diving operations are in progress and they must remain on duty at the chamber while the chamber is in use.

Chambers must only be operated using appropriate published or proprietary diving or treatment tables. The tables to be used must be contained in the operations manual and be available at the chamber. Whenever deviation from treatment tables is contemplated, it should be accompanied by appropriate instructions provided by the level 2 Designated Medical Practitioner and approved by the diving contractor. If such instructions are given telephonically it should be co-signed by at least two individuals.

5.3.7 Electrical Power

5.3.7.1 Primary Electrical Power Source

The diving contractor shall ensure that the primary source of electrical power for the diving system complies with the relevant regulations.

5.3.7.2 Alternative Power Sources

The diving contractor shall ensure that there is a secondary source of power for the diving system in the event of failure of the primary source. The second power source shall be capable of meeting the requirements of the diving system. This may include the following when applicable:

- being rapidly brought online;
- operating communication and monitoring systems;
- heating the diving plant and equipment, including providing heat for a diver(s) in water;
- sustaining life -support systems for compression chambers and any diver in the water;
- illuminating the work site of divers and the interior of compression chambers, dive stations, etc; and
- operating communication and monitoring systems.

5.3.7.3 Electricity Used Underwater

Divers, and others in the dive team, may be required to work with equipment carrying electric currents, which present the risk of electric shock and burning. The diving contractor shall ensure that the equipment and procedures do not endanger the health and safety of any person.

Recharging lead-acid batteries generates hydrogen that can provide an explosion hazard in confined spaces. Care will need to be taken to provide adequate ventilation.

5.4 Safety Equipment

5.4.1 Lifelines

A lifeline system shall:

- have a breaking strength of no less than 5kN;
- incorporate a strength member that is no less than 8mm in diameter;
- be of sufficient length for the intended diving activities;
- be free of knots and splices;
- be secured to the diver's safety harness by means of a screw-gate carabiner;

- be secured at the surface to a safe point of anchorage; and
- be tended at all times while attached to the diver by a competent diver's tender.

The above are recommended minimum requirements. The HIRA should determine if a higher strength lifeline system is needed in order to ensure the security of the diver (e.g. potential pressure differentials, strong underwater currents, underwater encumbrances, etc), or if a larger diameter is desirable to improve handling by the surface team.

In order for the lifeline system to have a rated breaking strength of 5kN, it is necessary that all loaded components (lifeline, connecting components, and harness) be rated to at least this breaking strength.

5.4.2 Shot-lines

A shot line is a weighted line with a surface float used to guide the diver between the surface and the bottom and as a tangible reference for speed of ascent and descent. As such the weight must be sufficient to prevent the divers on the line from lifting it off the bottom and the float must have sufficient buoyancy to prevent the weight of the divers dragging it below the surface if their buoyancy control is compromised. The line must be thick enough to offer a comfortable grip to allow a diver to remain in place for decompression stops, and for the surface team to comfortably deploy and recover the shot-line. A diameter of 15 to 25mm is recommended unless there is a good reason to deviate. Additional weight or an anchor may be desirable to prevent drift.

A shot line must be used when the diver is not lowered to the underwater working place by means of a diving bell or similar device, unless the use of a shot line is impractical.

Whenever a shot line is not used, a boat must be kept ready for rescue purposes if the possibility exists that the diver may surface away from the control point in the course of a dive. Special consideration must be given when more than one diver may surface away from the control point.

5.4.3 Buddy Lines

A buddy line is used for securely connecting two divers to each other during a dive . Buddy lines must conform to the following standards:

- Not exceed a length of five meters; and
- Have a breaking strength of at least 5kN;
- Must not encumber the diver's hands;
- Must be possible to disconnect under tension, either by a reliable release mechanism or by cutting with the diver's knife. The diver should be able to reach the line to cut or release it with either hand.

5.4.4 Depth Measuring Devices

All divers must use depth measuring devices, provided that surface-supplied divers' diving depth must be measured by pneumofathometer from the surface.

5.4.5 Communications

Effective communications are essential to ensure that all personnel directly involved in operations are made fully aware of the work being undertaken and that during operations all parties are kept aware of the status of any unusual situation. Communications between the diving team and any other relevant personnel (such as marine crew) are important to the safe and efficient operation.

5.4.5.1 Language during Operations

In an emergency, personnel tend to revert to their own language. If team members do not speak the same language, this can cause an obvious hazard. The dive plan should state the language to be used during the project, and all team members will need to be able to speak to each other fluently and clearly at all times, particularly during emergencies.

5.4.5.2 Communications between Supervisor and Divers

The diving contractor must provide an effective means of direct, two-way communication between the divers and the diving supervisor of a diving operation. Where voice communications are required, the following shall be provided:

- a diver voice communication system adequate to enable the diver's breathing to be clearly heard at all times;
- a suitable means of voice-unscrambling when breathing mixtures containing helium or other gases that significantly distort sound transmission are being used; and
- a system for recording voice communications.

In addition to the primary communication system between the diver and the diving supervisor, an emergency signal system shall also be in effect.

All voice communications should be recorded, and the recording kept for a period of at least 48 hours. If an incident occurs during the dive, the communication record must be retained for any subsequent investigation. All such voice recordings must be made available to an inspector for inspection purposes.

5.4.5.3 Communications between Supervisor and Persons Other than the Divers

The diving contractor must ensure that an effective means of communication is in place between the diving supervisor and any other person that may assist in the diving operation, e.g. winch operators, crane operators, ROV supervisors, etc.

To ensure effective communication, the diving team should have access to the communications system and services of any installation or vessel on which operations are based. This includes all available media, e.g. word of mouth, reports, telephone, telex, fax, radio, etc.

5.4.5.4 Communications with Designated Medical Practitioners

Communication with the level 2 Designated Medical Practitioner may be needed in the course of a diving operation, especially in the case of an accident or other medical emergency. The diving contractor must lay down clear protocols and procedures in the operations manual in consultation with the Designated Medical Practitioner. Care should be taken to ensure that medical information is provided to the dive team when needed.

5.4.6 Diving Stages and Wet Diving Bells

A wet diving bell (also called an "open bell") is a compartment at ambient pressure by means of which the divers can be transported to and from the underwater work site, which allows the divers to access the surrounding environment and which is capable of being used as a refuge during diving operations.

A basket or wet bell, used in support of surface-supplied diving, needs to be able to carry at least two divers in an un-cramped position. It must be fitted with a chain or gate at the entry and exit point to prevent the divers falling out, and with suitable hand holds for the divers. Additional lifting points should be fitted to permit emergency recovery of the diving basket or wet bell.

Diving with closed diving bells is covered in the Offshore Code of Practice.

5.4.7 Man-riding Launch and Recovery Systems (LARS)

Because of the variety of diving systems, support locations and deployment systems, it is not possible to define every launch/recovery procedure.

A safe launch/recovery procedure must exist and it should be understood by all members of both the diving team and any other support crews. The procedure should progress in smooth, logical steps and be designed so that all personnel involved in the operation are fully aware of the situation at all times.

Particular safety standards will need to be applied when using lifting equipment to carry personnel, because serious injury may result from falling. Such handling systems should be designed with a suitable minimum safety factor on the load.

Alternative design factors may be considered if based on detailed analysis, such as computer modelling, etc.

The device used to lower the diver(s) into the water shall remain available throughout the dive for the immediate recovery of the diver in the event of an emergency if required.

The person responsible for giving directions to the operator in charge of the hoisting device shall be identified in the dive plan (this is usually given either by the diver, the diver's tender, or the diving supervisor). The signal to stop may be given by anyone.

All lifting equipment should be examined by a competent person before the equipment is used for the first time, after installation at another site and after any major alteration or repair. Regular examination every six months is also recommended. Any additional testing specified should be at the discretion of the competent person.

Any lifting cable or wire should be provided with a test certificate confirming its Safe Working Load (SWL). The SWL should never be exceeded during operations and should include the deployment device, the number of divers to be deployed (with all their equipment) and any components that hang from the lifting cable (including cable weight in air). The condition and integrity of the cable should be checked at six monthly intervals, or more frequently as circumstances dictate.

The lifting and lowering winch should be rated by the manufacturer for a safe working load at least equal to the weight of the deployment device plus divers in air plus any additional components. An overload test of the winch's lifting and braking capacity should be undertaken after:

- All permanent base fixings are in place;
- NDT on relevant welds have been completed;
- After initial installation and thereafter, after each subsequent installation.

5.4.7.1 Winches

Both hydraulic and pneumatic winches will need suitable braking systems, providing primary and secondary protection. They are not to be fitted with a pawl and ratchet gear in which the pawl has to be disengaged before lowering.

5.4.7.2 Lift Wires

Particular selection criteria will need to be used for man-carrying lift wires, including wires intended for secondary or back-up lifting. These wires will need to have a suitable safety factor, be non-rotating, and be as compact as possible to minimise the space requirements of their operating winches.

6 Task-related Equipment

6.1.1 High-pressure Water Jetting and LP Abrasive Cleaning

Even an apparently minor accident with this equipment has the potential to cause a serious internal injury to the diver. A dive plan that includes the use of such units will therefore also need to include safe operating procedures that will need to be followed.

6.1.2 Lift Bags

The use of lift bags under water can be hazardous. The dive plan will need to include ways to prevent the uncontrolled ascent of a load. Good practice established by the industry will need to be followed.

6.1.3 Abrasive Cutting Discs

The dive plan will need to address the risk of abrasive cutting discs breaking during use under water. In particular, the adhesive used in these discs tends to degrade in water. The plan will need to ensure that only dry discs not previously exposed to water are used, and that only enough discs for each dive are taken under water at any one time.

6.1.4 Oxy-arc Cutting and Burning Operations

There are inherent hazards in the use of oxy-arc cutting and burning techniques under water, including explosions from trapped gases, trapping of divers by items after cutting, etc. Guidance on this subject exists. The dive plan will need to include precise instructions regarding the operating

procedures. Procedures which eliminate blow-back, etc. will need to be employed.

6.1.5 Equipment - General

6.1.5.1 Equipment Register

An equipment register should be maintained at the worksite, with copies of all relevant certificates of examination and test. It should contain any relevant additional information, such as details of the materials used to construct diving bells and surface compression chambers. It should also contain details of any applicable design limitations, for example, maximum weather conditions for use, if applicable.

6.1.5.2 Suitability of Equipment

The diving contractor will need to be satisfied that the equipment provided for the diving project is suitable for the use to which it will be put, in all reasonably foreseeable circumstances on that project. Suitability can be assessed by means of evaluation by a competent person, clear instructions or statements from the manufacturer or supplier, physical testing, or previous use in similar circumstances.

New, or innovative, equipment must be considered for safety and fitness for purpose, but should not be discounted only because it has not been used before. Single-point failure consequences, both for the equipment components and for operating procedures, must be considered in the HIRA.

6.1.5.3 Certification of Equipment

The standards and codes used to examine, test and certify plant and equipment, and the requirements of those who are competent to carry out such examinations, tests and certification, must be followed. Suitable certificates (or copies) wall need to be provided at the worksite for inspection.

6.1.5.4 Maintenance and Testing of Diving Equipment

Diving plant and equipment is used under extreme conditions, including frequent immersion in salt water. It therefore requires regular inspection, maintenance and testing to ensure it is fit for use, e.g. that it is not damaged or suffering from deterioration.

6.1.5.4.1 Periodic Examination, Testing and Certification

Detailed guidance exists (Specific regulations, SANS codes, IMCA codes, manufacturer's guidelines, etc.) on the frequency and extent of inspection and testing required of all items of equipment used in a diving project, together with the levels of competence required of those carrying out the work.

6.1.5.4.2 Planned Maintenance System

The diving contractor must establish a system of planned maintenance for plant and equipment.

Such a system may be based on either passage of time or amount of use, but ideally will be based on a combination of both. For each major unit, the system should identify the frequency with which each task is to be undertaken and who should do the maintenance work. The responsible technician will then need to provide and file a record of the maintenance work

6.1.5.4.3 Maintenance of Cylinders Used Underwater

Divers' emergency gas supply cylinders (bail-out bottles) and cylinders used underwater for back-up supplies on diving bells and baskets can suffer from accelerated corrosion. Particular care will need to be taken to ensure that they are regularly examined and maintained. Cylinders used underwater should be tested in accordance with the requirements for Scuba cylinders as detailed in SANS 10019, and should be internally inspected for the presence of water if there is sufficient reason to suspect such contamination.

6.1.5.4.4 Lifting Equipment Design , Periodic Test and Examination Requirements

All lifting gear, such as sheaves, rings, shackles and pins should have test certificates when supplied and be examined at six monthly intervals thereafter. The certificates should show the SWL and the results of load tests undertaken on the components to 2 x SWL.

6.1.5.4.5 Maintenance of Bell and Basket Lift Wires

Frequent immersion in salt water, shock loading from waves, passing over multiple sheaves, etc, can cause wear and deterioration to the lift wires of diving bells and baskets if they are not properly maintained. Specialised advice on maintenance exists, and will need to be followed to ensure that wires remain fit for purpose.

6.1.5.4.6 Maintenance of Lift Bags

Manufacturers' maintenance instructions and testing requirements will need to be followed.

6.1.5.4.7 Maintenance and Testing of Chambers

Details regarding the maintenance and testing of chambers is contained in other Regulations under the Act.

6.1.5.4.8 Testing Immediately before Use

All diving equipment used must be checked and tested by the dive team before use so as to determine whether it is in good working order.

6.1.5.4.9 Additional Diver's Equipment Requirements

In addition to the required working equipment of the divers, the following accessories and equipment must also be provided:

- diver's location indicator devices, e.g. rescue beacons or strobes, where SCUBA diving operations are to be carried out during the hours of darkness; and
- a dive knife.
- a diving harness, complete with lifting ring, worn by each diver.

Immediately before each dive, the diver shall check that all his required equipment is present; such equipment is properly fastened in place; and all his apparatus is functioning properly. Before descent, the same check shall be conducted in the water.

6.1.5.4.10 Surface Control Point Equipment

When diving is in progress, a surface control point shall be equipped, as a minimum, with the following equipment:

- if SCUBA is being used, then one complete spare set of underwater breathing apparatus with fully charged cylinders for emergency purposes;
- one weighted shot-line, of sufficient length to reach the bottom at the maximum depth of the work area;
- a first-aid kit appropriate for the size of the work crew and work location;
- one set of decompression tables, appropriate for the depth range and breathing gas in use;
- therapeutic oxygen and administration equipment;
- an adequate two-way communication system connecting the dive site with medical assistance;
- adequate means to facilitate the entry and exit of divers to and from the water;
- adequate means to facilitate the immediate removal from the water of an unconscious diver;
- such other equipment as may be needed to ensure safe operations.

7 Control of Diving Operations

The diving contractor shall maintain strict control over all diving operations and ensure that all the aspects listed in this Code of Practice are in place and complied with.

7.1 Decompression Schedules

Diving operations shall be carried out in strict accordance with appropriate published or proprietary decompression tables and procedures acceptable to normal commercial diving industry practice.

All the decompression schedules used during a dive must be available at the dive site. These must be appropriate for the gas mixture being used. Before diving commences, the maximum bottom time of the dive the specific decompression schedule and the diving technique to be used during the diving operation must be made known to and be understood by the dive team.

7.2 Discipline

Good discipline must continuously be maintained during the diving operation to ensure that the diving project is carried out safely. The diving project must be carried out strictly in accordance with the manner planned by the diving supervisor and the bottom time and decompression schedules chosen before the dive must be strictly adhered to.

7.3 Warning Signals and Worksite Identification

Appropriate warning signals must be given and the appropriate warning signs must be prominently displayed while the diving operation is in progress.

The warning devices shall be displayed as follows:

- buoys, shapes, flags, lights, lamps, or flares need to define the limits to be kept clear of by any equipment not connected to the diving operation; and
- in navigable waters: flags, shapes and lights shall be used in accordance with the requirements of the International Maritime Organisation and the South African Maritime Safety Authority.

These flags, shapes or signals employed for work site identification shall be removed after completion of the diving operation.

8 Personnel

8.1 Training and Competence - General

Only four classes of diver are permitted to work under the scope of this code, namely Class IV, Class III, Class II and Class I. The minimum level of training of personnel committed to work under the scope of this code includes:

- Successful completion of a Department of Labour approved training course, or
- Previous training that is approved by the Depart of Labour.

Any person taking part in a diving operation must have the necessary competence and training prior to engaging in diving work and be fully conversant with the machinery, tools and equipment used during the diving project. No diver is allowed to dive to a depth greater than that for which he or she is qualified.

8.1.1 Competence

To work safely, efficiently and as a member of a team, personnel need to have a basic level of competence for the task they are being asked to carry out. Competence may not be the same as qualification. A person who has a particular qualification, such as a diver training certificate, should have a certain level of competence in that area but the diving contractor and the diving supervisor will need to satisfy themselves that the person has the necessary competence to perform the specific task required during the particular diving operation. This will normally mean establishing that the person has had sufficient training coupled with experience. The various members of the diving team will require different levels and types of competence.

Competence in diving skills is implied by the diver certification level held.

Competence in work skills may to some extent be implied by diver certification, but there are many specialised work skills which are not implied by diver certification. These must either be provided by additional training and certification, or on the job. The diver is responsible for Informing the supervisor of his or her actual experience, supporting this with evidence of logbook and certification.

8.1.1.1 Diving Supervisors (See also 3.4 for organisational responsibilities of the supervisor)

There is only one person who can appoint a supervisor for a diving operation and that is the Diving contractor. The supervisor should be ap-

pointed in writing.
The diving contractor shall ensure that the diving supervisor is competent to fulfil the duties and responsibilities of the supervisor as contemplated in Section 3.
The Diving contractor should consider a number of factors when appointing a supervisor. Regarding qualifications, it is relatively simple to establish if a person is suitably qualified to act as a Supervisor and any person being considered for appointment as a supervisor will need to be in possession of the relevant certificate.
If a diving operation is being planned, which does not fall clearly in to the areas normally undertaken by that Diving contractor, then detailed consideration will need to be given to the most suitable qualification for the supervisors to be selected.
Clearly the issue of competence is more subjective and the diving contractor needs to consider the operations being planned and the competence of any individual being considered for appointment as a supervisor.
The possession of the necessary qualification does not in itself demonstrate competence for any specific operation. The Diving contractor will need to consider the details of the planned operation, such as the complexity of the part of the operation the person is going to supervise, the equipment and facilities which will be available to the supervisor, the risks which the supervisor and divers may be exposed to and the support which would be available to the supervisor in an emergency. After such consideration, a decision will need to be made whether one supervisor can be responsible for all that is intended or whether more supervision is required.
Relevant previous experience supervising similar operations will demonstrate a suitable level of competence however if this has been gained with a different diving contractor then checks should be made to establish the veracity of the claimed experience. For this purpose, the log book maintained by the supervisor can be consulted and if necessary, the details checked with previous diving contractors.
If relevant previous supervisory experience of similar operations cannot be demonstrated, due to unique features of the planned operation, or to the limited previous experience of the individual being considered, then the diving contractor should assess the relevant information available, consider the possible risks involved and make a decision as to the competence of the individual concerned. It is possible that in the future, particularly on very large operations, a diving contractor may wish to appoint individuals as supervisors for parts of the operation, which do not fall neatly in to the categories identified above. In such a case the diving contractor will need to consider the most suitable qualifications available and in particular establish the competence of the individual for that position.

8.1.1.2 Diver (see also 3.5 for organizational responsibilities of the divers)

Before commencing diving, the diving supervisor shall ensure that the diver is competent to perform the task required. This could be done by scrutinizing the contents of the diver's logbook, or previous experience of working with the diver. If competency cannot be assured, the diver should be accompanied by another diver that is competent and who can act as the lead diver for that dive.
Only holders of South African Class IV, III, II and I qualifications and mutually recognised equivalents are allowed to work under this code. All divers at work should hold a diving qualification suitable for the work they intend to undertake. They will need to have the original certificate in their possession at the site of the diving project - copies should not be accepted.
Persons entering a chamber, under pressure, must possess a suitable qualification to do so; except for medical personnel entering a chamber during an emergency.
Competence is required of a diver in several different areas simultaneously:

- The diver will need to be competent to use the diving techniques being employed. This includes breathing gas, personal equipment and deployment equipment.
- They will need to be competent to work in the environmental conditions. This will include wave action, visibility and current effects.
- They will need to be competent to use any tools or equipment they need during the course of the dive.
- They will need to be competent to carry out the tasks required of them. This will normally require them to understand why they are doing certain things and how their actions may affect others. Even tasks which are apparently very simple, such as moving sandbags under¬ water, require a degree of competence, both to ensure that the pile of sandbags created is correct from an engineering viewpoint and also to ensure that the diver lifts and handles the bags in such a way that they do not injure themselves.

Care should be taken to ensure that a diver is not claiming or exaggerating experience in order to obtain work or appear knowledgeable to their superiors. If there is any doubt about the validity of experience then the individual should be questioned in detail to establish their exact level of knowledge.
It should be recognised that inexperienced divers are required to gain competence in a work situation and it is correct to allow this provided it is recognised by the members of the team that the individual is in the process of gaining experience and competence. In such a case it would be expected that the other team members and particularly the supervisor, would pay particular attention to supporting the person gaining competence .
The Standby diver must be competent to perform a rescue in the reasonably foreseeable emergencies contemplated by the dive plan and associated HIRA, contingency and emergency plans for the diving operation.

8.1.1.3 Tender

Tenders are there to help the divers. They should therefore be competent to provide the level of assistance that the diver expects and needs.
Competence is required of tenders in that:

- They should understand the diving techniques being used. Including a detailed knowledge of the emergency and contingency plans.
- They will need to be familiar with the diver's personal equipment.
- They should understand the method of deployment being used and all of the actions expected of them in an emergency.
- They should understand the ways in which their actions can affect the diver.

8.1.1.4 Chamber Operators

Chambers must only be operated by persons who are qualified and competent to do so.
Persons who are qualified as class II or class I divers are qualified to operate chambers. Other persons must hold a chamber operator's certificate as specified in the Regulations.

8.1.1.5 Chamber Attendants

Whenever persons enter a diving chamber there will be at least one person, who may be the only diver in the chamber, who must know how to operate valves on the inside, as well as be intimately familiar with the emergency procedures.
If only one person is inside the chamber, there will be another standby diver available to enter the chamber in case of an emergency.

8.1.1.6 Surface Crew/Riggers

Divers rely heavily on the support given to them from the surface by the surface crew. The actions of the people on the surface can have a major impact on the safety and efficiency of the work being carried out under water.
The surface crew will need to have competence in a number of areas:

- They will need to understand and be familiar with good rigging practice. This will include relevant knots, slinging, correct use of shackles etc.
- They will need to be familiar with safe working loads and safety factors.
- They should understand the task that the diver is being asked to carry out under water
- They should understand the limitations of a diver in relation to the work they can carry out. For example, they will need to understand that a diver cannot normally lift an item underwater which it took two men to carry on the surface.
- They should understand the various ways in which equipment can be prepared on the surface to ease the task of the diver underwater.

Often the surface crew will be made up in large part of experienced divers who are not actually diving. In such a case competence can be established quickly. In most cases it will be necessary for the diving supervisor, or someone acting on his behalf, to give at least a short explanation to the surface crew prior to each job, such that competence is assured.
With a larger surface crew, it will not be necessary for all members of the crew to have the same level of competence, provided they are closely overseen by a competent and experienced person.

8.2 Training and Competence - Rescue and First Aid

The diving contractor must ensure that adequate medical support, with competencies appropriate to the diving environment, is available at all times to deal with an emergency situation. Medical support should be available to the diver from the time of injury until the diver receives appropriate medical care. The hazard identification and risk assessment should guide the diving contractor in this respect. Generally speaking, the following should be in place:
Any diver that is not able to help himself in an emergency should be rescued. This is usually done by a fellow diver or the standby diver. This means that all divers should be in possession of an in-date first aid qualification and be competent in standard diving rescue techniques. The standby diver must be in immediate readiness to dive and shall remain on duty at the control point on the surface of the water during the diving operation. When diving with a wet bell or similar equipment, the standby diver (bellman) must descend in the bell and must remain in the bell so as to be able to immediately render assistance to the diver working from the bell.
Diving supervisors should have an in-date first aid qualification and be able to take over and manage the diving emergency appropriately and have competency in doing a basic cardio-respiratory and field-neurological examination and consult with a Designated Medical Practitioner.
The diving supervisor should be in contact with the Designated Medical Practitioner in the case of a diving accident to ensure that optimal treatment of any condition is given to the injured diver.

8.3 Training and Competence - Safety and Technical

It is necessary that diving contractors ensure that their personnel receive safety and technical training in order to allow them to work safely and in line with any relevant legislation, or to meet specific contractual conditions or requirements.
Safety Training may include the following:

- training that is required in terms of any other regulation or legislative document.
- courses on first aid or survival or fire-fighting specific to the premises of the client (e.g. induction courses).
- task-specific safety training outlining any special hazards associated with the tasks

being worked performed (as identified in the HIRA).
- Refresher training at regular intervals.

8.4 Number of Personnel and Team Size

The diving contractor will need to specify the size of team based on the details of the project and as specified in the diving regulations. For safe operation, this may need to include additional surface support personnel and other management or technical support personnel.

The diving contractor will normally need to provide a sufficient number of competent and qualified personnel to operate all the equipment and to provide support functions to the diving team, rather than relying on personnel provided by others for assistance.

If personnel who are not employed by the diving contractor are to be used in the diving team for any reason they will need to be carefully considered for competence and suitability before being included. Such personnel can create a hazard to themselves and others if they lack familiarity with the contractor's procedures, rules and equipment. The team size and composition must always be sufficient to enable the diving operation to be conducted safely and effectively. This means that a number of eventualities should be considered when deciding team size and make-up including the following:
- Type of task;
- Type of equipment (SCUBA , surface supplied, etc.);
- Deployment method;
- Location;
- Water dept;
- Handling of any foreseeable emergency situations.

The overriding factor must always be the safety of personnel during operation and maintenance. It is the absolute responsibility of the diving contractor to provide a well-balanced, competent team of sufficient numbers to ensure safety at all times.

When a dive is taking place, either a diving supervisor will need to be in control of the operation at all times. For large projects, more than one supervisor may be needed on duty. Each supervisor will only be able to provide adequate supervision of a defined area of operations, including dealing with foreseeable contingencies or emergencies.

For umbilicals that are tended from the surface, at least one tender is required for every two divers if the maximum depth of diving does not exceed 30 meters. Whenever diving exceeds 30 meters, at least one tender is required for each diver in the water.

A standby diver will need to be in immediate readiness to provide any necessary assistance to the diver, whenever a diver is in the water. The standby diver will need to be dressed to enter the water, but need not wear a mask or helmet. This equipment however, needs to be immediately on hand. A standby diver should not act as a diving tender without another tender, who is not the supervisor, being available to take over these duties.

There will need to be one standby diver for every two divers in the water. The standby diver will remain on the surface.

With regard to safe working practices, a single person should not work alone when dealing with:
- High voltage;
- Heavy lifts;
- High pressure machinery;
- Potential fire hazards - welding, burning;
- Dangerous fumes, etc.

On large projects, dedicated personnel may be required to provide overall management and control. These personnel are often called senior supervisors or diving superintendents.

8.5 Readiness and Availability of Personnel

All personnel required for the diving operation must be ready and available before the dive commences. This includes personnel who may be on call and available telephonically (e.g. Designated Medical Practitioners).

8.6 In-date Personnel

Only personnel that are in-date may take part in diving operations. If a person is not in date, the diving contractor must ensure that the person receives appropriate training and supervision.

8.6.1 In-date Divers

Divers are considered to be in-date when they have a valid diving medical certificate as required in the Regulations, which certifies that the diver is fit to dive and the diver has participated in an in¬water diving operation of not less than 30 minutes' duration in the previous six months.

9 Medical

9.1 Designated Medical Practitioners

Not all medical practitioners and medical specialists are able to render general and emergency medical care to injured divers. Medical practitioners should thus receive additional training and have adequate experience to render medical support to diving operations.

Some medical practitioners have had additional training that enables them to examine divers regarding their fitness to dive . All of these medical practitioners are designated in terms of the Regulations as level 1 Designated Medical Practitioners. These designated medical practitioners are however not competent in providing medical support to diving operations.

Some Designated Medical Practitioners, because of additional training and experience, are able to render medical support to diving operations. All of these medical practitioners are designated in terms of the Regulations as level 2 designated medical practitioners. These medical practitioners are able to perform diving medical examinations on divers AND advise on the emergency treatment of divers, as well as on recompression therapy for diving accidents.
- Level 2 (air) designated medical practitioners can render operational support to all diving operations involving class VI, V, IV, III divers. They can also provide support for diving operations using class II (air) divers. They may not provide operational diving medical support for class II (mixed gas) and class I divers.
- Level 2 (mixed gas) designated medical practitioners can, in addition to the above, also provide operational medical support for diving operations involving class II (mixed gas) and class I divers.

The designation of all medical practitioners lapse after a period of four years, unless the designated medical practitioner attends refresher training prior to expiry of the designation.

9.2 Occupational Health Personnel

Not all health practitioners are able to render occupational health care. Additional training and registration is required to perform these functions. Certain regulations under the Act require that specific work-related medical functions be performed by practitioners who have undergone such training and who are appropriately registered. The legal definition of these practitioners is contained in the Occupational Health and Safety Act.

9.2.1 Occupational Health Practitioners

Practitioners registered as nurses, doctors or specialists can undergo training in occupational health that enables them to register as "occupational health practitioners". This is thus a general term that includes all these practitioners. All such practitioners are registered - either as occupational health nursing practitioners or as occupational medicine practitioners or as occupational medicine specialists. Certain medical functions may be performed by occupational health practitioners (these are then usually performed by nursing practitioners). Certain functions are however legally required to be performed by occupational medicine practitioners (doctors).

9.2.2 Occupational Medicine Practitioners

Occupational Medicine Practitioners are General Medical Practitioners (GPs) and Medical Specialists who have undergone additional training in occupational health and are registered as occupational medicine practitioners.

9.2.3 Occupational Medicine Specialists

These are occupational medicine practitioners who have undergone specialist training in occupational medicine. They are registered as occupational medicine specialists and have advanced knowledge on occupational medicine matters.

9.2.4 Occupational Health Advice and Support

Not all occupational health practitioners are able to provide occupational health support for diving projects. Occupational Health Practitioners that do not have appropriate knowledge and experience in providing such support in the hyperbaric environment should consult with a level 2 designated medical practitioner or a colleague experienced in hyperbaric work. The following considerations are worth mentioning:
- The Occupational Exposure Limits (as contained in the Regulations for Hazardous Chemical Substances) need significant adjustment and cannot be applied "as is".
- The increase in environmental pressure acts as an additional risk factor, which necessitates it being considered as part of "mixed exposures". The effect is in some cases additive and others synergistic.
- Significant physiological changes in the cardiovascular, respiratory and other systems of the body significantly changes a number of toxicological principles, which should be taken into account. The absorption, distribution, metabolism and elimination of almost all substances are changed.
- Some exposures are extremely difficult (if not impossible) to model (e.g. noise exposure: sound conduction is different in different fluids that divers are diving in; increase in pressure has an effect on sound conduction; the middle ear space may be filled with compressed gas or with gas other than air; the external ear canal may be filled with fluid - thus splinting the tympanic membrane, etc).
- Specific diving injuries and diseases are listed as occupational diseases. A thorough knowledge of these is needed.

The diving contractor should only use occupational health practitioners that are competent to provide such services in the diving environment. The ideal is a designated medical practitioner who is also registered as an occupational medicine practitioner or occupational medicine specialist.

9.3 Medical Certification

9.3.1Fitness to Dive Certification

A diver shall not be permitted to dive unless a he has a valid diving medical certificate signed by a Designated Medical Practitioner, and the certificate includes all the aspects listed in the Regulations. This examination should be performed every 12 months, or more frequently as determined by the examining Designated Medical Practitioner.

If the medical examination is carried out during the last 30 days of the validity of the preceding medical then the start date of the new certificate will be the expiry date of the old certificate.

9.3.2 Additional Fitness to Dive Requirements

Additional risks (as determined by the HIRA) may necessitate additional medical examinations. The level 2 Designated Medical Practitioner should scrutinize all medical examinations of the company divers to ensure all the relevant examinations were performed. If such Designated Medical Practitioner did not perform the examinations himself, this may require consultation with the other Designated Medical Practitioner who has

performed the initial fitness evaluation. These additional tests will then be performed when needed. Such additional requirements (if any) and the specific fitness requirements should be listed in a specific medical section in the operations manual.

9.3.3 Occupational Health Requirements

Exposure to specific occupational health risks may require even further examinations in terms of other regulations. Many of these examinations must be performed by an occupational health practitioner or an occupational medicine practitioner and a Designated Medical Practitioner who does not have this qualification is not legally allowed to perform the examinations himself. An additional certificate (issued by the occupational health practitioner or occupational medicine) should then be provided.

9.3.4 Medical Certificate from International Diving Doctors

Some diver may have completed a diving medical examination internationally before diving in South Africa. The level 2Designated Medical Practitioner must scrutinize all these medical examinations and perform any additional examinations that are required in terms of local conditions, regulations and specific workplace risks.

Not all of these investigations need to be repeated, provided that the level 2 Designated Medical Practitioner has ascertained that:

- the examinations pertains to that specific diver (verified by a signature of the examiner AND the diver on all examinations).
- the examinations were performed by an appropriate medical practitioner.
- the examinations comply with appropriate quality and validity requirements.
- Any X-ray examinations must be accompanied by the original X-ray plates OR a report issued by a specialist radiologist.
- The physical examination shall always be repeated.

The level 2 DMP may then issue a valid medical certificate based on these examinations and those additional examinations that may be needed. Clear procedures in the operations manual will provide transparency.

9.3.5 Extensions of Fitness

The fitness of a diver for diving work is certified for a maximum of 12 months. This period may however be shortened for specific reasons (e.g. 3-monthly follow-up of blood pressure) at the discretion of the examining Designated Medical Practitioner. The Designated Medical Practitioner that has provided this restriction in the duration of fitness may extend this fitness if based on good medical principles and the initial concerns were adequately addressed. This may, for instance, happen after discussions between the level 2 Designated Medical Practitioner and the Designated Medical Practitioner initially performing the examination and issuing the restriction.

No medical certificate may be extended beyond the maximum period of 12 months. Divers that are planning to work in the period close to expiry of their medical certification, should ensure that they submit for a medical examination prior to leaving on such diving project, or alternatively ensure that they can obtain a diving medical examination prior to the expiry thereof.

9.3.6 Appeal against Fitness Decisions

All persons found unfit for diving, or fit with a restriction, may appeal such a decision if he or she feels there is a reason providing sufficient grounds for such an appeal. The appeal procedures are clearly explained in the Regulations.

Before appealing against the decision, it is advisable to discuss the decision with the Designated Medical Practitioner - especially the level 2 Designated Medical Practitioner. The reason for the unfitness or restricted fitness should be explained in plain language to the person concerned, including the explanation of results of investigations that the decision is based on. This requires designated medical practitioners to ensure that appropriate investigations are performed before a decision is made.

The appeal procedure should NOT be used to cover the costs of non-routine or expensive specialist investigations and examinations. When these are indicated, it should be performed BEFORE the diver is certified unfit or fit with restrictions. Discussion with other medical colleagues may be indicated. All Designated Medical Practitioners are advised to confirm all cases of unfitness with a colleague prior to declaring a person unfit. An appeal should be accompanied by the medical certificate issued in terms of the examination, as well as the grounds for the appeal.

9.4 Medical Records

9.4.1Records of Fitness to Dive Examinations

The results of fitness-to-dive examinations shall be recorded in the medical file of the diver and be kept at the examining Designated Medical Practitioner in accordance with accepted medical practice prescriptions and principles. A certificate to certify the diver's fitness to dive may be provided to the diver and/or the company, but it is essential that the particulars are entered in the logbook of the diver and stamped. Care should be taken not to divulge medical confidential information.

The level 2 Designated Medical Practitioner should request copies of these examinations (if not performed by him). This will ensure that he can provide appropriate medical support for the diving team and is intimately familiar with the medical conditions of the team. The information should be used to trend health effects related to specific risks present in the workplace. Examples of these Include trending of lung function tests, hearing thresholds and blood results (e.g. Biological Exposure Indices). Many of these will need to be performed in consultation with an occupational medicine practitioner. Any abnormalities found should prompt a workplace visit and investigation, with an update of the HIRA and implementation of specific risk mitigation strategies.

9.4.2 Diving Fitness Registry

All designated medical practitioners performing medical examinations should forward the following information regarding examination to the Southern African Undersea and Hyperbaric Medical Association (SAUHMA):

- the date of the examination.
- The period of validity of the examination.
- Name of the person to whom it relates.
- Passport or identity number of the person.
- Whether the person is considered fit or not.
- Any restrictions that may apply.
- The name, address, telephone number and designation number of the designated medical practitioner who performed the medical examination. This applies to examinations for all persons covered by the diving regulations, namely divers, diving supervisors, system's technicians, instructors, etc.

9.4.3 Records of Occupational Health Examinations

Records of occupational health assessments shall be recorded in the medical file of the person and be kept at the office of the occupational medicine practitioner. This would include records of biological monitoring and/or records of medical surveillance. Some of these records must be kept for extended periods, e.g. 40 years (see other regulations). A certificate to verify the diver's fitness for work (in addition to diving fitness) must be provided to the company.

9.4.4 Records of Occupational Diseases

Any occupational diseases should be reported in accordance with the Compensation for Occupational Injuries and Diseases Act. The diagnosis of an occupational disease also requires a workplace investigation, update of the HIRA and implementation of specific risk mitigation strategies.

9.5 Fitness on the Day of Diving

Although a diver may be certified as fit to dive for a period of up to twelve months, there are a number of conditions that may render a person temporarily unfit for work on a given day or for a specific period.

9.5.1 Responsibilities of the Diver

No diver shall dive if he feels that he is unfit to dive for any reason.

Divers who consider themselves unfit for any reason, e.g. fatigue, minor injury, recent medical treatment, etc., will need to Inform their supervisor. Even a minor illness, such as the common cold or a dental problem, can have serious effects on a diver under pressure, and should be reported to the supervisor before the start of a dive. Supervisors should seek guidance from the diving contractor's designated medical practitioner, if there is doubt about a diver's fitness.

Divers who have suffered an incident of decompression illness will need to record details of the treatment they received in their log books. They will need to show this to the supervisor responsible for the first dive after the treatment in order that an assessment can be made of their fitness to return to diving.

9.5.2 Responsibilities of the Supervisor

A diver shall not dive when, at the discretion of the diving supervisor or diver, the diver is judged incapable of functioning safely and effectively under water. The supervisor may require the diver to consult with the level 2 DMP if there is any uncertainty regarding the person's fitness to dive. The supervisor shall specifically enquire about the fitness of each person to dive and this shall be recorded in the diving log.

Due regard shall be given to the restrictions noted on the diver's fitness on the medical certificate.

9.5.3 Fitness after Illness or Injury

If, on account of an illness or injury (whether diving-related or not), a person has been medically unfit to take part in a diving project for a period of fourteen days or more, the person shall not be allowed to dive again or participate in the diving project in any way unless he or she furnishes the diving contractor with a medical certificate indicating the nature of his or her illness or injury and in which a medical practitioner certifies that he or she has recovered from such illness or injury.

Whenever the diving contractor feels that the illness or injury of the person is of such a nature as to make an examination by a designated medical practitioner desirable, such person shall not participate in diving work until a designated medical practitioner has certified that the person is again fit for diving work.

9.5.4 Fitness after Decompression Illness

Divers who have suffered decompression illness, including cases where the diving supervisor or the diver himself suspects that the diver has suffered decompression illness, shall not be allowed to dive again without consultation with the level 2 Designated Medical Practitioner. If the Designated Medical Practitioner confirms a diagnosis of decompression illness, this will be reported as an occupational disease and noted in the diver's logbook. The diver may only be allowed to dive again after being passed as fit to dive by the Level 2 Designated Medical Practitioner. The following minimum times before re-assessment by the Designated Medical Practitioner are recommended:

9.5.4.1 Simple Decompression Illnesses

Divers suffering decompression illness that manifest as: limb pain only (with no motor system Involvement); cutaneous (skin rash with itching, but excluding marbling of the skin); lymphatic or non-specific (persistent headache, excessive fatigue, loss of appetite, nausea, etc):

- If the diver fully responds to a single recompression treatment, the diver may be permitted to return to diving in 24 hours. (Telephonic consultation with the designated medical practitioner may be adequate in some cases).
- If the diver does not fully respond, or if a relapse in symptoms occur, or if further recompression therapy is required, the diver

may be assessed in 7 days' time.

9.5.4.2 Sensory Neurological Decompression Illness

Neurological decompression illness involving sensation in the limbs only (excluding any spinal involvement) and with definite exclusion of motor involvement:

The diver may be assessed after 7 days following maximum recovery.

9.5.4.3 Cardiorespiratory Decompression Illness

Decompression illness manifesting with cardio respiratory symptoms (commonly known as the "chokes") or with pulmonary barotrauma.

The diver may be assessed after 28 days following maximum recovery.

9.5.4.4 Serious Neurological Decompression Illness

Decompression illness manifesting with serious neurological signs (motor involvement, inner ear involvement, etc). The diver may be assessed after 28 days following maximum recovery. Specialist consultation is advised.

9.5.5 Victimization

No person reporting himself as unfit for work shall be forced to work and such a person shall not be victimized in any way. A consultation with the level 2 DMP may be required and this may in certain instances occur telephonically. No person may victimise a diving supervisor who considers a diver unfit for diving due to indisposition, physical illness or mental infirmity and such a diver shall not be allowed to participate in the diving project without being cleared by the level 2 DMP.

9.6 Fitness Screening

9.6.1Screening before Diving

Each diver shall be medically screened, at the discretion of the diving supervisor , to ensure that the diver is physically fit on a day-to-day basis. This examination may be performed by the supervisor himself, who may refer the person for further medical evaluation if needed. Such a screening examination may include the person's ability to equalize, his balance and coordination and other screening tests as prescribed by the level 2 Designated Medical Practitioner in the operations manual. In certain high-risk areas screening for drugs of abuse should be included. This may be done at random intervals without the divers, diving supervisors or any other person involved in the diving project knowing. Such screening should however always be conducted within the guidelines and limits set in a company policy on drugs of abuse (including alcohol). Such a policy should include clear guidelines and standard procedures, including measures related to disciplinary action (when appropriate) or rehabilitation programmes and disability management (when appropriate). labour legislation should be consulted in this regard.

9.6.2 Screening after Diving

The supervisor should screen all divers after a dive and specifically enquire about any abnormal sensations or any other symptoms that may suggest decompression sickness or other injury or disease sustained during the dive. The presence or absence thereof should be clearly noted in the diving log. Any abnormalities should be reported to the level 2 Designated Medical Practitioner without delay.

9.7 Medical Alert Tag

A medical alert tag or bracelet. to indicate the possibility of decompression sickness or other diving illness, is recommended to be worn by each diver for at least 24 h after completing each dive. The tag should include the following statement: "This individual is a commercial diver and may need recompression therapy in a decompression chamber." The number for the level 2 designated medical practitioner, or alternatively, the Divers Alert Network should be displayed.

9.8 Medical Equipment on Site

A minimum amount of medical equipment will need to be at a diving site to provide first aid and medical treatment for the dive team. This minimum will depend on the type of diving and a list of the contents of the medical kit shall be compiled in conjunction with the diving contractor's level 2 DMP. The DMP will then know what equipment and supplies are available when giving advice to a worksite. The diving contractor, in conjunction with their DMP, will need to prepare contingency plans for emergency situations.

The first aid equipment should be adequately marked to enable any person to identify the first aid kit. A specific person should be made responsible for the first aid kit (usually the supervisor). The issue of supplies from the kit should be accompanied by an injury report and proper control of the contents needs to be maintained, including due cognizance of expiry dates thereof.

Before any dive commences, the diving contractor must ensure that the emergency equipment is ready for immediate use. Sufficient stored quantities of medical oxygen must be available at every dive site to ensure that an emergency may be dealt with effectively. Not having enough oxygen available to manage all injured divers is not acceptable.

9.9 Other medical and Physiological Considerations

9.9.1Diver Monitoring

For safety reasons, the dive plan will need to specify that supervisors need to be able to monitor divers' breathing patterns and receive verbal reports from the divers of their condition. There is no requirement to monitor the temperature, heart rate or other physiological parameters of the diver because this information will not assist the supervisors' assessment of safety.

9.9.2 Seismic Operations and Sonar Transmissions

There are inherent problems for divers who are close to seismic operations or sonar transmissions. If there is any possibility of sonar activity or seismic activity in the vicinity of a diving project, the dive plan will need to include parameters for the safety of the diver.

9.9.3 Decompression Illness after Diving

Divers are at risk of decompression illness (DCI) after diving. It is difficult to treat decompression illness if recompression facilities are not immediately available. The dive plan will therefore need to specify that divers remain close to suitable recompression facilities for a set time following a dive.

9.9.4 Flying after Diving

The dive plan will need to state that flying is avoided for a specified time following a dive because of the decrease in pressure on the diver's body caused by increased altitude and the resultant increased risk for decompression sickness.

If transportation is required (e.g. for medical evacuation), the altitude and in-flight conditions shall be recommended by the level 2 Designated Medical Practitioner . The cabin pressure of the aircraft shall not be less than the equivalent of an altitude of 300m (approximately 1000ft) above the dive site.

9.9.5 Thermal Stress

The dive plan will need to specify ways in which divers can be maintained in thermal balance because excessive heat or cold can affect their health, safety and efficiency. For example, divers may be provided with suitable passive or active heating, such as thermal undergarments and a well-fitting "dry" diving suit, or a hot-water suit. Conversely in very warm waters nothing more than cotton overalls may be required.

10 Special Operational Conditions

10.1 Night Diving

Where a diving operation is carried out at night, a lamp or other device must be attached to the diver to indicate his or her position when he or she is on the surface. The surface area and the bell from which the diving is taking place and the underwater working area must be Illuminated well. If such illumination is undesirable, it may be switched off during the diving operation , but be immediately available in the case of an emergency.

10.2 Water Intakes, Discharges and Differential Pressure Environments

Divers are vulnerable to suction or turbulence caused by water intakes and discharges. The diving contractor will need to establish with the client whether there are any underwater obstructions or hazards in the vicinity of the proposed diving project. If there are any intakes or discharges, suitable measures will need to be taken to ensure that these cannot operate while divers are in the water unless the divers are adequately protected by a suitable physical barrier. Such measures will need to be part of a work control system, such as a permit-to-work system, and could include mechanical isolation.

Underwater approaches to operating intakes, exhausts, and water-control structures shall be declared hazardous locations for diving operations. Operating intakes and exhausts include those units which do not currently function, but which are capable of being operated at any time.

Divers diving in these environments shall only use surface-supplied equipment with voice communications and be tended from a position outside the hazardous area at all times.

When practicable the free length of the umbilical should be restricted to prevent the diver from entering the hazard zone. When a diver is required to approach any underwater intake pipe, tunnel, or duct, he/she shall be provided with means to identify the intake in such a manner as to distinguish it from any other similar intake in the location.

The diver shall not approach any intake until the flow through it is stopped or controlled. Provisions shall be made so that the flow cannot be re-established until the diver leaves the water or until the diving supervisor has declared the diver clear of the location. When the flow cannot be stopped, the safety of a diver approaching the intake shall be assessed by the determination of flow patterns using direct measurement, calculation, or other means acceptable to the diving supervisor.

10.3 Restricted Surface Visibility

Restricted surface visibility caused by, for example fog or driving rain may affect the safety of the operation. The dive plan should identify when operations will need to be suspended because of restricted visibility.

10.4 Underwater Currents

The dive plan should consider the presence of currents and the limitations they impose on the diver's operational ability. While other parameters must also be taken into account, tide meters may provide accurate information on the tidal current at different depths and can be used to assess the diving conditions.

10.5 Diving Near ROV Operations

There are a number of safety considerations that need to be taken into account when divers are working with, or in the vicinity of, ROVs, and guidance is available. These considerations include entanglement of umbilicals, physical contact, electrical hazards, etc. The dive plan will need to include solutions for these hazards. For example, umbilicals could be restricted in length, and electrical trip mechanisms or guards could be employed.

If there is an ROV operation taking place in the vicinity, established communications should always exist between:

- The diving supervisor and the ROV supervisor . (When an ROV is used in a diving operation the diving supervisor has ultimate responsibility for the safety of the whole operation).
- The diver and the ROV pilot (this is normally

routed through the diving supervisor).

10.6 Underwater Obstructions

Diving operations can be complicated by the number of lines deployed during operations: equipment guide lines, dump weights and wires and diver's and bell umbilicals, swim lines etc. This situation is however often simplified by the level of detailed planning involved in the operation, resulting in all involved parties having a dear understanding of responsibilities and expectations.

10.7 Risks from the Environment

The safe and efficient deployment and operation of divers is dependent upon suitable environmental conditions. For any given situation the combination of these conditions can be dramatically different and it is the responsibility of the diving supervisor to assess all available information before deciding to conduct, to continue or to finish diving operations. The operations manual must contain clear limits for hazards from the environment. At no time should a diving supervisor allow contractual pressure to compromise the safety of personnel during ongoing or planned diving operations. The following subsections are designed to highlight environmental aspects that affect diving operations. There is not, however, any substitute for practical experience.

10.7.1 Water Depth and Characteristics

Water characteristics may have a significant effect and the following factors should be taken into account when assessing the use of a diver on a given task:

- Visibility - Poor visibility can alter the effectiveness of the operation. Diving operations near or on the bottom can stir up fine grained sediment which may reduce visibility, particularly in low or zero current situations.
- Temperature - Extreme temperatures (both high and low) may affect the reliability of equipment and impose particular hazards on personnel.
- Pollutants - The presence of man-made and natural petroleum products around oil fields can cloud optical lenses and may damage plastic materials. Equally gas can affect visibility, block sound transmission and cause sudden loss of buoyancy. Special precautions should be taken to protect the divers if pollutants are present as well as protecting personnel who may handle the divers or their equipment during launch/recovery and during maintenance.
- Shallow water - Divers are very sensitive to water movement and great care has to be taken in shallow water where surge of the water can have a major effect on the ability of a diver to remain in a particular position.

10.7.2 Currents

Currents can cause considerable problems in diving operations but unfortunately it is often the case that very little quantitative data on particular current profiles is available.

Simulations and analysis can provide good indications of the effect of currents but often currents are not constant even close to the seabed. Currents vary with location and surface currents can be quickly affected by wind direction.

The use of a tide/current meter may provide information on the current strength and direction at any particular depth.

10.7.3 Sea State

The sea state can affect every stage of a diving operation. Working from a boat or vessel in rough seas requires careful consideration.

Rough seas also require a heightened awareness of the possibility of accidents. Rough seas increase the risk to the divers, and may make rescue operations impossible or unacceptably dangerous.

10.7.4 Weather

The cost and efficiency of operations can be adversely altered by the effects of weather. While divers under water may not be directly affected by the various effects of weather, these can have an effect on diving operations in a number of different ways:

- Wind speed and direction can make the diving operation difficult.
- Rain and fog will cause a reduction in surface visibility, possibly creating a hazard at the surface.
- Bad weather can affect surface workings, particularly with adverse combinations of wind, rain, etc.
- Hot weather can cause overheating. In particular umbilicals stored on deck are more susceptible to overheating by warm air or direct sunlight.
- Extreme heat, including direct sunlight (or cold) can cause the temperature inside deck chambers to rise (or fall) to dangerous levels. In such conditions the internal temperature should be monitored and kept at a comfortable level.
- Extreme heat (including direct sunlight) or cold can adversely affect the diver acting as standby who will be static but dressed in most of his diving equipment. Arrangements should be made to keep the standby diver sheltered, at a comfortable temperature and well hydrated.
- Electric storms or lightning may be a hazard to exposed personnel or equipment.

Operations should, therefore, be carefully monitored with regard to the safety of both personnel and equipment.

10.7.5 Hazardous Marine Life

In some parts of the country divers may come in contact with marine life which will pose a hazard. Prior to commencing diving operations, it should therefore be established if there is any known local hazard of this type.

If hazardous marine life is suspected then suitable emergency and contingency plans should be drawn up in consultation with the level 2 Designated Medical Practitioner to deal with its effects.

10.7.6 Other Considerations

A diving supervisor should only allow a diving operation to begin after he has carefully considered all relevant environmental criteria, their interaction with each other, and other factors including the deployment equipment, the system's readiness, crew readiness and the nature and urgency of the tasks. This will normally form part of the Risk Assessment carried out for that operation.

10.8 Support Locations and Control Points

Divers are required to operate from different locations with varying levels of support. Due consideration must be given to the effect each location will have on the safety and efficiency of an operation. Prior to mobilisation it is recommended that a suitable person (this may be the diving supervisor) should inspect the site and decide on the optimum location for the system. The level of services should also be assessed.

While it is not necessary for the various components of the diving system to be placed in a single location, care should be taken when considering hose or cable runs which exceed standard system lengths. Hose and cable runs should be protected from physical damage and should not cause a hazard to personnel. Due account should be taken of voltage and/or pressure drops due to length, and communications between different locations considered.

10.9 Transportation through the Air -Water Interface

Diving activities shall not be carried out from a diving station located more than 3m above the water unless the divers are transported through the air -water interface by a suitable stage, ladder, or wet bell. Whichever method is chosen, provision must be made for the recovery and transport of an unconscious diver.

10.10 Hazardous Mechanisms

Before a diver approaches a worksite that may be made hazardous due to operation of mechanisms, specific care must be taken to ensure that such mechanisms are secured against inadvertent movement before the diver enters the water and kept secured by means of proper lockout procedures.

10.11 Use of Explosives

Where explosives are handled in diving operations, the diving contractor shall refer to the recommendations and regulations of the appropriate authority for their transportation, storage, and use.

10.12 Liveboating

Liveboating means diving from a vessel that is moving under power (propellers are engaged while divers are in the water). Liveboating presents severe hazards to the diver and must be avoided as far as is practicable.

Lifeboating from a surface vessel shall not be conducted at night or in rough seas or from vessels with insufficient manoeuvrability. Controls that will prevent the diving umbilical or tether from becoming entangled in the propellers shall be employed. The tender for a liveboating operation shall be competent to perform this type of tending. The tender shall be in direct voice contact with the diving supervisor. When liveboating is necessary and the divers use Scuba , the use of a lifeline may be more hazardous than alternative arrangements.

10.13 Deep Diving

Deep diving applies to diving operations for depths greater than 50 metres and includes bell, saturation, bounce (non-saturation), and submersible lockout diving as well as sea bottom habitat dives. This information is covered in the offshore code. Where surface mixed gas and saturation diving techniques are used, the diving contractor and the diving supervisor shall refer to the Offshore Code of Practice.

10.14 Diving in Contaminated Waters

When diving in contaminated waters (biological, chemical, nuclear, etc.), the diving contractor will ensure that all the relevant Regulations are complied with, as well as any specific local authority regulations that may be applicable.

10.15 Diving in Confined Spaces

A "confined space" means an enclosed, restricted, or limited space in which, because of its construction, location or contents, or any work activity carried on therein, a hazardous substance may accumulate or an oxygen-deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, pump, sump, or similar construction, equipment, machinery or object in which a dangerous liquid or dangerous concentration of gas, vapour, dust or fumes may be present; It is the duty of the diving contractor to identify all confined spaces present at a diving project and ensure that the requirements of confined space entry stipulated in the General Safety Regulations are complied with. The diving contractor must also take cognizance of risks associated with differential pressure situations as well as the risks associated with possible entrapment and manage these risks appropriately. (See also section 10.2).

11 Records

11.1 General

All records required in terms of the Regulations must be kept and be available for inspection. Records are kept for two basic reasons:

- As evidence that due diligence has been applied in planning and controlling operations.
- As evidence that equipment and personnel are fit for purpose and ready for deployment.

Records should be available where and when

they may be needed for these purposes. As a labour inspector or other authority may require some of this information to determine whether an operation is legitimate and safe, information which is necessary to show this should be available on site, so that otherwise unnecessary delays may be avoided. Documentation which the supervisor may need during the diving operation should also be available.

11.2 Planned Maintenance Records
Records of the planned maintenance system and the maintenance procedures undertaken must be available for inspection.

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

GNR.2281 of 16 October 1987

[These Regulationswere first published in GNR.2281 of 16 October 1987 and subsequentlyamended by GNR.1754 of 18 August 1989, by GNR.489 of 18 March1994 and by GNR.307 of 7 February 2003.]

The Minister of Manpower has, in terms of section 35 of the Machinery and Occupational Safety Act, 1983 (Act No.6 of 1983) made the regulations contained in the Schedule hereto.

SCHEDULE ARRANGEMENT OF REGULATIONS

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these regulations "the Act" means the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983), and any expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context indicates otherwise -

"acclimatised" means physiologically adapted to a particular thermal environment and work rate;

"attenuation" means the proven capability of hearing protectors to reduce the equivalent noise level to which the wearer thereof is exposed;

"building work" means the work defined as such in regulation 1 of the General Administrative Regulations promulgated in terms of section 35 of the Act and published under Government Notice R.2206 of 5 October 1984;

"dB (A)" means a unit of measurement of sound pressure level as contemplated in SABS 083;

"directional luminaire" means a luminaire from which the light radiation is confined to a well-defined narrow beam;

"equivalent sound pressure level" is the value of the equivalent continuous sound level which would deliver the same amount of sound energy as the actual fluctuating sound, measured over the same time period, and 'equivalent noise level' has a corresponding meaning;

[Defination of "equivalent noise level"substituted by defination of " equivalent sound pressure level by GNR.489 of 18 March 1994.]

"exposed" means exposed whilst at work, and **"exposure"** has a corresponding meaning;

[Defination of "exposed" inserted by G.N.R489 1994.]

"exposure limit" means a value as defined in the Asbestos Regulations, 1987, promulgated in terms of section 35 of the Act and published under Government Notice R 773 of 10 April 1987;

"hearing protectors" means ear muffs or ear plugs of a type approved by the chief inspector and in respect of which an efficiency test as prescribed by SABS 572 has been conducted by the South African Bureau of Standards or an approved inspection authority;

"heatstroke" means a pathological condition arising form thermoregulatory failure of the human body;

"illuminance" means the intensity of light falling on a surface, measured in lux;

"luminaire" means a light fitting which supports a lamp and provides it with electrical connections;

"noise zone" means an area where the equivalent noise level is equal to or exceeds 85 dB (A) when measured in accordance with SABS 083;

"regional director" means the regional director as defined in regulation 1 of the General Administrative Regulations published under Government Notice No. R.2206 of 5 October 1984 and amended by Government Notice No R.2131 of 1990;

[Definition of "regional director" inserted by GNR.489 of 18 March 1994.]

"respiratory protective equipment" means a device as defined in the Asbestos Regulations, 1987, promulgated in terms of section 35 of the Act and published under Government Notice R.773 of 10 April 1987;

"SABS 083" means the South African Bureau of Standards' Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083;

"SABS 572" .....

[Definition of "SABS 572" deleted by GNR.489 of 1994.]

"SABS 1451: Part I" South Africa Standard. Standard Specification for Hearing Protectors, Part I: Ear muffs;

[Definition for SABS 1451: Part I inserted by GNR.489 of 1994.]

"SABS 1451: Part II" South African Standard. Standard Specification for Hearing Protectors, Part II: Ear plugs;

[Definition for "SABS 1451:PART II" inserted by GNR.489 1994.]

"time-weighted average" means the average of a number of representative measurements that are taken over a period of time and that are calculated as follows:

$$\text{Time-Weighted average} = \frac{x_1t_1 + x_2t_2 + x_3t_3 + \ldots + x_nt_n}{t_1 + t_2 + t_3 + \ldots + t_n}$$

where x_1, x_2, etc., are the observed measurements during the corresponding periods t_1, t_2, etc., minutes, and t_1, + t_2 + t_3 + …. + tn is the total time in minutes over which the measurements are taken;

"WBGT index" means a number which characterises the thermal conditions in the environment to which that number applies; it is calculated by adding seven tenths of the reading in degrees Celsius obtained with a naturally ventilated wet-bulb thermometer to one fifth of the reading in degrees Celsius obtained with a globe thermometer and adding that sum to one tenth of the reading in degrees Celsius obtained with a dry-bulb thermometer; the index may also be obtained by using an electronically integrating direct-reading instrument which has been designed, built and calibrated for that particular purpose;

"working plane", means a horizontal plane at the level where work is performed.

2. Thermal requirements.-(1) Subject to the provisions of subregulation (2), no employer shall require or permit an employee to work in an environment in which the time-weighted average dry-bulb temperature taken over a period of four hours is less than 6°C, unless the employer takes reasonable measures to protect such employee against the cold and further takes all precautions necessary for the safety of such employee: Provided that, where outdoor work is performed, the employer shall take such measures and such precautions in an environment in which the actual dry-bulb temperature is less than 6°C at any time.

[Sub-r. (1) substituted by GNR.1754 of 1989.]

(2) No employer shall require or permit an employee to work in a refrigerated environment in which the actual dry-bulb temperature is below 0°C unless-

(*a*) the maximum exposure of the employee does not exceed the periods as indicated in the following table :

Temperature °C	*Maximum exposure*
0° to -18 degrees	No limit.
Lower than - 18 but not lower than - 34 degrees	Maximum continuous exposure during each hour: 50 minutes. After every exposure in a low-temperature area at least 10 minutes must be spent, under supervisions, in a comfortably warm environment.
Lower than - 34 but not Lower than - 57 degrees	Two periods of 30 minutes each, at least 4 hours apart. Total low-temperature exposure: 1 hour per day.
Lower than - 57 degrees	Maximum permissible exposure: 5 minutes during any 8-hour period.

(*b*) the employee is provided with the following protective clothing:

(i) a nylon freezer suit or equivalent and, where the said temperature is below -34°C, such suit or equivalent shall be of double layer;
(ii) a woolen Balaclava or equivalent;
(iii) fur-lined leather gloves or equivalent;
(iv) waterproof outer gloves with knitted woolen or equivalent inners as well as a waterproof apron where wet or thaw-

ing substances are handled;
(v) woolen socks; and
(vi) waterproof industrial boots or equivalent;
Provided that an employee who works in a low-temperature area in which the temperature is not lower than - 18°C for periods not exceeding five minutes in every hour need only be provided with an ordinary overall, gloves shoes, or equivalent;
(*c*) the employee is, beforehand and thereafter, at intervals not exceeding one year, certified fit to work in such environment by a registered medical practitioner or a registered nurse according to a protocol prescribed by such practitioner, and such employee is issued with a certificate to that effect; and
(*d*) all the clothing worn by the employee is dry prior to entering the low-temperature area.

(3) Where hand-held tools which vibrate at a frequency of vibration of less than 1 000 Hz are used at an actual dry-bulb temperature below 6°C, the employer shall provide an employee operating such tools with lined gloves, and ensure that he wears them.

(4) Where the time-weighted average WBGT index, determined over a period of one hour, exceeds 30 in the environment in which an employee works, the employer of such employee shall -
(*a*) if practicable, take steps to reduce the said index to below 30; or
(*b*) where it is not practicable to reduce the said index to below 30 and where hard manual labour is performed-
(i) have every such employee beforehand and thereafter, at intervals not exceeding one year, certified fit to work in such environment by a registered medical practitioner or a registered nurse according to a protocol prescribed by such practitioner, and every such employee shall, if found fit to work in such environment, be issued with a certificate to that effect by such practitioner or nurse;
(ii) ensure that every such employee is acclimatised to such working environment before he is required or permitted to work in such environment;
(iii) inform every such employee of the need to partake of at least 600 millilitres of water every hour;
(iv) train every such employee in the precautions to be taken to avoid heatstroke; and
(v) provide the means whereby every such employee can receive prompt first-aid treatment in the event of heatstroke:
Provided that, where the question arises as to whether any particular type of work does in fact constitute hard manual labour, the decision of an inspector shall be decisive.

3. Lighting.-(1) Every employer shall cause every workplace in his undertaking to be lighted in accordance with the illuminance values specified in the Schedule to these regulations: Provided that where specialised lighting is necessary for the performance of any particular type of work, irrespective of whether that type of work is listed in the Schedule or not, the employer of those employees who perform such work shall ensure that such specialised lighting is available to and is used by such employees.

(2) The chief inspector may, by notice in the *Gazette*, from time to time modify the Schedule to these regulations as he deems necessary.

(3) With respect to the lighting to be provided in terms of subregulation (1), the employers shall ensure that -
(*a*) the average illuminance at any floor level in a workplace within five meters of a task is not less than one fifth of the average illuminance on that task;
(*b*) glare in any workplace is reduced to a level that does not impair vision;
(*c*) lighting on rotating machinery in such that the hazard of stroboscopic effects is eliminated; and
(*d*) luminaires and lamps are kept clean and, when defective are replaced or repaired forthwith.

(4) With a view to the emergency evacuation of indoor workplaces without natural lighting or in which persons habitually work at night, every employer shall, in such workplaces, provide emergency sources of lighting which are such that, when activated, an illuminance of not less than 0.3 lux is obtained at floor level to enable employees to evacuate such workplaces: Provided that where it is necessary to stop machinery or shut down plant or processes before evacuating the workplace, or where dangerous materials are present or dangerous processes are carried out, the illuminance shall be not less than 20 lux.

(5) An employer shall ensure that the emergency sources of lighting prescribed by subregulation (4) -
(*a*) are capable of being activated within 15 seconds of the failure of the lighting prescribed by subregulation (1);
(*b*) will last long enough to ensure the safe evacuation of all indoor workplaces;
(*c*) are kept in good working order and tested for efficient operation at intervals of not more than three months; and
(*d*) where directional luminaires are installed, these are mounted at a height of not less than two meters above floor level and are not aimed between 10° above and 45° below the horizontal line on which they are installed.

(6) An employer engaged in building work shall cause all rooms, stairways, passageways, gangways, basements and other places where danger may exist through lack of natural light, to be lighted such that it will be safe.

4. Windows.-(1) In order to effect visual contact with areas outside a workplace, where employees work the majority of their shift in a room of which the floor area is less than 100 square meters, the employer of such employees shall cause every such room to be provided with windows in such a way that -
(*a*) the total glazed area of such windows is not less than three fifths of the square root of the floor area of the room, both areas measured in square meters;
(*b*) the window sills are not higher and the window heads are not lower than one and a half meters above the floor level of the room; and
(*c*) such windows are glazed with transparent material.

(2) Unless an inspector otherwise directs, the provisions of subregulation (1) shall not apply under conditions where natural light will have an adverse effect on the process or material used in a room, or where the process in a room has to be conducted under critical conditions of light, temperature, humidity or air movement, or where the judgment of texture or colour in a room has to be done under conditions of constant lighting quality and intensity, or where, for reasons of safety, privacy or security, compliance with the intended provisions becomes impracticable.

(3) Where the penetration of direct sunlight into any workplace may pose a threat to the safety of persons in such workplace, the employer concerned shall ensure that such workplace is screened to avoid such penetration, but retaining, as far as is practicable, outside visual contact.

5. Ventilation.-(1) An employer shall ensure that every workplace in his undertaking is ventilated either by natural or mechanical means in such a way that -
(*a*) the air breathed by employees does not endanger their safety;
(*b*) the time-weighted average concentration of carbon dioxide therein, taken over an eight-hour period, does not exceed one half per cent by volume of air;
(*c*) the carbon dioxide content thereof does not at any time exceed three per cent by volume of air;
(*d*) the prescribed exposure limits for airborne substances therein are not exceeded; and
(*e*) the concentration therein of any explosive or flammable gas, vapour or dust does not exceed the lower explosive limit of that gas, vapour or dust.

(2) Where the measures prescribed by subregulation (1) are not practicable, or where there is a danger of unsafe air in the breathing zone of an employee, the employer shall provide every such employee with, and ensure that he correctly uses, respiratory protective equipment of a type that reduces the exposure of the employee to a safe level and the employer shall, further, inform him of the dangers of and the precautionary measurers against excessive exposure.

(3) The provisions of subregulation (1) (*b*) and (*c*) shall not apply in respect of workplaces where the ambient pressure differs by more than 20 percent from atmospheric pressure at sea level.

[Sub-r. (3) amended by GNR.1754 of 1989.]

6. Housekeeping.-(1) A user of machinery shall provide and maintain sufficient clear and unobstructed space at every machine to enable work to be carried out without danger to persons.

(2) An employer shall-
(*a*) with the exclusion of workplaces where building work is performed, make at least 2.25 square meters of effective open floor area available for every employee working in an indoor workplace;
(*b*) make available and maintain an unimpeded work space for every employee;
(*c*) keep every indoor workplace clean, orderly and free of materials, tools and similar things which are not necessary for the work done in such work place;
(*d*) keep all floors, walkways, stairs, passages and gangways in a good state of repair, skid-free and free of obstructions, waste or materials;
(*e*) keep the roof and walls of every indoor workplace sound and leak-free;
(*f*) board over or fence, or enclose with rails or guards, or take other measures which may be necessary under the circumstances to ensure the safety of persons, all openings in floors, all hatchways and all stairways and any open sides of floors or buildings through or from which persons are liable to fall: Provided that such boarding or guarding may be omitted or removed for the time and to the extent necessary for the access of persons or the movement of material; and
(*g*) erect a catch platform or net above an entrance or passageway or above a place where persons work or pass, or fence off the danger area if work is being performed above such entrance, passageway, place or danger area and there is a possibility of persons being struck by falling objects.

(3) No employer shall require or permit any person to, and no person shall, dispose of any article from a high place except by hoist or chute unless arrangements have been made to secure the safety who may be struck by falling objects.

7. . . . . .
[R.7 substituted by GNR.489 of 1994 and repealed by GNR.307 of 2003.]

8. Precautions against flooding.-(1) Where a substantial risk exists that a workplace may be

flooded, the employer shall take measures to be informed forthwith of any imminent flooding.

(2) Every employer shall take measures to be informed forthwith of any imminent flooding from constructions for conserving water, or which may cause water to converge or accumulate on his premises, and shall, prior to the erection of such a construction, give notice in writing to all persons situated in the danger zone below such construction of the possibility of flooding owing to such construction.

9. Fire precautions and means of egress.- (1) In order to expedite the evacuation of a workplace in case of fire, every employer shall ensure that -

(*a*) any emergency escape door from any room or passage or at a staircase shall, as far as is practicable, be hung so as to open outwards;

(*b*) every door of a room in which persons may be present, and every door of a passage or at a staircase serving as a means of exit from such room, shall be kept clear and capable of being easily and rapidly opened from inside so as to ensure quick and easy evacuation;

(*c*) the provisions of paragraphs (*a*) and (*b*) shall also be complied with in respect of the outer escape exit from the workplace;

(*d*) staircases and steps leading from one floor to another or to the ground shall be provided with substantial hand-rails;

(*e*) staircases intended to be used as fire escapes shall -

(i) be constructed of non-combustible material;

(ii) be kept clear of any material or other obstruction; and

(iii) not terminate in an enclosed area;

(*f*) staircases, passages and exits intended for escape purposes shall be of a width and of a gradient which will facilitate the quick and safe egress of the number of persons intended to make use of them; and

(*g*) having regard to the size, construction and location of a workplace, the number of persons, and the activity therein, such workplace is provided with at least two means of egress situated as far apart as is practicable.

(2) Having regard to the size, construction and location of the workplace, and the amount and type of flammable articles uses, handled or stored on the premises, an employer shall provide on the premises an adequate supply of suitable fire-fighting equipment at strategic locations or as may be recommended by the fire chief of the local authority concerned, and such equipment shall be maintained in good working order.

10. Offences and penalties.-Any person who contravenes or fails to comply with any provision of regulation 2, 3 (1), 3 (3), 3 (4), 3 (5), 3 (6), 4 (1), 4 (3), 5 (1), 5 (2), 6, 7, 8 or 9 shall be guilty of an offence and liable on conviction to a fine not exceeding R1000 or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R5 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

11. Withdrawal of regulations.-The following regulations are hereby withdrawn:

(a) Regulations B.1 (1), B.1 (2), B.1 (3), B.1 (4), B.2, B.5, B.11, B.13, B.15 and B.17, published under Government Notice R.929 of 28 June 1963, as amended by Government Notice R.2237 of 30 November 1973;

(b) regulations C.10, C.11 and C.12, published under Government Notice R.929 of 28 June 1963; and

(c) regulation D.4, published under Government Notice R.1934 of 13 December 1963, as amended by Government Notice R.3475 of 9 October 1969.

12. Short title.-These regulations shall be called the Environmental Regulations for Workplaces, 1987.

Schedule:

MINIMUM AVERAGE VALUES OF MAINTAINED ILLUMINANCE (MEASURED ON THE WORKING PLAIN UNLESS OTHERWISE INCICATED)

Location/Industry	*Place or type of activity*	*iilluminance Lux*	
Abattoirs	Cold store, casting & stunning pens	100	
	Bleeding area, slaughtering	150	
	Dressing, evisceration, washing, tripery and skin sorting	200	
	Inspection and grading	300	
	Boning, cleaning, grinding, packing, & cutting	200	
	Manufacture of by-products	100	
Ablutions	Wash-rooms, toilets & changing rooms	100	(at floor level)
Abrasive blasting	Sand or other	200	
Aircraft manufacture	Stock park production	300	
	Drilling, sheet aluminium layout, template work, wing section, cowling, welding, sub- assembly, landing gear, fuselage, final assembly, inspection, riveting, screw fastening and similar activities	200	
	Maintenance and repairs (hangers)	200	
	Engine testing	200	
Assembly plants	Rough work, eg frame assembly, heavy machinery assembly	100	
	Medium work, eg machined parts, engine assembly, vehicle body assembly	200	
	Fine work, eg radio & telephone equipment, typewriter & office machinery assembly	500	
	Very fine work, eg small precision assembly	1000	
Bakeries	Mixing & make-up rooms, oven rooms, wrapping rooms	100	
	Decorating and icing	200	
	General working areas	100	
Banks	Counters (See also Offices)	300	
	General working areas	200	
Blacksmith	General working area	75	
	Tempering	50	
Boiler houses	Coal and ash handling	75	(at floor level)
	Boiler rooms	100	
Bookbinding	Folding, pasting, punching, stacking	200	
	Cutting, assembly, embossing	300	
	Finishing, blocking, inlaying and inspection	500	

Boot and shoe	Sorting and grading	500	
	Clicking & closing: Preparatory operations	500	
	Cutting table & presses, stitching	500	
	Bottom stock prep, lasting, bottoming, finish	500	
	Shoe rooks	500	
Box, carton & paper bag making	Corrugated boards, cartons, containers & bag manufacture, coating & laminating	150	
	Associated printing	200	
Brewing, distilling & softdrinks	General working area	100	
	Brewing, bottling & canning plants	300	
	Bottle inspection	300	
Building & construction	Industrialized building plants	200	(at floor level)
	Concrete shops	150	
	General working areas	20	
	Walkways and access	5	
Canning & preserving	Inspection of products	300	
	Preparation, kettle areas, mechanical cleaning, dicing, trimming	200	
	Canned and bottle goods: retorts	150	
	High speed labelling lines	200	
	Can and bottle inspection	300	
	Automatic processes	25	
Carpet making	Winding, beaming	150	
	Designing, Jacquard card cutting, patter work, tufting, topping, cutting, hemming, fringing	200	
	Weaving, mending, inspection	300	
	Dyeing	400	
Location/Industry	*Place or type of activity*	*iiluminance Lux*	
Cement, asbestos, etc. gypsum, talc, etc, products & moulded goods	Fiberising, mixing, shredding, agitating, flat & corrugated sheets & moulding goods manufacture	200	
	Pipe & pole manufacture: mixing, spinning, reinforcing, stripping	150	
Cement manufacture	Control room, milling, conveying, drying, pumping, burners platform, coal plant milling feeding, bagging, bulk filling, loading	150	(vertical illuminance)
	Vertical control panel face	200	
Ceramics	See POTTERY & CLAY PRODUCTS		
Chemical works (See also Outdoor areas)	Hand furnaces, boiling tanks, stationary driers, stationary or gravity crystallizers, mechanical driers, evaporators, filtration plants, mechanical crystallizing, bleaching percolators, nitrators, electrolytic cells	100	
	Controls, guages, valves, etc	100	(vertical illuminance)
	Control rooms:		
	Vertical control panels	200	
	Control desks	200	
	General working areas	100	
Clothing	Matching up	300	
	Sorting, cutting, sewing	300	
	Pressing, cloth treating	200	
	Inspections, hand tailoring	500	
Cold stores	General working areas	100	
Confectionery (chocolates & sweets)	Mixing, blending, boiling	100	
	Husking, winnowing, fat extraction, crushing, refining, feeding, bean cleaning, sorting, milling, cream making	150	
	Hand decorating, inspection, wrapping, packing	200	
Court rooms	Seating	100	
	Court	300	
Dairies	General working areas	150	
	Bottle inspection	300	
	Bottle filling	300	
	Despatching	100	
Die-sinking & engraving	General	200	
	Fine	500	
	Hand engraving	500	
Dry cleaning	See LAUNDERING AND DRY CLEANING		

Dye works	Reception, “grey perching”	500	
	Wet processes	150	
	Dry processes	150	
	Dyers offices	500	
	Final perching (examination)	1 500	
Electrical goods manufacture	Impregnating processes, mica working	150	
	Coil and armature processes:		
	General	200	
	Fine (instrument coils)	400	
Location/Industry	*Place or type of activity*	*iiluminance Lux*	
Electricity Generating Stations	Turbine halls (operating floor)	200	(at floor level)
	Blowers, auxiliary generators	100	
	Transformer chambers, etc	75	
	Cable tunnel, covered ways,storage tanks	50	
	Battery and charging equipment rooms	100	
	Boiler front (operating floor)	150	(at floor level)
	Between boilers (operating floor, stairs, gallaries and operating plat forms, and precipitator high voltage chamber	100	(at floor level)
	Pulverisers, feeders, ash plant, conveyors (tunnel, junction tower)	75	(at floor level)
	Boiler house and turbine house basements	100	(at floor level)
	Pump houses and rooms, water treatment plant	100	
	Overland conveyor housing walkways	50	
	Control rooms:		
	Vertical control panel face	200	(vertical illuminance)
	Rear of control panel	100	
	Control desks	200	
	Computer room	500	
	Switch houses and rooms	150	
	Relay and telecommunication rooms	200	
	Nuclear reactors and steam raising plants:		
	Reactor areas, boilers, galleries	150	(at floor level)
	Gas circulator bays	150	(at floor level)
	Reactor charge/discharge face	150	(at floor level)
	High voltage substations (see also OUTDOOR AREAS)	100	(vertical)
Fire Stations	Appliance rooms	100	
	External apron	30	
Forging	General	100	
Foundaries	Charging floor, tumbling, cleaning, shaking out, rough moulding and core making	100	
	Fine moulding and core making , inspection	200	
Furniture Factories	Raw materials store	50	
	Finished goods store	75	
	Wood-machining and assembly	150	
	Rough sawing and cutting	150	
	Machining, sundry & assembly of components	250	
	Cabinet making:		
	Veneer sorting and preparation	500	
	Veneer pressing	250	
	Components store	75	
	Fitting, final inspection	400	
	Upholstery:		
	Cloth inspection	750	
	Filling, covering	250	
	Slipping	400	
	Cutting, sewing	400	
	Mattress making:		
	Assembly	250	
	Tape edging	500	
	Tool rooms:		
	General	250	
	Benches	400	
	Spray booth:		
	Colour finishing	250	
	Clear finishing	150	
Garages	Parking areas (interior)	50	
	Washing, polishing, greasing	100	
	Servicing pits	100	
	Repairs	200	
	Work-bench	250	
	Apron fuel pumps	100	

Gasworks	Retort houses, oil gas plants, purifiers, coke screening and coke handling plants	50	(at floor level)
	Governor, meter, compressor, booster, and exhauster houses (see also OUTDOOR AREAS)	75	
Gauge and Tool Rooms	General	500	
General Factory Areas	Canteen/dining rooms	100	
	Cloak-rooms	100	(at floor level)
	Entrances	100	(at floor level)
	Rest-rooms	100	(at floor level)
	First-aid rooms	100	
Location/Industry	*Place or type of activity*	*iiluminance Lux*	
Glass Processing	Furnace rooms, bending, annealing lehrs (ovens), mixing rooms, forming (blowing, drawing, pressing, rolling)	100	
	Cutting to size, grinding, polishing, toughening	150	
	Finishing (bevelling, decorating, etching, silvering)	200	
	Brilliant cutting	500	
	Inspections:		
	General	150	
	Fine	500	
Glove Making	General working areas (see also CLOTHING)	300	
Hat Making (See also Clothing)	Stiffening, braiding, cleaning, refining	200	
	Forming, sizing, pouncning, flanging, finishing, ironing	100	
	General working areas (see also CLOTHING)	100	
Hosiery and Knitwear	Circular and flat knitting machines, universal winders, cutting out, folding and pressing	200	
	Lock Stitch and overlocking machines	300	
	Mending:		
	Light goods	800	
	Dark goods	1000	
	Examining and hand finishing:		
	Light goods	400	
	Dark goods	800	
	Linking or running up	300	
Hotels and Restaurants	Entrance halls	100	(at floor level)
	Reception and accounts	200	
	Stairs, corridors	100	(at floor level)
	Laundries	150	
	Kitchens	150	
	General working areas	50	
Inspection Areas (engineering)	Rough work, e.g. counting, rough visual checking of stock parts etc	100	
	Medium work, e.g. “Go and No-go” gauges	200	
	Sub-assemblies	200	
	Fine work, e.g. radio & telecommunication equipment, calibrated scales, precision mechanisms, instruments	500	
	Very fine work, e.g. gauging and inspection of small intricate parts	1 000	
	Minute work	1 500	
Iron and Steel	Slab yards, melting shops, ingot stripping, soaking pits, blast furnace working areas, picking and cleaning lines, mechanical pump houses, slabbing and large section rolling mills	75	
	Moulding preparation, light section, wire and cold strip mills, mill inspection and conditioning, sheet & plate finishing, tinning. galvanizing and roll shops	100	
	Plate inspection	200	
	Tinplate inspection and pulpits (control rooms)	200	
	General working areas	75	
Jewellery and Watchmaking	Fine processes	500	
	Minute processes	3 000	
	Gem cutting, polishing and setting	1 000	
Laboratories and Test rooms	General laboratories, balance rooms	200	
	Electrical and electronic instrument laboratories	300	
	Calibrated scales, precision mechanical instruments	300	
Laundering and dry cleaning	Receiving, sorting, washing, drying, ironing, (calendering) despatch	150	
	Dry cleaning, bulk machine work	150	
	Hand ironing, pressing, inspection, mending	200	
	Spotting	250	

Leather and Tanning	Vats, cleaning, tanning, stretching, cutting, fleshing and stuffing	100	
	Finishing, staking, splitting	150	
	Pressing and glazing	300	
	Cutting, scarfing and sewing	500	
	Grading and matching	500	
Libraries, Museums & Art Galleries	Shelves	100	(vertical illuminance)
	Binding	300	
	Cataloguing, sorting	200	
	General working areas	100	
Lifts	Car interior	100	
	Motor room	300	
Location/Industry	*Place or type of activity*	*iilluminance Lux*	
Machine Shops & Fitters Benches	Rough bench and machinery work, rough checking and stock parts	100	
	Medium bench and machine work, ordinary automatic machines, rough grinding, medium buffing and polishing	200	
	Fine bench and machinery work, fine automatic machines, medium grinding, fine buffing and polishing	500	
	Extra-fine bench and machine work, fine grinding	800	
Materials Handling	Wrapping, packing, labelling, despatch	150	
	Sorting stock, classifying, loading	100	
Milling (Flour)	Cleaning, grinding, rolling, purifying, silks and packing	150	
	Wetting tables, product control	200	
Motor Vehicle Manufacture	General sub-assemblies, chassis assembly, car assemblies, trim shops, body sub-assembly, body assembly	200	
	Upholstery	400	
	Final inspection	300	
	Spray booths (See PAINT SHOPS & SPRAYING BOOTHS).		
Offices	Entrance halls and reception areas	100	
	Conference rooms, general offices, typing and filing	300	
	Computer and business machine operation	500	
	Drawing offices	500	
Outdoor Areas	Abattoirs:	(at floor level)	
	Lairage	20	(at floor level)
	Race	50	(at floor level)
	Ash handling, precipitator and fan area	20	(at floor level)
	Bulk loading/unloading areas where manual operations are performed..	50	
	Bulk loading/unloading areas where operations are performed mechanically	10	
	Cool-water screens	20	
	Fuel pumps	100	
	Storage areas (excluding dumps)	5	(at floor level)
	Water clarification plant & storage tanks (operating areas)	50	
	Marshalling yards	10	(at floor level)
	Main entrance and exits	20	
	Transformer and reactor terrain	20	
	High voltage yard, distribution & substation	10	
	Gangways, catwalks, stairways, etc	20	(at floor level)
	Conveyor structure	10	
Paint Manufacture	Filling, blending, dispersion and reactor platform	150	
	Batch mixing	300	
	Colour matching	300	
Paint Shops and Spraying Booths	Rubbing, dipping, ordinary painting, spraying and finishing	200	
	Fine painting, spraying and finishing	300	
	Retouching and matching	500	
Paper & Paper Board Manufacture	Paper and board making:Machine houses, calendering, pulp mills, preparation plants, cutting, finishing, trimming	150	
	Inspection and sorting (overhauling)	200	
	Paper converting processes:		
	General	150	
	Associated printing	200	
Passages & Lobbies	All areas	75	(at floor level)

Pharmaceutical and Fine Chemical	Raw material storage	150	
	Control laboratories and testing	200	
	Pharmaceuticals manufacture: Grinding, granulating, mixing, drying, tabletting, sterilising, washing, preparation of solutions, filling, labelling, capping, inspection	200	
	Fine chemical manufacture:		
	Plant processing	150	
	Fine chemical finishing	200	
Photographic	Safety light: dark room	5	
Plastics	Manufacture (See CHEMICAL WORKS)		
	Processing:		
	Calendering, extrusion	200	
	Moulding - compression, injection, blowing	150	
	Sheet fabrication:		
	Shaping	150	
	Trimming, machining, polishing	200	
	Cementing	150	
	Colour matching and inspection	500	
Location/Industry	*Place or type of activity*	*iiluminance Lux*	
Plating	Vats and baths, buffing, polishing, burnishing	200	
	Final buffing and polishing	200	
Post Offices	Counters	200	
	Sorting of mail	300	
	General working areas	100	
Pottery and Clay Products	Grinding, filter pressing, kiln room, moulding, pressing, cleaning, trimming, glazing, firing	200	
	Enamelling, colouring, decorating	300	
Printing	Type foundries:		
	Matrix making, dressing type, hand and machine casting	150	
	Font assembly, sorting	300	
	Printing plants:		
	Machine composition, imposing stones	150	
	Presses	200	
	Composition room	300	
	Proof-reading	300	
	Electrotyping:		
	Block-making, electroplating, washing, backing	150	
	Moulding, finishing, routing	200	
	Photo-engraving:		
	Block-making, etching, masking	200	
	Finishing, routing	300	
	Colour printing: inspection area	500	
Refrigeration	Chilling and cold rooms, icemaking	100	
Rubber Processing	Stock and fabric preparation	150	
	Dipping, moulding, compounding, calendering	150	
	Tyre and tube making	200	
	Curing and inspection	300	
Schools and Educational Institutions	Stairs, corridors	100	(at floor level)
	Class and lecture rooms	200	
	General working areas	100	
Sheet Metal	Benchwork, pressing, punching, shearing stamping, spinning, folding	150	
	Scribing	200	
	Sheet inspection	300	
Shops, Store Rooms and Warehouses	Stairs, corridors	100	(at floor level)
	General working areas	100	
Soap Manufacture	All processes, e.g. kettle houses and ancillaries batch or continuous soap rooting, soap stamping	150	
	General areas	100	
	Vertical control panel face	200	(vertical illuminance)
	Edible product processing and packing	150	
Stairs, Escalators and Ramps	General	100	
Storage Battery Manufacture	General	100	

Structural Steel Fabrication	General	100	
	Marking off	200	
Sugar	Manufacture:		
	Crushing, settling, evaporating, boiling, curing, drying, packing	100	
	Refining:		
	Centrifuging, metering, filtering, condensing	100	
	Planning, mixing, drying	200	
	Grading, colour inspection	500	
Surgeries, Hospitals and Clinics	Stairs, corridors	100	(at floor level)
	General working areas	100	
Tailoring	Hand tailoring	500	
Telephone Exchanges	Manual exchange rooms (on desk)	100	
	Main distribution frame rooms in automatic exchanges	200	
	Battery rooms	100	
Location/Industry	*Place or type of activity*	*iilluminance Lux*	
Textile (Cotton or Linen)	Bale breaking, blowing, carding	100	
	Roving, slubbing, spinning (ordinary counts), winding, backling, spreading, cabling	100	
	Warping, slashing, dressing, dyeing, doubling (fancy), spinning (fine counts)	150	
	Heading (drawing in)	500	(vertical)
	Weaving:		
	Patterned cloth	500	
	Plain “grey” cloth	150	
	Cloth inspection	500	
Textile (Jute)	Weaving, spinning flat, Jacquard carpet looms,. cop winding	150	
	Yarn calender	100	
Textile (Silk or Synthetic)	Soaking, fugitive tinting, conditioning or setting of twist	150	
	Spinning	300	
	Winding, twisting, rewinding and coning, quilling, slashing	200	
	Healding (drawing in)	500	
	Weaving, finishing	500	(vertical illuminance)
	Inspection	500	
Textile (Woollen)	Scouring, carbonising, teasing, preparing, raising, brushing, pressing, back-washing, gilling, crabbing and blowing	100	
	Blending, carding, combing (white), tentering, drying, cropping	150	
	Spinning, roving, winding, warping, combing (coloured), twisting	500	
	Weaving:		(vertical illuminance)
	Fine worsteds	500	
	Medium worsteds, fine woolens	300	
	Heavy woollens	200	
	Burling, mending	500	
	Perching:		
	'Grey'	500	
	Finals	1500	
Theatres, Cinemas and Halls	Stairs, corridors	100	(at floor level)
	Booking offices	200	
	Projection rooms	150	
Tobacco	Primary manufacture: Weighing, blending, conditioning, threshing, cutting	100	
	Cigarette making:		
	manufacturing processes, filter plug-makers	500	
	Inspection (catcher)	500	
	Cigarette or tobacco packing	500	
Upholstering	Furniture and Vehicles	200	
Warehouses and Bulk Storing	Small materials, racks, packing and despatch	150	
	Issue counters	200	
	Loading bays, large materials	75	
	Inactive storage	20	
	(Also see MATERIALS HANDLING)		

Welding & Soldering	Gas and arc welding, rough spot welding	150
	Medium soldering, brazing & spot-welding e.g. domestic hardware.......	200
	Fine soldering and spot welding, e.g. instruments, radio set assembly ..	500
	Very fine soldering and spot welding, e.g. electronic printed circuits	1500
Woodworking and Sawmilling	Rough sawing and bench work, sizing, planing, rough sanding	150
	Medium machine and bench work, gluing, veneering, cooperage	200
	Fine bench and machine work, find sanding and finishing	200

[Schedule amended by GNR.1754 of 1989.]

GNR.2282 of 16 October 1987: INCORPORATION OF SAFERTY StANDARDS

Under the powers vested in me by section 36 (1) of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), I, Pieter Theunis Christiaan du Plessis, Minister of Manpower, hereby incorporate the South African Bureau of Standards Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083-1983 and the South African Bureau of Standards Specification for the Acoustical Properties of Ear Protectors, SABS 572-1973, into the Environmental Regulations 1987.

P.T.C. DU PLESSIS
Minister of Manpower

GNR.2550 of 20 November 1987:
Memorandum of Agreement Relating to Conditions Contemplated in Section 21 of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983)

Agreement entered into by and between

THE MINISTER OF MANPOWER

(Hereinafter referred to as the MINISTER)

Herein represented by ....
in his capacity as..
and duly empowered thereto by the Minister on ....
....

and

....
(Hereinafter referred to as the ....
....
Herein represented by..
in his capacity as..
and duly authorised thereto by a resolution of the ....
.... on ....

WHEREAS the MINISTER has under section 21 (1) of the Machinery and Occupational Safety Act, (Act No. 6 of 1993 - hereinafter referred to as the Act), authorised the ....
....
....
to designate an employee of the said ....
....
....as a
as an inspector to perform, within the area of jurisdiction of the said ....
....
functions assigned to an inspector by the Act; and
WHEREAS such an authorisation may be granted in terms of section 21 (1) of the Act subject to such conditions as may be agreed upon between the parties;

NOW THEREFORE the parties agree as follows;

1

(1) Remuneration

(a) The MINSTER undertakes to reimburse the ....
....
monthly in respect of every employee designated as an inspector at ....
The rate of 10% of the top notch of the salary scale of an Inspector of Occupational Safety, holding the rank of Chief Inspector of Occupational Safety in the Department of Manpower, or at such higher percentage as may be agreed upon, in writing, with the ....
....
at the time of the contracting of the agreement.

(*b*) In the event of an employee of the ... .having to attend court proceedings by virtue of his duties as an inspector, the MINSTER shall reimburse the ....in respect of the time the employee was absent for this purpose

from his normal service with the ....
.... which reimbursement shall be calculated on a *pro rata* basis of the employee's basic salary as follows:

$$\frac{\text{Annual salary x 1,5}}{\text{250 x 8}} \times \text{Number of hours absent due to attendance of court proceeding}$$

(*c*) In the event of the MINSTER making a request to the .....
that an employee designated as an inspector should, in addition to his normal duties as an inspector, perform and *ad hoc* duties as determined by the MINISTER, the MINISTER shall reimburse the .....
.....
..... in respect of the costs involved in the performance of such ad hoc duties, on a basis to be agreed upon

(*d*) Whenever an employee of the .....
.....
has to attend a training course as envisaged in clause (2) hereof, with a view to his designation as an inspector, the MINISTER shall reimburse the .....
.....
on the basis laid down in paragraph (*b*) above, as well as in respect of travel and subsistence expenses of such an employee during such course, at the normal tariff applicable to officers in the Civil Service.

(2) Qualifications

No designation of an employee as an inspector may be made by the .....
.....
unless the employee has passed the training course prescribed by the MINISTER and possesses such knowledge and experience as is, in the opinion of the MINISTER, sufficient to enable the employee to perform the functions of an inspector.

(3) Powers

Employees of the .....
.....
may be appointed by the .....
.....

to exercise all the powers of an inspector set out in sections 22 and 23 of the Act, excluding the powers set out in sections 22 (1) (h) and 23 (1) of the Act.

(4) Number of inspectors

The .....
.....
may in terms of the authorisation granted to it by the MINISTER designate such number of employees as inspectors as the MINISTER may from time to time determine after consultations with the .....
.....

(5) Manner of performance of functions by inspectors

Employees designated by the .....
.....
as inspectors shall, subject to the provisions of section 21 (1) of the Act, perform their functions as inspectors in such manner as the MINISTER may from time to time direct and the .....
.....
..... undertakes to ensure that such a direction of the MINISTER is complied with.

2

The parties affirm that this agreement and the terms thereof constitute the complete agreement between them and that no amendment thereof or addition thereto, unless reduced to writing, duly signed by both parties and incorporated herein, shall be enforceable on any of the parties.

3

The parties designate as *domicilim citandi et executandi* for the purposes of the agreement the following addresses:

Minister: Laboria Building
Corner of Paul Kruger and Schoeman Streets
PRETORIA
0001

.....
.....
.....
.....

4

The parties agree by the signing hereof to the jurisdiction of the Magistrate's Court in respect of any action which may arise out of this agreement or any related matter.

5

This agreement maybe be terminated by either of the parties giving ..... months written notice of termination.

6

The MINISTER indemnifies the .....
.....
.. against claims for damages or liability which may arise out of the *bona fide* exercising by an employee of the .....
....
..... of his functions as an inspector.

Signed of behalf of the MINSTER at .....
on the..... day of ..... 19 .....

WITNESSES

1. .....
2. .....

Signed of behalf of the MINSTER at .....on the..
..... day of ..... 19 .....

WITNESSES

1. .....
2. .....

ERGONOMICS REGULATIONS

R.1589 of 2019

(G.G. 42894 of 06/12/2019)

The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

1 Definitions.- In these Regulations "the act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act has the meaning so assigned and, unless the context otherwise indicates -

"adverse health effect" means the causation, promotion, facilitation or exacerbation of a structural or functional abnormality, with the implication that the abnormality produced has the potential of lowering the quality of life, contributing to a disabling illness or leading to premature death;

"competent person" in relation to ergonomics, means a person who -

(a) has in respect of the work or task to be performed the required knowledge, training and experience in ergonomics and, where applicable, qualifications specific to ergonomics: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act, 2008 (Act No. 67 of 2008), those qualifications and that training must be regarded as the required qualifications and training; and

(b) is familiar with the Act and the applicable regulations made under the Act;

"chief director: provincial operations" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003, as published in Government Notice No. R. 929 of 25 June 2003;

"design" in relation to objects, systems or measurable human interaction includes drawings, calculations, design details and specification;

"designer" means any person who -

(a) prepares a design;

(b) checks and approves a design;

(c) arranges for a person at work under his or her supervision to prepare a design, including an employee of that person where he or she is the employer;

(d) designs temporary work, including its components; or

(e) contributes to or has overall responsibility for machinery, plant or work systems design;

"ergonomic risk" means a characteristic or action in the workplace, workplace conditions or a combination thereof that may impair overall system performance and human well-being;

"ergonomic risk assessment" means a programme, process or investigation to identify, analyse, evaluate and prioritise any risk from exposure to ergonomic risks associated with the workplace;

"ergonomics" means the scientific discipline concerned with the fundamental understanding of interactions among humans and other elements of a system and the profession that applies theory, principles, data and methods to design in order to optimise human well-being and overall system performance;

"supplier" means a person who controls the supply, importation or resupply of machinery, plant or work systems;

"work system" means a system in which human participants or machines or human participants and machines perform work using information, technology and other resources to produce products or services for internal or external customers.

2 Scope of Application- These Regulations will apply to -

(a) any employer or self-employed person who carries out work at a workplace, which may expose any person to ergonomic risks in that workplace; and

(b) a designer, manufacturer, importer or supplier of machinery, plant or work systems for use at a workplace.

3 Information, Instruction and Training

(1) An employer must, after consultation with the health and safety committee established in respect of a workplace under such employer's control or the health and safety representatives designated for that workplace or for different sections thereof, establish for all employees and mandatories or persons other than employees who may be affected or potentially exposed to ergonomic risks a training programme that incorporates the following:

(a) the content and scope of these Regulations;

(b) the potential sources of exposure to ergonomic risks;

(c) the nature of ergonomic risks;

(d) the potential risk to health associated with ergonomic risks;

(e) the control measures that are in place to prevent exposure to ergonomic risks;

(f) the procedure for reporting ergonomic risks to the health and safety representative or employer;

(g) the precautions to be taken by an employee to protect himself or herself against ergonomic risks; and

(h) the assessment of exposure, the necessity for medical surveillance and the long-term benefits of undergoing such surveillance.

(2) The employer must conduct the training contemplated in subregulation (1) prior to the placement of the relevant employee in the workplace.

(3) The employer must conduct refresher training at intervals that may be recommended by the health and safety committee or the health and safety representative.

4 Duties of Persons who May be at Risk of Exposure to Ergonomic Risks - Any person who is exposed or may be exposed to ergonomic risks must obey any lawful instruction given to him or her by the employer or self-employed person or by anyone authorised by the employer or self-employed person, regarding -

(a) the use of measures adopted to control ergonomic risks;

(b) cooperation with the employer in determining the employee's exposure to ergonomic risks;

(c) the reporting of potential ergonomic risks to the health and safety representative or the employer;

(d) reporting for medical surveillance as required by regulation 8; and

(e) information, instruction and training received as contemplated in regulation 3.

5 Duties of Designers, Manufacturers, Importers and Suppliers - Any designer, manufacturer, importer or supplier of machinery, plant or work systems for use at work must -

(a) as far as is reasonably practicable, ensure that machinery, plant or work systems optimise human well-being and overall system performance;

(b) as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human well-being and overall system performance;

(c) provide information, instruction and training as deemed necessary to allow potential users to achieve optimal human well-being and overall system performance during use of machinery, plant or work systems;

(d) as far as is reasonably practicable, install machinery, plant or work systems to achieve optimal human well-being and overall system performance; and

(e) provide information to potential users on the appropriate maintenance of machinery, plant or work systems to ensure safe operation and use.

6 Ergonomic Risk Assessment

(1)

(a) An employer must, before the commencement of any work that may expose employees to ergonomic risks, have an ergonomic risk assessment performed by a competent person.

(b) The ergonomic risk assessment contemplated in paragraph (a) must be performed after consultation with the health and safety committee established in respect of a workplace under the employer's control or the health and safety representatives designated for that workplace or for different sections thereof.

(2) The ergonomic risk assessment contemplated in subregulation (1) must -

(a) be conducted at intervals not exceeding two years; and

(b) include -

(i) a complete hazard identification;

(ii) the identification of all persons who may be affected by the ergonomic risks;

(iii) how employees may be affected by the ergonomic risks;

(iv) the analysis and evaluation of the ergonomic risks; and

(v) the prioritisation of ergonomic risks.

(3) An employer must review the relevant ergonomic risk assessment made in accordance with subregulation (1) if -

(a) such assessment is no longer valid;

(b) control measures are no longer effective;

(c) technological or scientific advances allow for more effective control methods;

(d) there has been a change in -

(i) the work methods;

(ii) the type of work carried out; or

(iii) the type of equipment used to control the exposure; and

(e) an incident occurs or medical surveillance reveals an adverse health effect, where ergonomic risks are identified as a contributing factor.

7 Risk Control - (1) An employer or self-em-

ployed person must ensure that the exposure of a person to ergonomic risks is prevented or, where this is not reasonably practicable, adequately controlled.
(2) In order to comply with subregulation (1) an employer or self-employed person must, as far as is reasonably practicable, remove or reduce exposure to ergonomic risks by implementing control measures in accordance with the hierarchy of controls.

8 Medical Surveillance - (1) An employer must ensure that an employee is placed under medical surveillance, which is overseen by an occupational medicine practitioner, if -
(a) the ergonomic risk assessment referred to in regulation 6 indicates the need for the employee to be placed under medical surveillance; or
(b) an occupational health practitioner recommends that relevant employees must be under medical surveillance, in which case the employer may call upon an occupational medicine practitioner to ratify the appropriateness of such recommendation.
(2) An employer must ensure that the medical surveillance contemplated in subregulation (1) consists of -
(a) in the case of a new employee, an initial health examination before the employee commences employment or within 30 days of commencement of such employment;
(b) a periodic health examination informed by the ergonomic risk assessment, at intervals specified by an occupational medicine practitioner, but not exceeding two years; and
(c) an exit health examination informed by the ergonomic risk assessment.

9. Maintenance of Controls - Every employer or self-employed person must, as far as is reasonably practicable, ensure that any control provided for the benefit of employees -
(a) complies with these Regulations;
(b) is fully and appropriately implemented; and
(c) is maintained in good working order.

10. Records - (1) An employer or self-employed person must -
(a) keep records of documents contemplated in regulations 3, 6, 7, 8(2) and 9;
(b) keep records for a minimum period of -
  (i) 40 years for records contemplated in regulations 6 and 8(2);
  (ii) three years for records contemplated in regulations 7 and 9;
  (iii) the length of time the employee remains at the workplace for records contemplated in regulation 3;
(c) make available to -
  (i) the relevant health and safety representative, health and safety committee or to an inspector, the records contemplated in regulations 3, 6, 7 and 9;
  (ii) any person, the records contemplated in regulation 8(2), subject to formal written consent of the employee.
(2)
(a) If the employer ceases activities, the employer must hand over or forward by registered post all records to the relevant chief director: provincial operations.
(b) The records referred to in paragraph (a) must contain at least the following information of the employee:
  (i) surname and forenames;
  (ii) gender;
  (iii) date of birth;
  (iv) name of spouse or closest relative; and
  (v) where available, permanent residential address and postal code.

11 Ergonomics Health and Safety Technical Committee - (1) The chief inspector must, after consultation with the Minister, establish an ergonomics health and safety technical committee which must consist of -
(a) a chairperson;
(b) two persons designated by the chief inspector from the employees of the Department of Employment and Labour;
(c) three persons designated by employer's organisations to represent employers;
(d) three persons designated by employees' organisations to represent the federation of unions;
(e) one person to represent a professional body recognised by the chief inspector;
(f) persons who are competent in respect of the matters to be dealt with by the ergonomics health and safety technical committee who have been co-opted by the committee with the authorisation of the chief inspector;
(g) one person from the field of ergonomics representing a higher educational institution; and
(h) one person representing occupational medicine.
(2) The chief inspector -
(a) must appoint members of the ergonomics health and safety technical committee for a period that he or she may determine at the time of the appointment;
(b) may, after having afforded a member a reasonable opportunity to respond, discharge such a member at any time, for reasons that are fair and just; and
(c) may appoint a new member in the place of a member who is discharged in terms of paragraph (b).
(3) The ergonomics health and safety technical committee must -
(a) advise the chief inspector on ergonomics related matters, including, but not limited to, codes, standards and training requirements;
(b) make recommendations and submit reports to the chief inspector regarding any matter to which these Regulations apply;
(c) advise the chief inspector regarding any matter referred to the ergonomics health and safety technical committee by the chief inspector;
(d) perform any other function for the administration of a provision of these Regulations that may be requested by the chief inspector; and
(e) conduct its work in accordance with the instructions and rules of conduct framed by the chief inspector.

12 Offences and Penalties - Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7, 8, 9 and 10 is guilty of an offence and liable, upon conviction, to a fine or to imprisonment for a maximum of 12 months and, in the case of a continuous offence, to an additional fine not exceeding R200,00 for each day on which the offence continues or to additional imprisonment of one day for each day the offence continues: provided that the period of such imprisonment will not exceed 90 days.

13 Short Title and Commencement - These Regulations will be called the Ergonomics Regulations, 2019, and will come into operation on the date of publication in the Gazette.

[Editor's note: Short title and commencement as printed in Government Gazette]

ANNEXURE 1

EXPLANATORY NOTES TO ERGONOMICS REGULATIONS 2019
CHIEF DIRECTORATE: OCCUPATIONAL HEALTH AND SAFETY

FOREWORD

The purpose of this document is to provide guidance to all employers, employees and the public alike, who are responsible for or concerned with the control and prevention of exposure to ergonomic risks in the workplace.

This guide does not replace the Ergonomics Regulations of 2019. It is intended to give practical insight into the application of the Regulations. It should always be read in conjunction with the Ergonomics Regulations and the Occupational Health and Safety Act of 1993.

CONTENTS

INTRODUCTION
Ergonomics (human factors will be considered the same as ergonomics in this document) takes a systems approach to understanding work acknowledging the interactions between the various elements within the work-system including tools/ technology, tasks, environment, organisation and persons in the workplace. Ergonomics aims to balance these interactions through the design of the system using a human-centred approach. Applied comprehensively in a workplace, ergonomics can be as important a concept as strategic planning and quality control. It has a real and direct impact on health and safety, productivity and performance. Ergonomics can affect an entire work-system by enhancing the most important component - the ability to balance task demands with employee capabilities.
The practical benefits of ergonomics are, but not limited to:
- Labour - improved health, well-being and safety of employees
- Business - improved productivity, efficiency and prevention of occupational incidents and adverse health effects
- Government - a workplace that is safe and without risk to the health of employees

The regulations speak to an ergonomics programme approach which should be integrated into existing occupational health and safety programmes. An ergonomics programme is a systematic process for anticipating, identifying, analysing and controlling ergonomic risks, which should include but not be limited to, ergonomics hazards identification and risk assessment, risk controls, information and training, monitoring and evaluation and medical surveillance. It is important to acknowledge that ergonomics is not a stand-alone hazard but rather part of the broader approach to ensuring a workplace that is safe and without risk to the health of employees as well as productivity at work.

Regulation 2: Scope of Application
These Regulations are intended to protect the health and safety of any person who may be exposed to ergonomic risks in the workplace.

Regulation 3: Information, Instruction and Training
The provision of information, instruction and train-

ing for any person who may be exposed to ergonomic risks is of paramount importance, in order to assist employers and employees in reducing the exposure to ergonomic risks. The employer must ensure they are familiar with basic ergonomic principles, as well as establish a training programme for all employees exposed to ergonomic risks.
The employer must ensure that he or she obtains suitable information in order to train employees effectively. Training of employees may be conducted either internally or externally.
Information and training must be planned carefully and presented on commencement of employment. The frequency of training thereafter should depend on the severity of the ergonomic risks and should be determined by the health and safety committee. It is of the utmost importance that health and safety committees and health and safety representatives are thoroughly trained and educated with regards to ergonomics. This is to ensure that the health and safety representatives or committees are able to make informed decisions relating to their discretionary powers.
An employer should verify that employees understand ergonomic risks, with health and safety committee members, health and safety representatives and employees contributing to developing and implementing training programmes in relation to ergonomics.
It is the duty of employers to ensure that all employees have thorough knowledge of the provisions of the Act and these regulations. The aspects of training included in the regulation is the minimum content of a training programme however, the employer should provide a suitable training programme that is understandable to all their employees.

Regulation 4: Duties of those who may be at Risk of Exposure to Ergonomic Risks

Employees or any other person exposed to ergonomic risks at the workplace, have a moral and legal duty to comply with any lawful instruction and procedure (written or oral) given by or on behalf of employers. In addition, employees must comply with the requirements laid down by the Act and other applicable regulations. These instructions and procedures may differ from one workplace to another because workplaces are not identical.

Regulation 5: Duties of Designers, Manufacturers, Importers and Suppliers

Effective use of ergonomics in the design process will result in a workplace that is safe and without risk to the health of employees. Ergonomics is design driven, therefore it does not stop with determining risk but with the resolution and implementation of new designs to mitigate the risks identified, whether these risks are for incidents, adverse health effects or poor productivity. Designing tasks, plant, machinery and work-systems to suit the employee can reduce human error, incidents and adverse health effects. Failure to observe ergonomic principles can have serious consequences for employees and for the employer.
The following should be taken into account by the designer, manufacturer, importer and supplier:

- Ergonomics needs to be taken into account in all steps of the life cycle of the plant, machinery or work systems. The design, installation, operation, maintenance and decommissioning should be considered
- Employee characteristics
- Foreseeable operating conditions including upsets and emergencies
- The interface between the employee and the system
- Instructions, technical information, warning signs, safe operation for the employee must be provided
- Where possible, SANS standards must be taken into account

Regulation 6: Ergonomics Risk Assessment

It is the duty of the employer to conduct a risk assessment for all tasks where an employee is exposed to ergonomic risks. The risk assessment may be carried out by an employee who is familiar with the task, provided they have the competency to do so. Before an employee conducts the risk assessment, it is the responsibility of the employer to ensure that the individual has the adequate level of competence to conduct the risk assessment. The employer may require a health and safety professional who has to demonstrate appropriate competence to conduct the risk assessment when the task being carried out is complex. While one individual may be able to carry out a risk assessment, it may be beneficial to draw on the knowledge and competencies of others.

The risk assessment should include at least the following steps:

- Identifying the hazards employees are exposed to
- Identifying the employees who are exposed to the risks and how they may be affected
- Analysing and evaluating the risk
- Prioritising the risks

The risk assessment should be conducted and or reviewed at least every two years and recorded. Shorter review periods may be necessary if new information becomes available or there has been a change in task or control measures. The risk assessment should also be reviewed if a reportable incident occurs or if an employee suffers an adverse health effect as a result of exposure to ergonomic risks.

Regulation 7: Risk Control

The introduction of a sound ergonomics programme will go a long way towards controlling ergonomic risks. However, it is good practice to continually monitor adverse health effects at the workplace, in order to check that the risk control measures are working. There are many cases where problems are still occurring and further steps are needed to solve the problem. The following factors should be taken into account in controlling the risk:

Ergonomic risks should be reduced to the lowest reasonably practicable level through control and prevention measures in the order of priority below:

1. Elimination: The job should be redesigned so that the hazard is removed from the workplace
2. Substitution: The current task should be replaced with a less hazardous task. It is important to ensure that the new design is less hazardous than the original
3. Engineering controls: Use equipment or other measures to reduce the risks associated with tasks. Priority should be given to measures which protect collectively over individual measures
4. Administrative controls: Identify and implement new procedures that will allow work to be done safely
5. Personal protective equipment: Only once all the previous measures have been tried and shown to be ineffective in controlling risk to a reasonably practicable level, personal protective equipment (PPE) should be considered. When PPEs are used it is important that employees are involved in the fitting and consulted in the selection of fit for purpose PPE

Regulation 8: Medical Surveillance

Medical surveillance in the workplace is an integral part of occupational health surveillance. Surveillance is the close observation of a person or group, especially those identified by the risk assessment. It refers to the detection of adverse health effects resulting from occupational exposures at as early a stage as possible, so that appropriate preventive measures can be instituted promptly. For this reason, medical surveillance is placed at a secondary level of prevention as the adverse health effect is still reversible or more easily treatable.

Medical surveillance should have a clearly defined objective for targeted employees and medical procedures, such as questionnaires and health examinations, must be available to achieve the objective. Medical surveillance must be risk based and tailored to a specific adverse health effect that is to be prevented. Medical surveillance for ergonomics should be either incorporated into existing medical surveillance, for employers who have already implemented such surveillance or establish ergonomics medical surveillance for the workplace.
Medical surveillance is performed at regular pre-determined intervals; at the beginning, termination of employment and throughout the employment period and/or as determined by the occupational medicine practitioner. Medical surveillance must be carried out by occupational medicine practitioners and occupational health practitioners.
Medical surveillance includes the following elements:

1. Identification of employees according to the ergonomics risk assessment, for which the medical surveillance activities will be appropriate;
2. An initial health examination and collection of clinical history;
3. Periodic health examinations at regularly scheduled intervals;
4. More frequent and scheduled health examinations, as indicated on the basis of findings from these examinations;
5. A written report of medical findings;
6. Employee training to recognise symptoms of exposures to ergonomic risks; and
7. Employer actions in response to the identified adverse health effects on employees with ongoing data analysis to evaluate collected information and institute control measures, including employee rehabilitation at the workplace.

Regulation 9: Maintenance of Controls

The employer should implement a planned maintenance programme for all plant, machinery and systems in order to reduce the ergonomic risks. The programme should include a system for reporting defects by employees and a corrective action plan.
Health and Safety Representative and employees must report any defects in plant, machinery or systems immediately to the employer.

Regulation 10: Records

Well-kept records may provide useful information in the risk assessment process. The analysis of records may provide a link between the exposure to ergonomic risks and adverse health effects caused by the exposure to ergonomic risks.
The employer must ensure that records are kept for; information and training provided to employees, ergonomics risk assessments conducted at the workplace, the results of health examinations conducted on employees; and action plans for the implementation of control measures and the maintenance of such control measures.
Due to the nature of ergonomics adverse health effects occurring over time, retention of records is needed to investigate any causal relationship, if any, between exposure to ergonomic risks and diagnoses. Records of incidents must also be kept in order determine whether there was an exposure to ergonomic risks.

Regulation 11: Ergonomics Health and Safety Technical Committee

The chief inspector must establish a health and safety Technical Committee (TC) for ergonomics. The TC shall consist of a tripartite structure which includes; government, organised business and organised labour and specialists in the field of ergonomics. The specialists will include a person from a professional body recognised by the chief inspector, a person from a higher education institution and a person representing occupational medicine. The chief inspector may co-opt a person or persons to the TC, who have competence in a specific matter relating to ergonomics health and safety.

The duties of the ergonomics health and safety technical committee include;

- Advising the chief inspector on matters relating to codes, standards and training requirements in terms of ergonomics or any matter referred to the TC
- Making recommendations to the chief inspector on matters applying to the Ergonomics Regulations
- Performing any other function of administration for the Ergonomics Regulations

The TC must also work within the instructions and rules of conduct established by the chief inspector.

FACILITIES REGULATIONS

GNR.924 of 3 August 2004

[These regulations were first published in the GNR.924 of 3 August 2004, and were corrected by GNR. 1045 of 10 September 2004.**]**

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"adjoining" in relation to premises, means having a common boundary line;

"drinking water" means water that complies with SABS 241;

"hot water" means water at a temperature more than 35 degrees Celsius;

"hazardous biological agent" means a hazardous biological agent defined as such in regulation 1 of the Regulations for Hazardous Biological Agents promulgated by Government Notice No. R.1390 of 27 December 2001;

"hazardous chemical substance" means a substance defined as such in regulation 1 of the Hazardous Chemical Substances Regulations promulgated by Government Notice No. R.1179 of 25 August 1995 as amended by Government Notice No. R.930 of 25 June 2003;

"National Building Regulations" means the National Building Regulations promulgated by Government Notice No. R.1081 of 10 June 1988;

"SABS 0400" means the South African Bureau of Standards' Code of Practice for the application of the National Building Regulations;

"SABS 241" means the South African Bureau of Standards' Standard Specification for Water for Domestic Supplies;

"sanitary facilities" means sanitary fixtures as defined in SABS 0400; and

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).

2. Sanitation.-(1) Every employer shall provide sanitary facilities at a workplace in accordance with Parts F, P and Q of the application of the National Building Regulations.

(2) Notwithstanding the provisions of subregulation (1), an employer may, where less than 11 persons are employed on one premises, make arrangements in writing for such persons to use closets and washbasins on adjoining premises: Provided that-

(*a*) such facilities are freely and readily accessible; and

(*b*) the facilities comply with the provisions of these Regulations as well as with SABS 0400 with respect to-

(i) the total number of employees who will be using the facilities; and

(ii) the condition of such facilities.

(3) Every employer shall-

(*a*) make toilet paper available free of charge to employees;

(*b*) provide every water closet pan designed to have a seat, with a seat;

(*c*) supply a towel to every employee for his or her sole use or disposable paper towels or hot air blowers or clean portions of continuous cloth towels, at washbasins; and

(*d*) provide toilet soap or a similar cleansing agent free of charge to employees.

(4) Every employer shall, under the circumstances contemplated in Table 4 of Part P of SABS 0400, provide showers for the use of his or her employees, and he or she shall-

(*a*) provide running hot and cold or premixed hot and cold water for washbasins and showers;

(*b*) ensure that the walls of that part of a room in which there are showers, are smooth and impermeable, and that the floor thereof is slip-free and sloped for effective drainage; and

(*c*) ensure that where showers are provided in a room with windows, such windows are glazed in obscure glass or similar material.

(5) In respect of each room in which there are closets, urinals, showers or washbasins, every employer shall-

(*a*) provide a conspicuous sign outside the entrance to such room to indicate the gender of the persons for whom the room is intended;

(*b*) ventilate such rooms in accordance with the provisions of Part O of National Building Regulations;

(*c*) provide the necessary screen walls, partitions or doors in order to provide privacy; and

(*d*) ensure that water feeding to showers or washbasins on his or her premises which is not obtained from the water supply system of a local authority, complies with SABS 241.

3. Facilities for Safekeeping.-(1) An employer in a workplace shall provide every employee in his or her service, excluding office workers, with a personal facility for safekeeping in which clothes or other personal items of the employee can be kept safely and in a good condition.

(2) Every employer shall ensure that every employee referred in subregulation (1) shall store his or her clothing and other personal items in his or her facility for safekeeping.

(3) The provisions of this regulation shall not apply in respect of activities for which specific types or numbers of facilities for safekeeping are prescribed.

4. Changing rooms.-(1) In respect of employees-

(*a*) for whom showers are prescribed; or

(*b*) who need to undress, the employer shall provide separate changing rooms for males and females respectively, in accordance with Part C of SABS 0400.

(2) An employer contemplated in sub-regulation (1) shall-

(*a*) ensure that a changing room is not connected directly by means of a door or of any other opening to any room in which there is exposure to a hazardous chemical substance or a hazardous biological agent; or in which untanned hides or skins or unwashed wool or mohair are treated, processed or stored;

(*b*) provide adequate seating in the form of chairs or benches in every changing room for the maximum number of employees that will be using such changing room at any one time;

(*c*) not store any material, tools or other goods not related to use of a changing room in such changing room or allow such items to be stored therein;

(*d*) where a change-room has windows, glaze such windows in obscure glass or similar material;

(*e*) screen the entrance of every changing room in order to afford privacy;

(*f*) provide a conspicuous sign at the entrance to a changing room to indicate the gender of the persons for whom the changing room is intended;

(*g*) provide facilities for the drying of wet clothes, if the employees for whom the changing room has been provided, may become wet in the course of their work;

(*h*) ensure that every changing room is naturally or artificially ventilated in accordance with Part O of the National Building Regulations; and

(*i*) ensure that no employee referred to in subregulation (1) changes his or her clothing at

any other place at a workplace than in the changing room provided for him or her.

(3) Subject to the provisions of regulation 5 an employer may allow a changing room to be used for the partaking of meals provided that-

(*a*) an obscure partition that reaches the ceiling or roof is installed between showers and eating places; and

(*b*) there is no direct communication between the changing room and the toilet facilities.

5. Dining-rooms.-(1) Notwithstanding the provisions of regulation 4 (3), every employer of employees who at a workplace-

(*a*) are exposed to a hazardous chemical substance or a hazardous biological agent;

(*b*) come into physical contact with any known poisonous substance, which may cause illness if taken orally;

(*c*) are exposed to dirt, dust, soot or similar filth; or

(*d*) handle or process untanned hides or skins, or unwashed wool or mohair,

shall provide a separate dining-room or eating place on the premises which in respect of the maximum number of employees who will be using it at any one time, shall be in accordance with Part C of SABS 0400.

(2) An employer contemplated in subregulation (1) shall-

(*a*) provide tables and chairs in every dining room for the maximum number of employees who will be using the dining room at any one time;

(*b*) ensure that a dining-room or eating place is not connected directly by means of a door or any other opening with any room in which there is exposure to a hazardous chemical substance or hazardous biological agent; or in which untanned hides or skins or unwashed wool or mohair are treated, processed or stored;

(*c*) not store any material, tools or other goods not related to use of a dining-room in such dining-room or allow such items to be stored therein; and

(*d*) ensure that every dining room is naturally or artificially ventilated in accordance with Part O of the National Building Regulations.

6. Prohibition.-Every employer shall-

(*a*) prohibit smoking, eating or drinking at workplaces contemplated in regulation 5(1); and

(*b*) display conspicuous signs or notices at such workplaces prohibiting smoking, eating or drinking.

7. Drinking water.-Every employer shall-

(*a*) make available an adequate supply of drinking water for his or her employees at their workplace; and

(*b*) clearly and conspicuously mark such, taps and pipes that is not fit for human consumption.

8. Seats.-Every employer shall-

(*a*) where reasonably practicable, provide an ergonomically sound seat for every employee whose work can be effectively performed while sitting;

(*b*) where reasonably practicable, permit an employee whose work is normally performed standing to take advantage of any opportunity for sitting which may occur, and for this purpose the employer shall provide seating facilities; and

(*c*) provide seats with backrests where the nature of work performed by the employees is such that such seats can be used.

9. Condition of rooms and facilities.-Every employer shall maintain all rooms and facilities which are prescribed or provided for in terms of the provisions of these regulations, in a clean, hygienic, safe, whole and leak-free condition, and in a good state of repair.

10. Offences and penalties.-Any person who contravenes or fails to comply with any provisions of regulation 2 (1), 2 (3), 2 (4), 2 (5), 3 (1), 3 (2), 4, 5, 6, 7, 8 or 9 shall be guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or additional imprisonment of one day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

11. Repeal of regulations.-The Facilities Regulations promulgated by Government Notice No. R.2362 of October 1990, are hereby repealed.

[R.11 corrected by GNR.1045 of 2004.]

12. Short Title.-These regulations shall be called the Facilities Regulations, 2004.

REGULATIONS FOR HAZARDOUS CHEMICAL AGENTS

GNR.280 of 29 March 2021

[These regulations were first published in GNR.1179 of 25 August 1995, subsequently amended by GNR.930 of June 2003 and GNR.683 of 27 June 2008 and repealed by GNR.280 of 29 March 2021]

The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates -

"air monitoring" means the monitoring of the concentrations of airborne hazardous chemical agents;

"asbestos abatement regulations" means the Asbestos Abatement Regulations, 2020, published as Government Notice No. R.11196 of 10 November 2020 under section 43(1) of the Act;

"assessment" means a programme to determine any risk from exposure to an HCA associated with the workplace in order to identify the steps needed to be taken to remove, reduce or control such HCA;

"bei" or 'biological exposure index' is a value for assessing biological monitoring results, intended as a reference guideline for the likelihood of adverse health effects, and generally represents the level of determinants that are most likely to be observed in specimens collected from healthy employees who have been exposed to HCAs with inhalation exposure at the occupational exposure limit, as listed in Table 4 of Annexure 2 hereby, as revised from time to time and published in the Gazette;

"carcinogen" or 'CARC' means any chemical agent or mixture which induces cancer or increases its incidence, classified by the GHS as

(a) Category 1: known or presumed human carcinogens; or
(b) Category 2: suspected human carcinogens;

"cas number" or 'chemical identity' means the number or name, respectively, that uniquely identifies a chemical, given in accordance with the nomenclature systems of the International Union of Pure and Applied Chemistry or the Chemical Abstracts Service, or a technical name;

"chemical agent" means a GHS-aligned chemical agent or mixture;

"chief director: provincial operations" means the provincial director as defined in regulation 1 of the General Administrative Regulations;

"consumer product" means a product containing an HCA, which -

(a) is packed or repacked primarily for use by a household consumer or for use in an office;
(b) if the product is packed or repacked primarily for use by a household consumer, is packed in the way and quantity in which it is intended to be used by a household consumer; and
(c) if the product is packed or repacked primarily for use in an office, is packed in the way and quantity in which it is intended to be used for office work;

"container", in relation to an HCA, means anything in or by which an HCA is, or has been, wholly or partly covered, enclosed or packed, including anything necessary for the container to perform its function as a container;

"cut-off value" or 'GHS cut-off value' or 'GHS concentration limit' means the minimum concentration of an HCA, expressed as a percentage, to trigger the classification of a mixture containing the HCA;

"exposed" means exposed to an HCA whilst at the workplace and 'exposure' has a corresponding meaning;

"facilities regulations" means the Facilities Regulations, 2004, published as Government Notice No. R. 924 of 3 August 2004;

"general administrative regulations" means the General Administrative Regulations, 2003, published as Government Notice No. R. 929 of 25 June 2003;

"ghs hazard classification" means the GHS hazard classes and hazard categories assigned to HCAs;

"hazard category" means a division of criteria within a hazard class in the GHS, where these hazard categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally;

"hazard class" means the nature of a physical, health or environmental hazard under the GHS;

"hazard pictogram" means a graphical composition, including a symbol plus other graphical elements such as a border, background pattern or colour that is intended to convey specific information, that is assigned in the GHS to a hazard class or hazard category;

"hazard statement" means a statement assigned in the GHS to a hazard class or hazard category describing the nature of the hazards of an HCA including, if appropriate, the degree of hazard;

"hazardous chemical agent" or 'HCA' means a GHS-aligned chemical agent as provided for in Annexure 1;

"hsg 173" means the Guidance Note HSG 173 of the Health and Safety Executive (HSE) of the United Kingdom: Monitoring Strategies for Toxic Substances, 2006, ISBN 978 0 7176 6188 6, as revised from time to time and published in the Gazette;

"importer" means an employer or self-employed person who, by any means, imports an HCA into the Republic that is to be used, or could reasonably be expected to be used, at a workplace;

"lead regulations" means the Lead Regulations, 2001, published as Government Notice No. R. 236 of 28 February 2002;

"manufacturer" means an employer or self-employed person who manufactures an HCA that is to be used, or could reasonably be expected to be used, at a workplace;

"measurement programme" means a programme according to the monitoring strategy as contemplated in HSG 173;

"minister" means the Minister of Employment and Labour;

"monitoring" means the planning, carrying out, and recording of the results of a measurement programme;

"oel" or 'occupational exposure limit' means a limit value set by the Minister, which represents the airborne concentration of an HCA, where the exposure standard may be -

(a) an eight-hour time-weighted average;
(b) a ceiling limit; or
(c) a short-term exposure limit;

"oel ceiling limit" or 'ceiling limit' or 'C' means a maximum or peak airborne concentration of an HCA determined over the shortest analytically practicable period of time, which does not exceed 15 minutes;

"oel eight-hour time-weighted average" or 'TWA' means the maximum average airborne concentration of an HCA when calculated over an eight-hour working day, for a five-day working week;

"oel-ml" or 'occupational exposure limit - maximum limit' means an HCA as listed in Table 2 of Annexure 2;

"oel-rl" or 'occupational exposure limit - restricted limit' means an HCA as listed in Table 3 of Annexure 2;

"oel-short-term exposure limit" or 'STEL' means the time-weighted average maximum airborne concentration of an HCA calculated over a 15-minute period;

"oessm" means the Occupational Exposure Sampling Strategy Manual, published by the National Institute for Occupational Safety and Health (NIOSH), Publication No. 77-173 of 1977, United States of America: Department of Health, Education and Welfare;

"permanent respirator zone" means an area where the concentration of an airborne HCA during normal operations exceeds the OEL-RL for that HCA;

"precautionary statement" means a phrase prescribed by the GHS that describes recommended measures that should be taken to minimise or prevent -

(a) the adverse effects resulting from exposure

to an HCA; or
(b) the improper storage or handling of an HCA;

"prohibited agent" means an HCA prohibited by the Minister and listed in Table 1 of Annexure 2, where the agents prohibited may be revised from time to time by notice in the Gazette;

"respiratory protective equipment" means a device that is worn over at least the mouth and nose to prevent the inhalation of an airborne HCA and that is of a type, or conforms to a standard, approved by the Minister;

"respirator zone" means an area where the concentration of an airborne HCA exceeds the recommended limit for that agent;

"retailer" means an employer or self-employed person who supplies consumer products containing an HCA to members of the public who are not primarily engaged in the further supply of those products;

"safety data sheet" or 'SDS' means a document that is aligned to the GHS, providing information on hazard classification, properties of hazardous chemicals, procedures for handling or working with hazardous chemicals in a safe manner, and the effects of hazardous chemicals on health and safety at the workplace, and that is prepared in accordance with regulation 14A;

"sensitiser" means an HCA that causes a substantial proportion of exposed people to develop an allergic reaction in normal tissue after repeated exposure, and includes dermal sensitisers and respiratory sensitisers;

"signal word" means the word 'danger' or 'warning' used on a GHS-aligned label to indicate to the reader a potential hazard, as well as the relative severity level of such hazard;

"skin", the notation, means that the HCA might be absorbed in toxicologically significant amounts through direct contact with skin or mucous membranes and eyes from airborne exposure to gases, vapours or liquids, so that conclusions about exposure and health effects based solely on airborne concentration limits may be incomplete;

"supplier" means an employer or self-employed person who conducts a business or undertaking of supplying an HCA, also to a retailer;

"the act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"un globally harmonized system" or 'GHS' means the Globally Harmonized System of classification and labelling of chemicals, a guidance document developed by the United Nations for standardising and harmonising the classification and labelling of chemicals globally, as may be updated from time to time, commonly known as the UN Purple Book;

"un imo international maritime dangerous goods code" means the International Maritime Organization's (IMO's) International Maritime Dangerous Goods (IMDG) Code, which was developed as an international code by the IMO, an agency of the United Nations, for the maritime transport of dangerous goods in packaged and bulk form, with particular reference to the segregation of incompatible substances, as may be updated from time to time;

"un number" means the four-digit identification number assigned to an HCA in the UN Transport of Dangerous Goods: Model Regulations, as may be updated from time to time;

"un proper shipping name" means the proper shipping name of an HCA as specified in the UN Transport of Dangerous Goods: Model Regulations, most accurately describing the goods, as may be updated from time to time;

"UN Transport of Dangerous Goods" means the UN Recommendations on the Transport of Dangerous Goods: Model Regulations, Volumes 1 and 2, which are guidance documents developed by the United Nations to harmonise dangerous goods transport regulations, as may be updated from time to time, commonly known as the UN Orange Book.

2. Scope of application.-(1) Subject to the provisions of subregulation (2), these regulations apply to -
(a) an employer or a self-employed person who carries out work at a workplace which may expose any person to an HCA at the workplace; and
(b) a manufacturer, importer, supplier or retailer of an HCA that is intended for use at a workplace.

(2) The provisions of regulations 3(1), 6 and 7 do not apply to -
(a) a self-employed person; or
(b) a person who visits a workplace referred to in subregulation (1).

(3) The provisions of these regulations do not apply in the case where the Lead Regulations or Asbestos Abatement Regulations apply.

3. Information, Instruction and Training (1) Every employer who undertakes work which is liable to expose an employee to an HCA must, before any employee is exposed or may be exposed, after consultation with the health and safety committee established for that section of the workplace, provide that employee with suitable and sufficient information, instruction and training, as well as thereafter inform, instruct and train that employee at intervals as may be recommended by that health and safety committee.

(2) The information, instruction and training contemplated in subregulation (1) must include -
(a) in regard to these regulations for HCAs -
  (i) the chemical substance regulations that are in place that govern all aspects of HCA use at the workplace;
  (ii) the legislated OELs that are in place; and
  (iii) the duties of persons who are likely to be exposed to an HCA, as contemplated in regulation 4;
(b) details of the HCAs to which the employee is likely to be exposed at the workplace, including -
  (i) the names of the HCAs and where they may be found in the workplace;
  (ii) information on the potential harmfulness of the HCAs at the workplace; and
  (iii) significant findings of the HCA exposure assessment, as required by regulation 5(2);
(c) information on how to access the relevant SDSs;
(d) the information that each part of an SDS provides;
(e) the information that each part of the label on containers provides and why the information is being provided;
(f) the work practices and procedures that must be followed for the use, handling, storage, transportation, spillage and disposal of an HCA, in emergency situations, as well as for good housekeeping and personal hygiene;
(g) the necessity of personal air sampling, biological monitoring and medical surveillance;
(h) the need for engineering controls and how to use and maintain them;
(i) the need for personal protective equipment, including respiratory protective equipment, and its use and maintenance;
(j) the precautions that must be taken by an employee to protect themselves against health risks associated with exposure, including wearing and using protective clothing and respiratory protective equipment; and
(k) the necessity, correct use, maintenance and potential of safety equipment, facilities and engineering control measures provided.

(3) An employer must give written instructions of the procedures to be followed in the event of spillages, leakages or any similar emergency situations to the drivers of vehicles transporting an HCA.

(4) As contemplated in section 37(2) of the Act, the employer and mandatary must agree in writing to the arrangements and procedures between them to ensure compliance by the mandatary with information, instruction and training requirements specified in regulation 3.

4. Duties of Persons Who may be Exposed to Hazardous Chemical Agents

Every person who is or may be exposed to an HCA must obey a lawful instruction given by or on behalf of the employer or self-employed person regarding -
(a) HCA release prevention;
(b) the wearing of personal protective equipment;
(c) the wearing of monitoring equipment to measure personal exposure;
(d) reporting for health evaluations and biological tests as required by these regulations;
(e) the cleaning up and disposal of materials containing an HCA;
(f) housekeeping at the workplace, personal hygiene and environmental and health practices; and
(g) information, instruction and training as contemplated in regulation 3.

5. Assessment of Exposure (1) An employer or self-employed person must, after consultation with the relevant health and safety representative or relevant health and safety committee, cause an assessment to be made immediately, and thereafter at intervals not exceeding two years, to determine if any employee may be exposed by any route of intake.

(2) The employer must inform the relevant health and safety representative or relevant health and safety committee in writing of arrangements made for the assessment contemplated in subregulation (1), give them reasonable time to comment thereon, and ensure that the results of the assessment are made available to the relevant representative or committee who may comment thereon.

(3) When making the assessment, the employer or self-employed person must keep a record of the assessment and take into account such matters as -
(a) the HCA to which an employee may be exposed;
(b) the effects the HCA may have on an employee;
(c) where the HCA may be present, and the physical form in which it is likely to exist;
(d) the route of intake by which, and the extent to which, an employee may be exposed; and
(e) the nature of the work process, and any reasonable deterioration in, or failure of, control measures.

(4) If the assessment made in accordance with subregulation (3) indicates that any employee may be exposed, the employer must ensure that monitoring is carried out in accordance with the provisions of regulations 6 and 7, and that the exposure is controlled as contemplated in regulation 10.

(5) An employer or self-employed person must immediately review the assessment required by subregulation (1) if -
(a) there is reason to suspect that the previous assessment is no longer valid; or
(b) there has been a change in a process involving an HCA or in the methods, equipment or procedures for the use, handling, control or processing of the HCA,

and the provisions of subregulations (2) and (3) will apply.

6. Air Monitoring (1) Where the inhalation of an HCA is concerned, an employer contemplated in regulation 5(4) must ensure that the measurement programme of the airborne concentrations

of the HCA to which an employee is exposed, is -
(a) carried out in accordance with the provisions of these regulations;
(b) carried out only after the relevant health and safety representative or relevant health and safety committee has been informed thereof and given a reasonable opportunity to comment thereon;
(c) carried out by an approved inspection authority; and
(d) representative of the exposure of an employee to the airborne HCA in accordance with the provisions of subregulation (2).

(2) In order to comply with the provisions of subregulation (1)(d), an employer must -
(a) ensure that the measurement programme, in the case of a group measurement, makes provision for the selection of the number of persons for a sample to be done as contemplated in Chapter 3 and 4 and Technical Appendix A of the OESSM: Provided that such sample size must be chosen for the top 10% of the group at the 95% confidence level for an HCA with a control limit, and for the top 10% of the group at the 90% confidence level for an HCA with a recommended limit; and
(b) subject to the criteria contained in regulation 6(1), carry out representative measurements at least every 24 months for an HCA with an OEL-ML or an OEL-RL as listed in Table 2 or 3 of Annexure 2.

7. Medical Surveillance (1) An employer must ensure that an employee is under medical surveillance if -
(a) the employee may be exposed to an HCA listed in Table 4 of Annexure 2;
(b) the exposure of the employee to any chemical agent hazardous to his or her health is such that an identifiable disease or adverse effect to his or her health may be related to the exposure, there is a reasonable likelihood that the disease or effect may occur under the particular conditions of his or her work, and there are techniques to diagnose indications of the disease or the effect as far as is reasonably practicable; or
(c) the occupational health practitioner recommends that the relevant employee should be under medical surveillance, in which case the employer may call on an occupational medicine practitioner to ratify the appropriateness of such recommendation.

(2) In order to comply with the provisions of subregulation (1), the employer must, as far as is reasonably practicable, ensure -
(a) that an initial health evaluation is carried out by an occupational health practitioner immediately before or within 14 days after a person commences employment, where any exposure exists or may exist, which comprises -
  (i) an evaluation of the employee's medical and occupational history;
  (ii) a physical examination; and
  (iii) any other essential examination which, in the opinion of the occupational health practitioner, is desirable in order to enable the practitioner to do a proper evaluation;
(b) that, subsequent to the initial health evaluation contemplated in paragraph (a), the relevant employee undergoes examinations as contemplated in paragraph (a)(ii) and (iii), at intervals not exceeding two years or at intervals specified by an occupational medicine practitioner.

(3) An employer may not permit an employee, who has been certified unfit for work by an occupational medicine practitioner, to work in a workplace or part of a workplace in which he or she would be exposed: Provided that the relevant employee may be permitted to return to work which will expose him or her, if he or she is certified fit for that work beforehand by an occupational medicine practitioner.

(4) The employer must record and investigate the incident contemplated in subregulation (3) in compliance with regulation 8 of the General Administrative Regulations.

8. Respirator Zone An employer must ensure -
(a) that any workplace or part thereof under his or her control, where the concentration of an HCA in the air is or may be such that the exposure of an employee working in that workplace exceeds the restricted limit without the wearing of respiratory protective equipment, is zoned as a respirator zone;
(b) that a respirator zone is clearly demarcated and identified by a notice indicating that the relevant area is a respirator zone and that personal protective equipment as contemplated in regulation 11 must be worn there; and
(c) that no person enters or remains in a permanent respirator zone unless he or she is wearing the required personal protective equipment.

9. Records An employer must -
(a) keep records of the results of all assessments, air monitoring, and medical surveillance reports required by regulations 5, 6 and 7, respectively: Provided that personal medical records may be made available to only an occupational health practitioner;
(b) subject to the provisions of paragraph (c), make the records contemplated in paragraph (a), excluding personal medical records, available for inspection by an inspector;
(c) allow any person, subject to the personal written consent of an employee, to peruse the records with respect to that particular employee;
(d) make the records of all assessments and air monitoring available for perusal by the relevant health and safety representative or relevant health and safety committee;
(e) keep all records of assessments and air monitoring for a minimum period of 30 years;
(f) if the employer ceases activities, hand over or forward all records by registered post to the relevant regional director; and
(g) keep, for at least three years, a record of the investigations and tests carried out in terms of regulation 12(b) and of any repairs resulting from these investigations and tests.

10. Control of Exposure to Hazardous Chemical Agents (1) An employer must ensure that the exposure of an employee is either prevented or, where this is not reasonably practicable, adequately controlled: Provided that -
(a) where there is exposure for which there is a restricted limit, the control of the exposure must be regarded as adequate if the level of exposure is below that limit or if the relevant area is zoned and the level of exposure is reduced to below that restricted limit by means of adequate personal protective equipment only after the level has been reduced to as low as is reasonably practicable by any other means than personal protective equipment; or
(b) where there is exposure for which there is a maximum limit, the control of the exposure must be regarded as adequate if the exposure is at a level as low as is reasonably practicable below that maximum limit: Provided that in the case of temporary excursions above the control limit, the employer must ensure -
  (i) that the excursion is without a significant risk from exposure;
  (ii) that the excursion is not indicative of a failure to maintain adequate control;
  (iii) that during the excursion, the area is temporarily demarcated and prescribed and identified as contemplated in regulation 8(b); and
  (iv) that the provisions of regulation 11 are complied with.

(2) Where reasonably practicable, the employer must control the exposure of an employee by -
(a) limiting the amount of an HCA used, which may contaminate the working environment;
(b) limiting the number of employees who will be exposed or may be exposed;
(c) limiting the period during which an employee will be exposed or may be exposed;
(d) using a substitute for an HCA;
(e) introducing engineering control measures for the control of exposure, which may include -
  (i) process separation, automation or enclosure;
  (ii) the installation of local extraction ventilation systems to processes, equipment and tools for the control of emissions of an airborne HCA;
  (iii) use of wet methods; and
  (iv) separate workplaces for different processes; and
(f) introducing appropriate work procedures which an employee must follow where materials are used or processes are carried out which could give rise to exposure of an employee, and which procedures must include written instructions to ensure -
  (i) that an HCA is safely handled, used and disposed of;
  (ii) that process machinery, installations, equipment, tools and local extraction and general ventilation systems are safely used and maintained;
  (iii) that machinery and work areas are kept clean; and
  (iv) that early corrective action may be readily identified.

(3) An employer must ensure that the emission of an HCA into the atmosphere complies with the provisions of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004).

11. Personal Protective Equipment and Facilities (1) If it is not reasonably practicable to ensure that the exposure of an employee is adequately controlled as contemplated in regulation 10, the employer must -
(a) in the case of an airborne HCA, provide the employee with suitable respiratory protective equipment and protective clothing; and
(b) in the case of an HCA which can be absorbed through the skin, provide the employee with suitable non-HCA impermeable protective equipment.

(2) Where respiratory protective equipment is provided, the employer must ensure -
(a) that the relevant equipment is capable of controlling the exposure to below the OEL for the relevant HCA;
(b) that the relevant equipment is correctly selected and properly used;
(c) that information, instructions, training and supervision, which is necessary with regard to the use of the equipment, is known to the employee; and
(d) that the equipment is kept in good condition and efficient working order.

(3) An employer must, as far as is reasonably practicable -
(a) not issue any used personal protective equipment to an employee, unless the relevant protection equipment is decontaminated and sterilised;
(b) provide separate containers or storage facilities for personal protective equipment when not in use; and
(c) ensure that all personal protective equipment not in use is stored in only the place provided therefor.

(4) An employer must, as far as is reasonably practicable, ensure that all contaminated personal protective equipment is cleaned and handled in accordance with the following procedures:
(a) Where personal protective equipment is cleaned on the premises of an employer, care must be taken to prevent contamination during handling, transport and cleaning;
(b) where personal protective equipment is sent off the premises to a contractor for cleaning purposes, the equipment must be packed in impermeable containers;
(c) the impermeable containers must be tightly sealed and must have a clear indication thereon that the contents thereof are contaminated; and
(d) the relevant contractor must be fully informed of the requirements of these regulations and of the precautions that must be taken for handling contaminated personal protective equipment.

(5) Subject to the provisions of subregulation (4)(b), an employer must ensure that no person removes dirty or contaminated personal protective equipment from the premises: Provided that where contaminated personal protective equipment has to be disposed of, it is treated as HCA waste as contemplated in regulation 15.

(6) Subject to the provisions of the Facilities Regulations, an employer must, where reasonably practicable, provide an employee who is using personal protective equipment, as contemplated in subregulation (1), with -
(a) adequate washing facilities, which are readily accessible and located in an area where the facilities will not become contaminated, in order to enable an employee to meet a standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of an HCA;
(b) two separate lockers, separately labelled "protective clothing" and "personal clothing", and ensure that the clothing is kept separately in the locker concerned; and
(c) separate "clean" and "dirty" change rooms if the employer uses or processes an HCA to the extent that the HCA could endanger the health of persons outside of the workplace.

12. Maintenance of Control Measures An employer must ensure -
(a) that all control equipment and facilities provided in terms of regulations 10 and 11 are maintained in good working order; and
(b) that thorough examinations and tests of engineering control measures are carried out at intervals not exceeding 24 months by an approved inspection authority.

13. Prohibitions No person may, as far as is reasonably practicable -
(a) use compressed air or permit the use of compressed air to remove particles of an HCA from any surface or person;
(b) smoke, eat, drink or keep food or beverages in a respirator zone or permit any other person to smoke, eat, drink or keep food or beverages in that zone;
(c) use statements such as "non-toxic", "non-harmful", "non-polluting" or "non-hazardous" or similar statements indicating the HCA as not hazardous, or any other statements that are inconsistent with the HCA's GHS classification on the label or packaging of any HCA; and
(d) manufacture, procure, use, handle or store within the workplace -
  (i) a prohibited HCA as listed in Table 1 of Annexure 2;
  (ii) ozone-depleting substances provided for in the Regulations regarding the Phasing-Out and Management of Ozone-Depleting Substances, published as Government Notice No. R. 351 of 8 May 2014; and
  (iii) persistent organic pollutants prohibited by the Prohibition on the Import, Export, Possession, Acquisition, Sale, Use and Disposal of Agricultural Remedies, under section 7 of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), published as Government Notice No. R. 862 of 29 July 2016.

[Paragraph (d) shall come into effect on 29 September 2023 as per Regulation 18(2)]

14. Classification of Hazardous Chemical Agents The manufacturer or importer of a chemical agent must, before it is supplied to a workplace -
(a) determine whether the chemical agent is an HCA by carrying out a hazard assessment referencing the cut-off values provided in Tables 4 and 5 of Annexure 1;
(b) if the substance, mixture or article is an HCA, ensure that a GHS classification is carried out for the HCA; and
(c) review the GHS classification should a change in the composition of the HCA be made.

[Regulation 14 shall come into effect on 29 September 2023 as per Regulation 18(2)]

14A. Safety Data Sheet (1) Subject to section 10(3)(b) of the Act and regulation 14, a safety data sheet for an HCA must be -
(a) prepared by an importer or manufacturer before manufacture and, if this is not reasonably practicable, immediately after manufacture but before import: Provided that the safety data sheet is -
  (i) GHS compliant;
  (ii) classified for the HCA, in accordance with regulation 14;
  (iii) reviewed at least once every five years;
  (iv) amended whenever necessary to ensure that it contains correct and current information, aligned to its GHS classification required by regulation 14(c), which includes new data regarding the hazard presented by an HCA that changes its classification in a category or subcategory of a hazard class or results in its classification to another hazard class; and
  (v) given the most recent applicable date, which may be the date of first issue, review or amendment;
(b) provided by a manufacturer or importer to -
  (i) a supplier of the HCA to a workplace; and
  (ii) any person who is likely to be affected by the HCA;
(c) provided by a supplier of the HCA -
  (i) when the HCA is first supplied to the workplace;
  (ii) if the SIDS for the HCA is amended; and
  (iii) to any person at the workplace if they request the SIDS; and
(d) obtained by the employer from the manufacturer, importer or supplier of the HCA and provided to -
  (i) any person who is involved in using, handling, or likely to be exposed to, the HCA at the workplace;
  (ii) any person at the workplace who needs the information to assess risk related to health and safety;
  (iii) any health practitioner who needs the information to treat a person who has been exposed to the HCA; or
  (iv) an emergency service professional who requires the information to fulfil his duties as an emergency respondent.

(2) Paragraphs (a) and (b) of subregulation (1) do not apply to a manufacturer or importer of an HCA who has not manufactured or imported that HCA in the past five years.

(3) The information in the GHS compliant safety data sheet must be presented using the following 16 headings in the order given below, as may be updated from time to time:
(a) Section 1: identification of the substance/mixture and of the company/undertaking;
(b) Section 2: hazards identification;
(c) Section 3: composition/information on ingredients;
(d) Section 4: first-aid measures;
(e) Section 5: firefighting measures;
(f) Section 6: accidental release measure;
(g) Section 7: handling and storage;
(h) Section 8: exposure controls/personal protection;
(i) Section 9: physical and chemical properties;
(j) Section 10: stability and reactivity;
(k) Section 11: toxicological information;
(l) Section 12: ecological information;
(m) Section 13: disposal considerations;
(n) Section 14: transport information;
(o) Section 15: regulatory information; and
(p) Section 16: other information.

[Regulation 14A shall come into effect on 29 September 2023 as per Regulation 18(2)]

14B. Labelling of Hazardous Chemical Agents (1) With regard to the labelling of an HCA -
(a) a manufacturer or importer of an HCA must ensure that the HCA is correctly labelled as soon as practicable after the HCA is manufactured or imported;
(b) a supplier of an HCA may not supply an HCA if it is not correctly labelled;
(c) a retailer of an HCA may not supply any consumer product containing an HCA to be used in a workplace if it is not correctly labelled; and
(d) an employer must -
  (i) ensure that an HCA that is used, handled or stored at the workplace is correctly labelled;
  (ii) ensure that a container labelled for an HCA is used for only the use, handling or storage of that HCA;
  (iii) as far as is reasonably practicable, ensure that when an HCA is transferred or decanted at the workplace, from its original container into a destination container, the destination container is correctly labelled for that HCA; and
  (iv) ensure that an HCA within pipework is identified by a label or sign or in any other suitable manner, on or near the pipework, subject to the following:
    (aa) Where the product is a mixture of two or more HCAs, the intermediate or finished product name may be used for identification;
    (bb) sampling, loading points or any other termination point of a pipe, where during normal operations an employee may be exposed to an HCA, must be identified; and
    (cc) pipework, including the splitting of flanges, where an employee may be exposed during routine maintenance activities, should be identified as far as is reasonably practicable.

(2) Subject to the provisions of subregulation (1), an HCA is correctly labelled if the selection and use of label elements are in accordance with the GHS and if the HCA is packed in a container that has a label -
(a) that includes -
  (i) the product identifier and, where applicable, the United Nations proper shipping name;
  (ii) the chemical identity of all the ingredients contributing to the final GHS classification of the HCA;
  (iii) the name, address, and business tele-

phone number of the manufacturer or importer;
(iv) an emergency telephone number where support is available; and
(v) a signal word, hazard statement, precautionary statement and hazard pictogram consistent with the HCA's GHS classification, made in accordance with regulation 14; and

(b) that may include -
(i) the quantity of the HCA in the package, unless this quantity is specified elsewhere on the package;
(ii) the quantity of each HCA ingredient;
(iii) any information about the hazards, and first-aid and emergency procedures relevant to the HCA, not otherwise included in the hazard statement or precautionary statement;
(iv) first-aid measures; and
(v) an expiry date, where applicable.

[Regulation 14B shall come into effect on 29 September 2023 as per Regulation 18(2)]

14C. Packaging of Hazardous Chemical Agents (1) Packaging for an HCA must satisfy the relevant requirements of the UN Transport of Dangerous Goods, with respect to packaging and fastenings, or, where applicable, the UN IMO International Maritime Dangerous Goods Code, including the following requirements:

(a) The manufacturer or importer of an HCA must ensure that the HCA is correctly packed, as soon as reasonably practicable after manufacturing or importing.
(b) For the purposes of paragraph (a), the expression "correctly packed" means -
(i) that the packaging is in sound condition;
(ii) that the packaging is durably and legibly marked;
(iii) that the packaging will safely contain the chemical for the time the chemical is likely to be packed;
(iv) that the packaging is made of a material that is compatible with the HCA and will not be adversely affected by the HCA;
(v) that the packaging and fastenings are strong and solid throughout to ensure that they will not loosen and will meet the normal stresses and strains of handling; and
(vi) that the packaging does not usually contain food or beverages and cannot mistakenly be identified as containing food or beverages.

(2) Where a retailer supplies an HCA in a container that is supplied by the person purchasing the chemical, the retailer must ensure that the HCA is correctly packed or repacked as contemplated in subregulation (1).

(3) Where a retailer supplies the person purchasing the chemical with a container, the retailer must ensure that the HCA is correctly packed or repacked as contemplated in subregulation (1).

(4) The employer or self-employed person must receive, use, handle or store an HCA only if it is correctly packed as contemplated in subregulation (1).

(5) An employer must -
(a) as far as reasonably practicable, ensure that a container or a vehicle in which an HCA is transported is clearly identified as transporting an HCA; and
(b) ensure that such transportation complies with the National Road Traffic Act, 1996 (Act No. 93 of 1996).

[Regulation 14C shall come into effect on 29 September 2023 as per Regulation 18(2)]

14D. Disclosure of Ingredient Identity (1) Where an ingredient in an HCA causes the correct classification of the chemical, in terms of regulation 14(b) to include a hazard class and hazard category -
(a) referred to in Table 4 of Annexure 1, the chemical identity of the ingredient detailed must be disclosed; or
(b) referred to in Table 5 of Annexure 1, the chemical identity of the ingredient may be disclosed by its generic name if -
(i) the identity of the ingredient is commercially confidential;
(ii) the ingredient does not cause the correct classification of the hazardous chemical to include any other hazard class and hazard category in Table 4 of Annexure 1; and
(iii) an OEL for the ingredient has not been established; and
(c) in all other cases not included in subregulation (1)(b), the ingredient must be disclosed by its chemical identity.

(2) The identity of the ingredient of an HCA in terms of subregulation (1)(a), or the generic name of the ingredient of the hazardous chemical in terms of subregulation (1)(b), must be on the label and SDS.

(3) Where an ingredient of an HCA must be disclosed in terms of subregulation (1)(a), the proportion of the ingredient to the hazardous chemical must be disclosed as follows:
(a) Where the exact proportion of the ingredient is not commercially confidential, the exact proportion is expressed as a percentage of the chemical by mass or volume; or
(b) where the exact proportion of the ingredient is commercially confidential, the exact proportion is expressed as a percentage of the chemical by mass or volume in terms of the following ranges within which the exact proportion fits:
(i) < 10%;
(ii) 10 to 30%;
(iii) 30 to 60%;
(iv) > 60%;
(v) a range that is narrower than the ranges provided for in subparagraph (i), (ii), (iii) or (iv).

[Regulation 14D shall come into effect on 29 September 2023 as per Regulation 18(2)]

15. Disposal of Hazardous Chemical Agents
An employer must, as far as is reasonably practicable -
(a) recycle all HCA waste;
(b) ensure that all HCA waste is classified and disposed of as waste in terms of the following legislation:
(i) The Waste Classification and Management Regulations, 2013, published as Government Notice No. R. 634 of 23 August 2013; and
(ii) the National Norms and Standards for the Assessment of Waste for Landfill Disposal, published as Government Notice No. R. 635 of 23 August 2013; and
(c) ensure that all collectable HCA waste is placed in containers that prevent the likelihood of exposure during handling;
(d) ensure that all vehicles, reusable containers and covers, which have been in contact with HCA waste, are cleaned and decontaminated after use in such a way that the vehicles, containers or covers do not cause a hazard inside or outside the premises concerned;
(e) ensure that all employees occupied in the collection, transport and disposal of HCA waste, who may be exposed to that waste, are provided with suitable personal protective equipment; and
(f) ensure that if the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor must also comply with the provisions of these regulations.

16. Offences and Penalties Any person who contravenes or fails to comply with any provision of regulation 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,14, 14A, 14B, 14C or 14D shall be guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R500 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

17. Repeal of Regulations (1) The Regulations for Hazardous Chemical Substances, 1995, published as Government Notice No. R. 1179 of 25 August 1995, are hereby repealed.

18. Short Title and Commencement (1) These regulations shall be called the Regulations for Hazardous Chemical Agents, 2020.

(2) Regulations 13(d), 14, 14A, 14B, 14C, 14D; Annexure 1, Tables 1, 2, 3, 4 and 5; and Annexure 2, Tables 1, 2, 3 and 4 shall come into effect 18 months after the promulgation of these regulations.

ANNEXURE 1

[Annexure 1 tables 1 to 5 shall come into effect on 29 September 2023 as per Regulation 18(2)]

Table 1: GHS HAZARD CLASSES – PHYSICAL HAZARDS

HAZARD CLASSES	CATEGORIES/DIVISIONS/TYPES					
Flammable gases	Cat 1A & B	Cat 2				
Aerosols, flammable and non-flammable	Cat 1	Cat 2				
Oxidising gases	Cat 1					
Gases under pressure						

Compressed gas	Cat 1					
Liquefied gas	Cat 1					
Refrigerated liquefied gas	Cat 1					
Dissolved gas	Cat 1					
Flammable liquids	Cat 1	Cat 2	Cat 3			
Flammable solids	Cat 1	Cat 2				
Self-reactive substances and mixtures	Type A	Type B	Type C	Type D	Type E	Type F
Pyrophoric liquids	Cat 1					
Pyrophoric solids	Cat 1					
Self-heating substances and mixtures,	Cat 1	Cat 2				
Substance and mixtures which, in contact with water, emit flammable gases	Cat 1	Cat 2	Cat 3			
Oxidising liquids	Cat 1	Cat 2	Cat 3			
Oxidising solids	Cat 1	Cat 2	Cat 3			
Organic peroxides	Type A	Type B	Type C	Type D	Type E	Type F
Corrosive to metals	Cat 1					

Table 2: GHS HAZARD CLASSES – HEALTH HAZARDS

HAZARD CLASSES	**CATEGORIES**			
Acute toxicity				
Oral	Cat 1	Cat 2	Cat 3	Cat 4
Dermal	Cat 1	Cat 2	Cat 3	Cat 4
Inhalation	Cat 1	Cat 2	Cat 3	Cat 4
Skin corrosion/irritation	Cat 1, 1A, B & Ca	Cat 2		
Serious eye damage/eye irritation	Cat 1	Cat 2/ 2A		
Respiratory sensitizer	Cat 1	Cat 1A[a]	Cat 1B[a]	
Skin sensitizer	Cat 1	Cat 1A[a]	Cat 1B[a]	
Germ cell mutagenicity	Cat 1, 1A & B	Cat 2		
Carcinogenicity	Cat 1, 1A & B	Cat 2		
Reproductive toxicity	Cat 1A & B	Cat 2	Lactation	
Specific target organ toxicity - single exposure	Cat 1	Cat 2	Cat 3	
Specific target organ toxicity - repeated exposure	Cat 1	Cat 2		
Aspiration hazard	Cat 1	Cat 2		

[a] sub-categories may be applied where data are sufficient and where required by a competent authority.

Table 3: GHS HAZARD CLASSES – ENVIRONMENTAL HAZARDS*

HAZARD CLASSES	**CATEGORIES**	
Hazardous to the aquatic environment short-term (Acute)	Acute 1	
Hazardous to the aquatic environment long-term (Chronic)	Chronic 1	Chronic 2
Hazard to the ozone layer	Cat 1	

* the hazard classes and categories provided in Table 3 for environmental hazards are intended as references and a guideline for the classification of chemicals.
For Annexure 1, Table 1 and 2, the classes and categories provided are based on GHS, Rev. 8, 2019, but they will be adjusted with changes to the GHS, as may be updated from time to time.

Table 4: IDENTITY OF INGREDIENTS TO BE DISCLOSED

HAZARD CLASSES	**CATEGORIES**			
Acute toxicity				
Oral	Cat 1	Cat 2	Cat 3	Cat 4
Dermal	Cat 1	Cat 2	Cat 3	Cat 4
Inhalation	Cat 1	Cat 2	Cat 3	Cat 4

Respiratory or skin sensitisation	Cat 1			
Germ cell mutagenicity	Cat 1A & B	Cat 2		
Carcinogenicity	Cat 1A & B	Cat 2		
Reproductive toxicity	Cat 1A & B	Cat 2	Lactation	
Specific target organ toxicity - single exposure	Cat 1	Cat 2	Cat 3	
Specific target organ toxicity - repeated exposure	Cat 1	Cat 2		
Aspiration hazard	Cat 1			
Skin corrosion or irritation	Cat 1A, B & C	Cat 2		
Serious eye damage or eye irritation	Cat 1	Cat 2A		

Table 5: GENERIC NAMES USED TO DISCLOSE IDENTITY OF INGREDIENTS

HAZARD CLASSES	**CATEGORIES**			
Acute toxicity				
Oral				Cat 4
Dermal				Cat 4
Inhalation				Cat 4
Aspiration hazard	Cat 1			
Serious eye damage or eye irritation		Cat 2A		
Skin corrosion or irritation		Cat 2		
Specific target organ toxicity - single exposure			Cat 3	

ANNEXURE 2

[Annexure 2 tables 1 to 4 shall come into effect on 29 September 2023 as per Regulation 18(2)]

Table 1: PROHIBITED HAZARDOUS CHEMICAL AGENTS

HAZARDOUS CHEMICAL AGENT	**CAS NUMBER**
4-AMINOPHENYL and its salts	92-67-1
BENZIDINE and its salts	92-87-5
2-NAPHTYLAMINE and its salts	91-59-8
4-NITROPHENYL	92-93-3
POLYCHLORINATED BIPHENYLS (PCB), except MONO- and DICHLORINATED BIPHENYLS	1336-36-3
POLYCHLORINATED TERPHENYLS (PCT)	61788-33-8
PREPARATIONS with a PCB or PCT content higher than 0,01% by weight	

Table 2: OCCUPATIONAL EXPOSURE LIMITS – MAXIMUM LIMITS FOR HAZARDOUS CHEMICAL AGENTS

AGENT	**CAS NUMBER**	**FORMULA**	**RHCA - OEL ppm**	**RHCA - OEL mg/m3**	**RHCA - STEL/C ppm**	**RHCA - STEL/C mg/m3**	**NOTATIONS**
A							
Acrylamide	79-06-1	CH_2=CHCONH$_2$	-	0,06(IFV)	-	-	CARC, SKIN
Acrylonitrile	107-13-1	CH_2=CHCN	4	-	-	-	SKIN
Arsenic and compounds, except arsine [as As]	7440-38-2	As	-	0,02	-	-	CARC
Asbestos, all forms (see Asbestos Abatement Regulations)	1332-21-4	-	-	-	-	-	CARC
B							
Benzene	71-43-2	C_6H_6	1	-	5	-	CARC, SKIN
Bis(chloromethyl) ether [BCME]	542-88-1	$(CH_2Cl)_2O$	0,002	-	-	-	CARC
1,3-Butadiene [buta-1,3-diene]	106-99-0	$CH_2=(CH)_2=CH_2$	4	-	-	-	CARC
2-Butoxyethanol [EGBE]	111-76-2	-	40	-	-	-	

C							
Cadmium and compounds [as Cd]	7440-43-9 (metal)	Cd (metal)					CARC (cadmium metal, cadmium chloride, fluoride and sulphate)
Total particulate			-	0,004(R)	-	--	
			-	0,02	-	--	
Carbon disulphide	75-15-0	CS_2	2	-	-	--	SKIN
Chromium, and inorganic compounds	7440-47-3						
Metallic chromium		Cr(0)	-	1(I)	-	-	
Trivalent chromium compounds: water-soluble compounds		Cr(III)	-	0,006(I)	-	-	CARC, RSEN
Hexavalent chromium compounds: water-soluble compounds		Cr(VI)	-	0,0004(I)	-	0.001(I)	CARC, RSEN, SKIN
Chromyl chloride	14977-61-8	Cr(VI)	0,0002(IFV)	-	0,0005(IFV)	-	CARC, RSEN, SKIN
Chromite ore processing		See hexavalent and trivalent chromium compounds					
D							
1,2-Dibromoethane	106-93-4	$BrCH_2CH_2Br$	0,5	-	-	-	CARC, SKIN
Dichloromethane	75-09-2	CH_2Cl_2	100	-	-	-	SKIN, CARC
2,2'-Dichloro-4,4'-methylene dianiline [MbOCA]	101-14-4	$CH_2(C_6H_3ClNH_2)_2$	0,02	-	-	-	CARC, SKIN
E							
2-Ethoxyethanol [EGEE], [ethylene glycol monoethyl ether]	110-80-5	$CH_3CH_2OCH_2CH_2OH$	10	-	-	-	SKIN
2-Ethoxyethyl acetate [EGEEA], [ethylene glycol monoethyl ether acetate]	111-15-9	$C_2H_5OCH_2CH_2OOCCH_3$	10	-	-	-	SKIN
Ethylene oxide	75-21-8	CH_2CH_2O	2	-	-	-	CARC
F							
Formaldehyde	50-00-0	HCHO	0,2	-	0,6	-	CARC, DSEN, RSEN
G							
Grain dust (oat, wheat, barley, maize, rye)	-	-	-	8	-	-	RSEN
H							
Hydrogen cyanide [as CN]	74-90-8	HCN	-	-	9,4	-	SKIN
L							
Lead and compounds (see Lead Regulations)		Pb	See Lead Regulations				CARC (lead compounds, inorganic)
Tetraethyl lead [as Pb]	78-00-2		See Lead Regulations				SKIN
Tetramethyl lead [as Pb]	75-74-1		See Lead Regulations				SKIN
N							
Nickel and its inorganic compounds [as Ni]	7440-02-0						
Soluble inorganic compounds (NOS)				0,1(I)			CARC
				0,02(R)			CARC
Insoluble inorganic compounds (NOS)				0,1(I)			CARC
				0,02(R)			CARC
R							
Rubber fume	-	-	-	0,4	-	-	CARC
S							

*Silica, crystalline							
Cristobalite	14464-46-1	SiO	-	0,1(R)	-	-	CARC
Quartz	14808-60-7	SiO_2	-	0,1(R)	-	-	CARC
Tridymite	15468-32-3	SiO_2	-	0,1(R)	-	-	
Tripoli	1317-95-9	SiO_2	-	0,1(R)	-	-	
Styrene, monomer	100-42-5	$C_6H_5CH=CH_2$	40	-	80	-	CARC
T							
Talc (containing asbestos fibres)	14807-96-6	$Mg_3Si_4O_{10}(OH)_2$	See Asbestos Abatement Regulations				CARC
1,1,1-Trichloroethane	71-55-6	CH_3CCl_3	700	-	900	-	CARC, SKIN
Trichloroethylene	79-01-6	$CCl_2=CHCl$	20	-	50	-	
V							
Vinyl chloride	75-01-4	$H_2C=CHCl$	2	-	-	-	CARC
W							
Wood dust species: oak, beech, birch, mahogany, teak and walnut	-	-	-	2(I)	-	-	CARC, SEN

Abbreviations:
mg/m³: milligrams per cubic meter
OEL-ML: occupational exposure limit – maximum limit
OEL-RL: occupational exposure limit – restricted limit
ppm: parts per million
RHCA: Regulations for Hazardous Chemical Agents
STEL/C: short-term exposure limit, ceiling limit

Notations:
CARC: denotes carcinogenicity, which is based on GHS categorisation, including category 1A and 1B;
DSEN: dermal sensitisation, potential to produce dermal sensitisation;
E: the value is for particulate matter containing no asbestos and ≤ 1% crystalline silica;
F: respirable fibres: length > 5 µm; aspect ratio ≥ 3:1 as determined by the membrane filter method at 400-450X magnification (4 mm objective), using phase-contrast illumination;
H: aerosol only;
I: inhalable fraction;
IFV: inhalable fraction and vapour;
Inhalable particulate matter (IPM): for those materials that are hazardous when deposited anywhere in the respiratory tract;
R: respirable fraction;
RSEN: respiratory sensitisation, potential to produce respiratory sensitisation;
SKIN: danger of cutaneous absorption – refers to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes, and the eyes by contact with vapours, liquids and solids; overexposure may also occur following dermal contact with liquids and aerosols, even when airborne exposures are at or below the OEL;
T: thoracic fraction; and
V: vapour fraction.

RSEN and DSEN do not imply that sensitisation is the critical effect on which the OEL is based, nor do they imply that this effect is the sole basis for the agent's OEL.

Note:
*All industries handling, manufacturing and producing silica dust are required to submit biannual reports that include the following:
- number of samples taken and analysed;
- composition of dust;
- concentration of the constituents; and
- whether the employer is complying with the OEL, and if not, what steps are implemented to comply with the exposure limit.

Table 3: OCCUPATIONAL EXPOSURE LIMITS - RESTRICTED LIMITS FOR HAZARDOUS CHEMICAL AGENTS

AGENT	CAS NUMBER	FORMULA	OEL eight-hour TWA	OEL eight-hour TWA	OEL-STEL/C	OEL-STEL/C	NOTATIONS
			ppm	mg/m³	ppm	mg/m³	
A							
Acetaldehyde	75-07-0	CH_3CHO	-	-	50	-	CARC
Acetic acid	64-19-7	CH_3COOH	20	-	30	-	
Acetic anhydride	108-24-7	$(CH_3CO)_2O$	2	-	6	-	
Acetone	67-64-1	$(CH_3)_2CO$	500	-	1000	-	
Acetonitrile	75-05-8	CH_3CN	40	-	-	-	SKIN
Acetylsalicylic acid [aspirin]	50-78-2	$CH_3COOC_6H_4COOH$	-	10	-	-	
Acrolein [Acrylaldehyde]	107-02-8	$CH_2=CHCHO$	-	-	0,2	-	SKIN
Acrylic acid	79-10-7	$CH_2=CHCOOH$	4	-	-	-	SKIN
Aldrin	309-00-2	$C_{12}H_8Cl_6$	-	0,1(IFV)	-	-	SKIN

Allyl alcohol	107-18-6	CH_2=$CHCH_2OH$	-	1	-	-	SKIN
Allyl chloride	107-05-1	CH_2=$CHCH_2Cl$	2	-	4	-	SKIN
Allyl glycidyl ether [AGE]	106-92-3	$C_6H_{10}O_2$	2	-	-	-	
Aluminium metal and insoluble compounds [as Al]	7429-90-5 (metal)	Al (metal)	-	2 [R]	-	-	
Aminodimethylbenzene	95-64-7				See xylidine		
2-Aminoethanol	141-43-5	$NH_2CH_2CH_2OH$			See ethanolamine		
Ammonia, anhydrous	7664-41-7	NH_3	50	-	70	-	
Ammonium chloride, fume	12125-02-9	NH_4Cl	-	10	-	20	
Ammonium sulphamate	7773-06-0	$NH_2SO_3NH_4$	-	10	-	-	
Aniline	62-53-3	$C_6H_5NH_2$	4	-	-	-	SKIN
Anisidines, o- and p-isomers	90-04-0, 104-94-9	$NH_2C_6H_4OCH_3$	-	1	-	-	CARC, SKIN
Antimony and compounds [as Sb], except antimony trisulphide, antimony trioxide and antimony	7440-36-0	Sb	-	1	-	-	CARC

hydride							
Antimony hydride	7803-52-3				See stibine		
Arsine	7784-42-1	AsH_3	0,01	-	-	-	
Asphalt, petroleum fumes	8052-42-4	-	-	1 [3]	-	-	CARC
Atrazine	1912-24-9	$C_8H_{14}ClN_5$	-	4	-	-	
Azinphos-methyl	86-50-0	$C_{10}H_{12}O_3PS_2N_3$	-	0,4 [IFV]	-	-	DSEN, SKIN
B							
Barium and soluble compounds [as Ba]	7440-39-3	-	-	1	-	-	
Barium sulphate	7727-43-7	$BaSO_4$	-	10 [I, E]	-	-	
Benomyl	17804-35-2	$C_{14}H_{18}N_4O_3$	-	2 [3]	-	-	DSEN
Benzene-1,2,4,-tricarboxylic acid 1,2-anhydride	552-30-7	$C_9H_4O_5$	-	0,001 [IFV]	-	0,004 [IFV]	DSEN, RSEN, SKIN
p-Benzoquinone	106-51-4	$C_6H_4O_2$	0,2	-	-	-	
Benzoyl peroxide	94-36-0	$(C_6H_5CO)_2O_2$	-	10	-	-	
Benzyl chloride	100-44-7	$C_6H_5CH_2Cl$	2	-	-	-	CARC
Beryllium and compounds [as Be]	7440-41-7	Be	-	0,0001 [I]	-	-	DSEN, RSEN, SKIN
Biphenyl	92-52-4	$C_6H_5C_6H_5$	0,4	-	-	-	
Bismuth telluride [as Bi_2Te_3]							
Undoped	1304-82-1	Bi_2Te_3	-	10	-	-	
Selenium-doped	-		-	10	-	-	
Borates, tetra, sodium salts							
Anhydrous	1330-43-4	$Na_2B_4O_7$	-	4	-	12	
Decahydrate	1303-96-4	$Na_2B_4O_7.10H_2O$	-	4	-	12	
Pentahydrate	12179-04-3	$Na_2B_4O_7.5H_2O$	-	4	-	12	
Boron oxide	1303-86-2	B_2O_3	-	10	-	-	
Boron tribromide	10294-33-4	BBr_3	-	-	1,4	-	
Boron trifluoride	7637-07-2	BF_3	-	-	1,4	-	
Bromacil	314-40-9	$C_9H_{13}BrN_2O_2$	-	10	-	-	
Bromine	7726-95-6	Br_2	0,2	-	0,4	-	
Bromine pentafluoride	7789-30-2	BrF_5	0,2	-	-	-	
Bromoethane	74-96-4	CH_3CH_2Br	10	-	-	-	SKIN
Bromoethylene	593-60-2	CH_2=$CHBr$			See vinyl bromide		
Bromoform	75-25-2	$CHBr_3$	1	-	-	-	
Bromomethane	74-83-9	CH_3Br			See methyl bromide		
n-Butane	106-97-8	$CH_3CH_2CH_2CH_3$	-	-	2000	-	
2-Butanol [sec-butyl alcohol]	78-92-2	$CH_3CH(OH)CH_2CH_3$	200	-	-	-	
tert-Butanol [tert-butyl alcohol]	75-65-0	$(CH_3)_3COH$	200	-	-	-	
trans-But-2-enal					See crotonaldehyde		SKIN
n-Butyl acetate	123-86-4	$CH_3COO(CH_2)_3CH_3$	100	-	300	-	

sec-Butyl acetate	105-46-4	$C_6H_{12}O_2$	100	-	300	-	
tert-Butyl acetate	540-88-5	$CH_3COOC(CH_3)_3$	100	-	300	-	
Butyl acrylate	141-32-2	CH_2=$CHCOOC_4H_9$	4	-	-	-	DSEN
n-Butylamine	109-73-9	$CH_3(CH_2)_3NH_2$	-	-	10	-	SKIN
n-Butyl glycidyl ether [BGE]	2426-08-6	$C_4H_9OCH_2CHCH_2O$	6	-	-	-	DSEN, SKIN
n-Butyl lactate	138-22-7	$CH_3CH(OH)COOC_4H_9$	10	-	-	-	
o-sec-Butylphenol	89-72-5	$C_2H_5(CH_3)CHC_6H_4OH$	10	-	-	-	SKIN
C							
Calcium cyanamide	156-62-7	CaNC≡N	-	1	-	-	
Calcium hydroxide	1305-62-0	$Ca(OH)_2$	-	10	-	-	
Calcium oxide	1305-78-8	CaO	-	4	-	-	
Calcium silicate, [naturally occurring as wollastonite]	1344-95-2	$CaSiO_3$	-	2[f, t]	-	-	
Calcium sulphate [including plaster of Paris and gypsum]	7778-18-9, 10034-76-1, 10101-41-4, 13397-24-5	$CaSO_4$	-	10[f]	-	-	
Camphor, synthetic	76-22-2	$C_{10}H_{16}O$	4	-	6	-	
Caprolactam	105-60-2	$NH(CH_2)_5CO$		10[IFV]			
Captafol	2425-06-1	$C_{10}H_9Cl_4NO_2S$	-	0,2[IFV]	-	-	CARC, SKIN
Captan	133-06-2	$C_9H_8Cl_3NO_2S$	-	10[f]	-	-	DSEN, SKIN
Carbaryl	63-25-2	$CH_3NHCOOC_{10}H_7$	-	1[IFV]	-	-	SKIN
Carbofuran	1563-66-2	$C_{12}H_{15}NO_3$	-	0,2[IFV]	-	-	
Carbon black	1333-86-4	C	-	6[f]	-	-	CARC
Carbon dioxide	124-38-9	CO_2	10000	-	60000	-	
Carbon monoxide	630-08-0	CO	50	-	-	-	
Carbon tetrabromide	558-13-4	CBr_4	0,2	-	0,6	-	
Carbon tetrachloride	56-23-5	CCl_4	10	-	20	-	CARC, SKIN
Catechol	120-80-9	$C_6H_4(OH)_2$	10	-	-	-	CARC, SKIN
Cellulose	9004-34-6	$(C_6H_{10}O_5)_n$	-	10	-	-	
Cement [Portland cement]	-	-	-	2[II, R]	-	-	
Chlordane	57-74-9	$C_{10}H_6Cl_8$	-	1[IFV]	-	-	CARC, SKIN
Chlorine	7782-50-5	Cl_2	0,2	-	0,8	-	
Chlorine dioxide	10049-04-4	ClO_2		-	0,2	-	
Chlorine trifluoride	7790-91-2	ClF_3	-	-	0,2	-	
2-Chloroacetophenone	532-27-4	$C_6H_5COCH_2Cl$	0,1	-	-	-	
Chloroacetyl chloride	79-04-9	$ClCH_2COCl$	0,1	-	0,3	-	SKIN
Chlorobenzene	108-90-7	C_6H_5Cl	20	-	-	-	SKIN
Chlorobromomethane	74-97-5	CH_2BrCl	400	-	-	-	
Chlorodifluoromethane	75-45-6	$CHClF_2$	2000	-	-	-	
Chlorodiphenyl [PCBs]			-	-	-	-	CARC, SKIN
Chlorodiphenyl (42% chlorine)	53469-21-9	$C_6H_4ClC_6H_3Cl_2$ (approx.)	-	2	-	-	CARC, SKIN
Chlorodiphenyl (54% chlorine)	11097-69-1	$C_6H_5Cl_2C_6H_2Cl_3$ (approx.)	-	1	-	-	CARC, SKIN
1-Chloro-2,3-epoxy-propane	106-89-8	C_3H_5OCl			See epichlorohydrin		
Chloroethane	75-00-3	CH_3CH_2Cl			See ethyl chloride		
2-Chloroethanol	107-07-3	CH_2ClCH_2OH			See ethylene chlorohydrin		
Chloroethylene	75-01-4	H_2C=CHCl			See vinyl chloride		
Chloroform	67-66-3	$CHCl_3$	20	-	-	-	CARC, SKIN
Chloropentafluoroethane	76-15-3	$CClF_2CF_3$	2000	-	-	-	
Chloropicrin	76-06-2	CCl_3NO_2	0,2	-	-	-	
beta-Chloroprene	126-99-8	CH_2=$CClCH$=CH_2	2	-	-	-	CARC, SKIN
alpha-Chlorotoluene	100-44-7	$C_6H_5CH_2Cl$			See benzyl chloride		
2-Chlorotoluene [o-Chlorotoluene]	95-49-8	$ClC_6H_4CH_3$	100	-	-	-	
2-Chloro-6-(trichloromethyl)pyridine	1929-82-4	ClCSH3NCCl3			See nitrapyrin		
Chlorpyrifos	2921-88-2	$C_9H_{11}Cl_3NO_3PS$		0,2[IFV]			SKIN
Chromium, metal							
Metallic chromium as Cr [0]	7440-47-3 (metal)	Cr (metal)	-	1[f]	-	-	
Coal dust:	-	-					

Anthracite			-	0,8[R]	-	-	
Bituminous or lignite			-	1,8[R]	-	-	
Coal tar pitch volatiles [as cyclohexane soluble fraction]	65996-93-2	-	-	0,4	-	-	CARC
Cobalt and cobalt inorganic compounds [as Co]	7440-48-4 (metal)	Co (metal)	-	0,04[I]	-	-	CARC, RSEN

Copper:							
Fume (copper oxide) [as Cu]	1317-38-0	CuO	-	0,4	-	-	
Dusts and mists [as Cu]	7440-50-8 (metal)	Cu (metal)	-	2	-	-	
Cotton dust, raw, untreated	-						
Cotton dust (less fly)			-	0,2[T]	-	-	
Cotton dust		-	-	2,5	-	-	
Cresols, all isomers	95-48-7, 106-44-5, 108-39-4, 1319-77-3	$CH_3C_6H_4OH$	-	40[IFV]	-	-	SKIN
Crotonaldehyde	4170-30-3	$CH_3CH=CHCHO$	-	-	0,6	-	SKIN
Cumene	98-82-8	$C_6H_5CH(CH_3)_2$	100	-	-	-	CARC, SKIN
Cyanamide	420-04-2	NH_2CN	-	4	-	-	SKIN
Cyanide salts [as CN]							
Calcium cyanide	592-01-8	$Ca(CN)_2$	-	-	-	10	SKIN
Potassium cyanide	151-50-8	KCN	-	-	-	10	SKIN
Sodium cyanide	143-33-9	NaCN	-	-	-	10	SKIN
Cyanogen	460-19-5	$(CN)_2$	-	-	10	-	
Cyanogen chloride	506-77-4	ClCN	-	-	0,6	-	
Cyclohexane	110-82-7	C_6H_{12}	200	-	-	-	
Cyclohexanol	108-93-0	$C_6H_{11}OH$	100	-	-	-	SKIN
Cyclohexanone	108-94-1	$C_6H_{10}O$	40	-	100	-	SKIN
Cyclohexene	110-83-8	C_6H_{10}	600	-	-	-	
Cyclohexylamine	108-91-8	$C_6H_{11}NH_2$	20	-	-	-	
Cyclonite [RDX]	121-82-4	$C_3H_6N_6O_6$	-	1	-	-	SKIN
Cyhexatin	13121-70-5	$(C_6H_{11})_3SnOH$	-	10	-	-	SKIN
D							
DMDT [p,p'-dimethoxydiphenyltrichloroethane]	-	-		See methoxychlor			
Diacetone alcohol	123-42-2	$CH_3COCH_2C(CH_3)_2OH$	100	-	-	-	
Diazinon	333-41-5	$C_{12}H_{21}N_2O_3PS$	-	0,02[IFV]	-	-	CARC, SKIN
Diazomethane	334-88-3	CH_2N_2	0,4	-	-	-	
Dibenzoyl peroxide	94-36-0	$(C_6H_5CO)_2O_2$			See benzoyl peroxide		
Diborane	19287-45-7	B_2H_6	0,2	-	-	-	
Diboron trioxide	1303-86-2	B_2O_3			See boron oxide		
Dibromodifluoromethane [difluorodibromomethane]	75-61-6	CBr_2F_2	200	-	-	-	
Dibutyl phenyl phosphate	2528-36-1	$C_{14}H_{23}O_4P$	0,6	-	-	-	SKIN
Dibutyl phosphate	107-66-4	$(C_4H_9O)_2(OH)PO$	-	10[IFV]	-	-	SKIN
Dibutyl phthalate	84-74-2	$C_6H_4(CO_2C_4H_9)_2$	-	10	-	-	
Dichloroacetylene	7572-29-4	ClC≡CCl	-	-	0,2	-	
Diesel particulate matter (DPM)			0,16				
1,2-Dichlorobenzene [o-Dichlorobenzene]	95-50-1	$C_6H_4Cl_2$	50	-	100	-	SKIN
1,4-Dichlorobenzene [p-Dichlorobenzene]	106-46-7	$C_6H_4Cl_2$	20	-	-	-	CARC
Dichlorodifluoromethane [difluorodichloromethane]	75-71-8	CCl_2F_2	2000	-	-	-	
1,3-Dichloro-5,5-dimethyl hydantoin	118-52-5	$C_5H_6Cl_2N_2O_2$	-	0,4	-	0,8	
1,1-Dichloroethane	75-34-3	CH_3CHCl_2	200	-	-	-	SKIN
1,2-Dichloroethane	107-06-2	$ClCH_2CH_2Cl$	20	-	-	-	CARC, SKIN
1,1-Dichloroethylene	75-35-4	$CH_2=CCl_2$	-	10	-	-	

1,2 Dichloroethylene, cis and trans isomers	540-59-0	ClCH=CHCl	400	-	-	-	
Dichlorofluoromethane	75-43-4	$CHCl_2F$	20	-	-	-	
1,3-Dichloropropene (cis and trans isomers)	542-74-6		2	-	-	-	CARC, SKIN
1,3-Dichloropropene, cis and trans isomers	542-75-6	$ClHC=CHCH_2Cl$	2	-	-	-	CARC, SKIN
1,2-Dichlorotetrafluoroethane	76-14-2	$CClF_2CClF_2$	2000	-	-	-	
Dichlorvos [DDVP]	62-73-7	$(CH_3O)_2POOCH=CCl_2$	-	0,2 (IFV)	-	-	CARC, DSEN, SKIN
Dicyclopentadiene	77-73-6	$C_{10}H_{12}$	1	-	2	-	
Dicyclopentadienyl iron (as Fe)	102-54-5	$(C_5H_5)_2Fe$	-	10	-	-	
Dieldrin	60-57-1	$C_{12}H_8Cl_6O$	-	0,2 (IFV)	-	-	SKIN
Diethanolamine	111-42-2	$(CH_2CH_2OH)_2NH$	-	2 (IFV)	-	-	CARC, SKIN
Diethylamine	109-89-7	$(C_2H_5)_2NH$	10	-	30	-	SKIN
2-Diethylaminoethanol	100-37-8	$(C_2H_5)_2NCH_2CH_2OH$	4	-	-	-	SKIN
1,4-Diethylenediamine	110-85-0	$C_6H_{10}N_2$			See piperazine		
Diethylenetriamine [DETA]	111-40-0	$(NH_2CH_2CH_2)_2NH$	2	-	-	-	SKIN
Di-(2-ethylhexyl) phthalate [DEHP]	117-81-7	$C_6H_4(COOC_8H_{17})_2$	-	10	-	-	CARC
Diethyl ketone	96-22-0	$CH_3CH_2COCH_2CH_3$	400	-	600	-	
Diethyl phthalate	84-66-2	$C_6H_4(COOC_2H_5)_2$	-	10	-	-	
Diglycidyl ether [DGE]	2238-07-5	$(OCH_2CHCH_2)_2O$	0,02	-	-	-	
o-Dihydroxybenzene		$C_6H_4(OH)_2$			See catechol		
m-Dihydroxybenzene	108-46-3	$C_6H_4(OH)_2$			See resorcinol		
p-Dihydroxybenzene		$C_6H_4(OH)_2$			See hydroquinone		
Diisobutyl ketone	108-83-8	$[(CH_3)_2CHCH_2]_2CO$	50	-	-	-	
Diisopropylamine	108-18-9	$(CH_3)_2CHNHCH(CH_3)_2$	10	-	-	-	SKIN
N,N-Dimethylacetamide	127-19-5	$CH_3CON(CH_3)_2$	20	-	-	-	SKIN
Dimethylamine	124-40-3	$(CH_3)_2NH$	10	-	30	-	DSEN
N,N-Dimethylaniline	121-69-7	$C_6H_5N(CH_3)_2$	10	-	20	-	SKIN
1,3-Dimethylbutyl acetate	108-84-9	$C_8H_{16}O_2$	100	-	-	-	
N,N-Dimethylformamide	68-12-2	$HCON(CH_3)_2$	20	-	-	-	CARC, SKIN
Dimethyl phthalate	131-11-3	$C_6H_4(COOCH_3)_2$	-	10	-	-	
Dimethyl sulphate	77-78-1	$(CH_3)_2SO_4$	0,2	-	-	-	CARC, SKIN
Dinitolmide	148-01-6	$C_8H_7N_3O_5$	-	2	-	-	
Dinitrobenzene, all isomers	25154-54-5	$C_6H_4(NO_2)_2$	0,3	-	-	-	SKIN
Dinitro-o-cresol	534-52-1	$CH_3C_6H_3(OH)(NO_2)_2$	-	0,4	-	-	SKIN
Dinitrotoluene	25321-14-6	$CH_3C_6H_3(NO_2)_2$	-	0,4	-	-	CARC, SKIN
1,4-Dioxane	123-91-1	$OCH_2CH_2OCH_2CH_2$	40	-	-	-	CARC, SKIN
Dioxathion	78-34-2	$C_{12}H_{26}O_6P_2S_2$	-	0,2 (IFV)	-	-	SKIN
Diphenylamine	122-39-4	$(C_6H_5)_2NH$	-	10	-	-	
Diquat [diquat]	85-00-7	$C_{12}H_{12}Br_2N_2$					SKIN
	2764-72-9	-	-	1 (I)	-	-	
	6385-62-2	-	-	0,2 (R)	-	-	
Disulfoton	298-04-4	$C_8H_{19}O_2PS_3$	-	0,1 (IFV)	-	-	SKIN
6,6-Di-tert-butyl-4,4'-thiodi-m-cresol	96-69-5	$C_{22}H_{30}O_2S$	-	-	-	-	
Diuron	330-54-1	$C_9H_{10}Cl_2N_2O$	-	10	-	-	
Divinyl benzene [DVB]	1321-74-0	$C_6H_4(HC=CH_2)_2$	20	-	-	-	
E							
Endosulfan	115-29-7	$C_9H_6Cl_6O_3S$	-	0,2 (IFV)	-	-	SKIN
Endrin	72-20-8	$C_{12}H_8Cl_6O$	-	0,2	-	-	SKIN
Enflurane	13838-16-9	$CHFClCF_2OCHF_2$	150	-	-	-	
Epichlorohydrin	106-89-8	C_3H_5OCl	-	1	-	-	CARC, SKIN
1,2-Epoxy-4-epoxyethyl-cyclo-hexane	106-87-6	$C_8H_{12}O_2$			See 4-vinyl cyclohexene		

					dioxide		
2,3-Epoxypropyl isopropyl ether	4016-14-2	$C_6H_{12}O_2$			See isopropyl glycidyl ether [IGE]		
Ethanethiol	75-08-1	CH_3CH_2SH			See ethyl mercaptan		
Ethanol [ethyl alcohol]	64-17-5	CH_3CH_2OH	-	-	2000	-	
Ethanolamine	141-43-5	$NH_2CH_2CH_2OH$	6	-	12	-	
Ethyl acetate	141-78-6	$CH_3COOC_2H_5$	800	-	-	-	
Ethyl acrylate	140-88-5	$CH_2=CHCOOC_2H_5$	10	-	30	-	CARC
Ethylamine	75-04-7	$CH_3CH_2NH_2$	10	-	30	-	SKIN
Ethyl amyl ketone	541-85-5	$C_8H_{16}O$	20	-	-	-	
Ethyl benzene	100-41-4	$CH_3CH_2C_6H_5$	40	-	-	-	CARC, SKIN
Ethyl bromide	74-96-4	CH_3CH_2Br			See bromoethane		
Ethyl butyl ketone	106-35-4	$CH_3CH_2CO(CH_2)_3CH_3$	100	-	150	-	SKIN
Ethyl chloride	75-00-3	CH_3CH_2Cl	200	-	-	-	SKIN
Ethylene chlorohydrin	107-07-3	CH_2ClCH_2OH	-	-	2	-	SKIN
Ethylenediamine	107-15-3	$NH_2CH_2CH_2NH_2$	20	-	-	-	
Ethylene dibromide	106-93-4	$BrCH_2CH_2Br$			See 1,2-dibromoethane		
Ethylene dichloride	107-06-2	$ClCH_2CH_2Cl$			See 1,2-dichloroethane		
Ethylene glycol	107-21-1		50[V]	-	100[V]	20[W]	SKIN
Ethylene glycol dinitrate [EGDN]	628-96-6	$O_2NOCH_2CH_2ONO_2$	0,1	-	-	-	SKIN
Ethylene glycol methyl ether	109-86-4	$CH_3OCH_2CH_2OH$	0,2	-	-	-	
Ethylene glycol monomethyl ether acetate [EGMEA]	110-49-6	$CH_3COOCH_2CH_2OCH_3$	0,2	-	-	-	SKIN

Table 3: OCCUPATIONAL EXPOSURE LIMITS - RESTRICIED LIMITS FOR HAZARDOUS CHEMICAL AGENTS... CONTINUED

AGENT	CAS NUMBER	FORMULA	OEL eight-hour TWA	OEL eight-hour TWA	OEL-STEL/C	OEL-STEL/C	NOTATIONS
Ethyleneimine	151-56-4	CH_2NHCH_2	0,1	-	0,2	-	CARC, SKIN
Ethyl ether [diethyl ether]	60-29-7	$C_2H_5OC_2H_5$	800	-	1000	-	
Ethyl formate	109-94-4	CH_3CH_2OCHO	-	-	200	-	
Ethylidene dichloride	75-34-3	CH_3CHCl_2	-	-	-	-	
Ethyl mercaptan	75-08-1	CH_3CH_2SH	1	-	-	-	
4-Ethylmorpholine [N-ethylmorpholine]	100-74-3	$C_6H_5ONCH_2CH_3$	10	-	-	-	SKIN
Ethyl silicate	78-10-4	$Si(OC_2H_5)_4$	20	-	-	-	
F							
Fenchlorphos	299-84-3	$(CH_3O)_2PSOC_6H_2Cl_3$	-	10	-	-	
Ferbam	14484-64-1	$[(CH_3)_2NCSS]_3Fe$	-	10[I]	-	-	
Ferrocene	102-54-5	$(C_5H_5)_2Fe$			See dicyclopentadienyl iron		
Fluorides [inorganic as F]	16984-48-8	F	-	5	-	-	
Fluorine	7782-41-4	F_2	0,2	-	1	-	
Formamide	75-12-7	$HCONH^2$	20	-	-	-	SKIN
Formic acid	64-18-6	HCOOH	10	-	20	-	
Furfural [2-furaldehyde]	98-0101	$C_5H_4O_2$	0,4	-	-	-	SKIN
Furfuryl alcohol	98-00-0	$OCH=CHCH=CCH_2OH$	0,4	-	30	-	SKIN
G							
Germanium tetrahydride [germane]	7782-65-2	GeH_4	0,4	-	-	-	
Glutaraldehyde	111-30-8	$OCH(CH_2)_3CHO$	-	-	0,1	-	DSEN, RSEN
Graphite, natural and synthetic	7782-42-5	C	-	4[R]	-	-	
Guthion	86-50-0	$C_{10}H_{12}O_3PS_2N_3$		0,2	0,6	-	SKIN
H							
Hafnium	7440-58-6	Hf	-	1	-	-	
Halothane	151-67-7	$CF_3CHClBr$	100	-	-	-	

Heptachlor and heptachlor epoxide	76-44-8, 1024-57-3	$C_{10}H_5Cl_7$	-	0,1	-	-	CARC, SKIN
Heptane, all isomers	142-82-5, 590-35-2, 565-59-3, 108-08-7, 591-76-4, 589-34-4	$CH_3(CH_2)_5CH_3$ (for n-heptane)	800	-	1000	-	
Heptan-3-one	106-35-4	$CH_3CH_2CO(CH_2)_3CH_3$			See ethyl butyl ketone		
Hexachloroethane vapour	67-72-1		2	-	-	-	CARC, SKIN
Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4	$C_3H_6N_6O_6$	-	1,5	-	3	SKIN
Hexamethylene diisocyanate [HDI]	822-06-0	$OCN(CH_2)_6NCO$	0,01	-	-	-	
Hexane, all isomers except n-hexane	75-83-2, 79-29-8, 96-14-0, 107-83-5	C_6H_{14}	1000	-	2000	-	
n-Hexane	110-54-3	$CH_3(CH_2)_4CH_3$	100	-	-	-	SKIN
2-Hexanone [hexan-2-one]	591-78-6	$CH_3CO(CH_2)_3CH_3$			See methyl-n-butyl ketone		
Hexone	108-10-1	$CH_3COCH_2CH(CH_3)_2$			See methyl isobutyl ketone [MIBK]		
sec-Hexyl acetate	108-84-9	$C_8H_{16}O_2$			See 1,3-dimethylbutyl acetate		
Hexylene glycol	107-41-5	$C_6H_{14}O_2$	50[V]	-	100[V]	20[II, VI]-	
Hydrazine [diamine]	302-01-2	H_2NNH_2	0,02	-	-	-	CARC, SKIN
Hydrogen bromide	10035-10-6	HBr	-	-	4	-	
Hydrogen chloride (gas and aerosol mists)	7647-01-0	HCl	-	-	4	-	
Hydrogen fluoride [as F]	7664-39-3	HF	1	-	4	-	CARC, SKIN
Hydrogen peroxide	7722-84-1	H_2O_2	2	-	-	-	
Hydrogen selenide [as Se]	7783-07-5	H_2Se	0,1	-	-	-	
Hydrogen sulphide	7783-06-4	H_2S	2	-	10	-	
Hydroquinone	123-31-9	$C_6H_4(OH)_2$	-	2	-	-	DSEN
2-Hydroxypropyl acrylate [Propylene glycol monoacrylate]	999-61-1	$C_6H_{10}O_3$	1	-	-	-	DSEN, SKIN
I							
Indene [indonaphthene]	95-13-6	C_9H_8	10	-	-	-	
Indium and compounds [as In]	7440-74-6	In	-	0.2	-	-	CARC (indium phosphide)
Iodine	7553-56-2	I_2	0,02[IFV]	-	0,2[V]	-	
Iodoform	75-47-8	CHI_3	1,2	-	-	-	
Iodomethane	74-88-4	CH_3I	4	-	-	-	SKIN
Iron oxide fume [as Fe]	1309-37-1	Fe_2O_3	-	10[R]	-	-	
Iron pentacarbonyl [as Fe]	13463-40-6	$Fe(CO)_5$	0,2	-	0,4	-	
Iron salts [as Fe]	-	-	-	2	-	-	
Isoamyl alcohol	123-51-3	$(CH_3)_2CHCH_2CH_2OH$	200	-	250	-	
Isobutanol [isobutyl alcohol]	78-83-1	$(CH_3)_2CHCH_2OH$	100	-	-	-	
Isooctyl alcohol	26952-21-6	$C_8H_{17}OH$	100	-	-	-	SKIN
Isophorone	78-59-1	$C_9H_{14}O$	-	-	10	-	
Isophorone diisocyanate [IPDI]	4098-71-9	$C_{12}H_{18}N_2O_2$	0,01	-	-	-	
Isopropyl acetate	108-21-4	$CH_3COOCH(CH_3)_2$	200	-	400	-	
Isopropyl benzene	98-82-8	$C_6H_5CH(CH_3)_2$			See cumene		
Isopropyl ether	108-20-3	$(CH_3)_2CHOCH(CH_3)_2$	500	-	620	-	
Isopropyl glycidyl ether [IGE]	4016-14-2	$C_6H_{12}O_2$	100	-	150	-	
K							
Ketene	463-51-4	$CH_2=CO$	1	-	3	-	
L							

Liquefied petroleum gas [LPG]	68476-85-7	Mixture: C_3H_8; C_3H_6; C_4H_{10}; C_4H_8	-	Asphyxiant	-	-	
Lithium hydride	7580-67-8	LiH	-	-	-	0,1	
M							
Magnesium oxide [as MgO]	1309-48-4	MgO	-	10	-	-	
Malathion	121-75-5	$C_{10}H_{19}O_6PS_2$	-	2 (IFV)	-	-	CARC, SKIN
Maleic anhydride	108-31-6	$C_4H_2O_3$	-	0,02 (IFV)	-	-	DSEN, RSEN
Manganese	7439-96-5	Mn					
inorganic compounds [as Mn]	-	-	-	0,2	-	-	
elemental	-	-	-	0,04 (R)	-	-	
Manganese cyclopentadienyl tricarbonyl [as Mn]	12079-65-1	$C_8H_5Mn(CO)_3$	-	0,2	-	-	SKIN
Mercaptoacetic acid	68-11-1	$HSCH_2COOH$	2	-	-	-	SKIN
Mercury and divalent inorganic mercury compounds, including mercuric oxide and mercuric chloride [as Hg]	7439-97-6	Hg					
Alkyl compounds			-	0,02	-	0,06	CARC, SKIN
Aryl compounds			-	0,2	-	-	SKIN
Elemental and inorganic forms			-	0,05	-	-	SKIN
Mesityl oxide	141-79-7	$(CH_3)_2C{=}CHCOCH_3$	30	-	50	-	
Methacrylic acid	79-41-4	$CH_2{=}C(CH_3)COOH$	40	-	-	-	
Methanol [methyl alcohol]	67-56-1	CH_3OH	400	-	500	-	SKIN
Methomyl	16752-77-5	$C_5H_{10}N_2O_2S$	-	0,4 (IFV)	-	-	SKIN
Methoxychlor	72-43-5	$(C_6H_4OCH_3)_2CHCCl_3$	-	10	-	-	
1-Methoxypropan-2-ol	107-98-2	$CH_3CHOHCH_2OCH_3$			See propylene glycol monomethyl ether		
Methyl acetate	79-20-9	CH_3COOCH_3	400	-	500	-	
Methyl acrylate	96-33-3	$CH_2{=}CHCOOCH_3$	4	-	-	-	DSEN, SKIN
Methylacrylonitrile [methacrylonitrile]	126-98-7	$CH_2{=}C(CH_3)CN$	2	-	-	-	SKIN
Methylal	109-87-5	$CH_2(OCH_3)_2$	2000	-	-	-	
Methylamine	74-89-5	CH_3NH_2	10	-	30	-	
Methyl n-amyl ketone	110-43-0	$CH_3CO(CH_2)_4CH_3$	100	-	-	-	
N-Methylaniline	100-61-8	$C_6H_5NHCH_3$	1	-	-	-	SKIN
Methyl bromide	74-83-9	CH_3Br	2	-	-	-	SKIN
Methyl-n-butyl ketone	591-78-6	$CH_3CO(CH_2)_3CH_3$	10	-	20	-	SKIN
Methyl chloride	74-87-3	CH_3Cl	100	-	200	-	SKIN
Methyl chloroform	71-55-6	CH_3CCl_3			See 1,1,1-trichloroethane		
Methyl 2-cyanoacrylate	137-05-3	$CH_2{=}C(CN)COOCH_3$	0,4	-	-	-	
Methyl ethyl ketone [MEK]	78-93-3	$CH_3COC_2H_5$	400	-	600	-	SKIN
Methylcyclohexane	108-87-2	$CH_3C_6H_{11}$	800	-	-	-	
Methylcyclohexanol	25639-42-3	$CH_3C_6H_{10}OH$	100	-	-	-	
2-Methylcyclohexanone	583-60-8	$CH_3CHCO(CH_2)_3CH_2$	100	-	150	-	SKIN
Methylene bis(4-cyclohexylisocyanate)	5124-30-1	$CH_2[(C_6H_{10})NCO]_2$	0,01	-	-	-	
Methylcyclopentadienyl manganese tricarbonyl [as Mn]	12108-13-3	$CH_3C_5H_4Mn(CO)_3$	-	0,4	-	-	SKIN

4,4'-Methylenebis(2-chloroaniline) [MbOCA]	101-14-4	$CH_2(C_6H_4ClNH_2)_2$			See 2,2'-dichloro-4,4'-methylene dianiline [MbOCA]		
Methylene chloride	75-09-2				See dichloromethane		
4,4'-Methylenedianiline [MDA]	101-77-9	$CH_2(C_6H_4NH_2)_2$	0,2	-	-	-	
4,4'-Methylene-diphenyl diisocyanate [MDI]	101-68-8	$CH_2(C_6H_4NCO)_2$	0,01	-	-	-	
Methyl formate	107-31-3	$HCOOCH_3$	100	-	200	-	SKIN

Methyl formate	107-31-3	$HCOOCH_3$	100	-	200	-	SKIN
Methyl hydrazine	60-34-4	CH_3NHNH_2	0,02	-	-	-	SKIN
Methyl iodide	74-88-4	CH_3I			See iodomethane		
Methyl isoamyl ketone	110-12-3	C7H14O	40	-	100	-	SKIN
Methyl isobutyl carbinol [4-Methylpentan-2-ol]	108-11-2	C6H14O	50	-	80	-	SKIN
Methyl isobutyl ketone [MIBK]	108-10-1	$CH_3COCH_2CH(CH_3)_2$	40	-	150	-	CARC, SKIN
Methyl isocyanate [MIC]	624-83-9	CH_3NCO	0,04	-	0,12	-	DSEN, RSEN, SKIN
Methyl mercaptan	74-93-1	CH_3SH	1	-	-	-	
Methyl methacrylate	80-62-6	$CH_2=C(CH_3)COOCH_3$	100	-	200	-	DSEN
Methyl parathion	298-00-0	$C_8H_{10}NO_5PS$	-	0,04(IFV)	-	-	SKIN
Methyl propyl ketone	107-87-9	$CH_3(CH_2)_2COCH_3$	-	-	300	-	
Methyl silicate	681-84-5	$(CH_3O)_4Si$	2	-	-	-	
alpha-Methyl styrene	98-83-9	$C_6H_5C(CH_3)=CH_2$	20	-	-	-	CARC
Mevinphos	7786-34-7	$C_7H_{13}PO_6$			See phosdrin		
Mica	12001-26-2		-	6(R)	-	-	
Molybdenum compounds [as Mo]'	7439-98-7	Mo					
Soluble compounds	-	-	-	1(R)	-	-	
Metal and insoluble compounds, total particulate	-	-	-	10	-	-	
Metal and insoluble compounds	-	-	-	5(R)	-	-	
Monochloroacetic acid	79-11-8	$ClCH_2CO_2H$	1(IFV)	-	-	-	SKIN
Morpholine	110-91-8	C_4H_9NO	40	-	-	-	SKIN
N							
Naled	300-76-5	$C_4H_7Br_2Cl_2O_4P$	-	0,2(IFV)	-	-	DSEN, SKIN
Naphthalene	91-20-3	$C_{10}H_8$	20	-	-	-	CARC, SKIN
Nickel and its inorganic compounds [as Ni]	7440-02-0						
Elemental			-	3	-	-	CARC, SKIN
Nickel carbonyl [as Ni]	13463-39-3	$Ni(CO)_4$	-	-	0,1	-	CARC
Nickel, subsulphide [as Ni]	12035-72-2	Ni_3S_2	-	0,2	-	-	CARC
Nicotine	54-11-5	$C_{10}H_{14}N_2$	-	1	-	-	SKIN
Nitrapyrin	1929-82-4	$ClC_5H_3NCCl_3$	-	10(IFV)	-	20	
Nitric acid	7697-37-2	HNO_3	4	-	8	-	CARC
Nitric oxide	10102-43-9	NO			See nitrogen monoxide		
4-Nitroaniline [p-nitroaniline]	100-01-6	$NO_2C_6H_4NH_2$	-	6	-	-	SKIN
Nitrobenzene	98-95-3	$C_6H_5NO_2$	2	-	-	-	CARC, SKIN
p-Nitrochlorobenzene	100-00-5	$ClC_6H_4NO_2$	0,2	-	-	-	
Nitroethane	79-24-3	$C_2H_5NO_2$	200	-	-	-	
Nitrogen monoxide	10102-43-9	NO	50	-	-	-	
Nitrogen dioxide	10102-44-0	NO_2	0,4	-	-	-	
Nitrogen trifluoride	7783-54-2	NF_3	20	-	-	-	
Nitroglycerine [NG]	55-63-0	$CH_2NO_3CHNO_3CH_2NO_3$	0,1	-	-	-	SKIN

Nitromethane	75-52-5	CH_3NO_2	40	-	-	-	CARC
1-Nitropropane	108-03-2	$C_3H_7NO_2$	50	-	-	-	
2-Nitropropane	79-46-9	$(CH_3)_2CH(NO_2)$	20	-	-	-	CARC
Nitrotoluene, all isomers	88-72-2; 99-08-1; 99-99-0	$CH_3C_6H_4NO_2$	4	-	-	-	SKIN
Nitrous oxide	10024-97-2	N_2O	100	-	-	-	
O							
Octachloronaphthalene	2234-13-1	$C_{10}Cl_8$	-	0,2	-	0,6	SKIN
Osmium tetroxide [as Os]	20816-12-0	OsO_4	0,0004	-	0,0012	-	
Oxalic acid	144-62-7	$COOHCOOH.2H_2O$	-	2	-	4	
Ozone	10028-15-6	O_3					
Heavy work			0,1	-	-	-	
Moderate work			0,16	-	-	-	
Light work			0,2	-	-	-	

Heavy, moderate or light workloads (< 2hrs)			0,4	-	-	-	
P							
Paraffin wax fume	8002-74-2	-	-	4	-	-	
Parathion	56-38-2	$(C_2H_5O)_2PSOC_6H_4NO_2$	-	0,1 (IFV)	-	-	CARC, SKIN
Particles not otherwise specified [PNOS]	-	-					
Total particulate	-	-	-	10	-	-	
	-	-	-	5 (R)	-	-	
Pentachlorophenol	87-86-5	C_6Cl_5OH	-	1 (IFV)	-	2	CARC, SKIN
Pentaerythritol	115-77-5		-	10	-	-	
Pentane, all isomers	78-78-4; 109-66-0; 463-82-1	C_5H_{12}	2000	-	-	-	
Pentyl acetate, all isomers	628-63-7; 626-38-0;	$CH_3COO(CH_2)_4CH_3$	100	-	200	-	
	123-92-2; 625-16-1; 624-41-9; 620-11-1						
Perchloryl fluoride	7616-94-6	$ClFO_3$	6	-	12	-	
Persulphates, as persulfate		SO_5/S_2O_8	-	0,2	-	-	
Phenol	108-95-2	C_6H_5OH	10	-	-	-	SKIN
p-Phenylenediamine	106-50-3	$C_6H_4(NH_2)_2$	-	0,2	-	-	SKIN
Phenyl ether	101-84-8	$C_6H_5OC_6H_5$	2 (V)	-	4	-	
Phenyl glycidyl ether [PGE]	122-60-1	$C_6H_5OCH_2CHOCH_2$	0,2	-	-	-	CARC, DSEN, SKIN
Phenylhydrazine	100-63-0	$C_6H_5NHNH_2$	0,2	-	-	-	SKIN
Phenyl mercaptan	108-98-5	C_6H_5SH	0,2	-	-	-	SKIN
2-Phenylpropene	98-83-9	$C_6H_5C(CH_3)=CH_2$			See alpha-methyl styrene		
Phorate	298-02-2	$C_7H_{17}O_2PS_3$	-	0,1 (IFV)	-	-	SKIN
Phosdrin	7786-34-7	$C_7H_{13}PO_6$	-	0,02 (IFV)	-	-	SKIN
Phosgene	75-44-5	$COCl_2$	0,2	-	-	-	
Phosphine	7803-51-2	PH_3	0,1	-	0,3	-	
Phosphoric acid	7664-38-2	H_3PO_4	-	2	-	6	
Phosphorus oxychloride	10025-87-3	$POCl_3$	0,2	-	-	-	
Phosphorus pentachloride	10026-13-8	PCl_5	0,2	-	-	-	
Phosphorus pentasulphide	1314-80-3	P_2S_5/P_4S_{10}	-	2	-	6	
Phosphorus trichloride	7719-12-2	PCl_3	0,4	-	1	-	
Phthalic anhydride	85-44-9	$C_6H_4(CO)_2O$	0,004 (IFV)	-	0,01	-	DSEN, RSEN
Picloram	1918-02-1	$C_6H_3Cl_3N_2O_2$	-	10	-	-	
Picric acid	88-89-1	$(NO_2)_3C_6H_2OH$	-	0,2	-	-	
Piperazine and salts [as Piperazine]	110-85-0	$C_4H_{10}N_2$	0,06 (IFV)	-	-	-	DSEN, RSEN
Platinum							

Table 3: OCCUPATIONAL EXPOSURE LIMITS - RESTRICIED LIMITS FOR HAZARDOUS CHEMICAL AGENTS... CONTINUED

AGENT	CAS NUMBER	FORMULA	OEL eight-hour TWA	OEL eight-hour TWA	OEL-STEL/C	OEL-STEL/C	NOTATIONS
Metal	7440-06-4	Pt	-	1	-	-	
Soluble salts [as Pt]	-	-	-	0,002	-	-	DSEN, RSEN
Polyvinyl chloride [PVC]	-	-	-	2[R]	-	-	
Potassium hydroxide	1310-58-3	KOH	-	-	-	4	
n-Propanol [n-propyl alcohol]	71-23-8	$CH_3CH_2CH_2OH$	200	-	-	-	SKIN
2-Propanol [propan-2-ol]	67-63-0	$(CH_3)_2CHOH$	400	-	800	-	
Propargyl alcohol [2-propyn-1-ol]	107-19-7	$HC{\equiv}CCH_2OH$	2	-	-	-	SKIN
Propionic acid	79-09-4	CH_3CH_2COOH	20	-	-	-	
Propoxur	114-26-1	$C_{11}H_{15}NO_3$	-	1[IPV]	-	-	
n-Propyl acetate	109-60-4	$CH_3COOC_3H_7$	200	-	300	-	
Propylene glycol dinitrate [PGDN]	6423-43-4	$CH_3CHONO_2CH_2ONO_2$	0,1	-	-	-	SKIN
Propylene glycol monomethyl ether	107-98-2	$CH_3CHOHCH_2OCH_3$	100	-	200	-	SKIN
Pyrethrum	8003-34-7	-	-	10	-	-	
Pyridine	110-86-1	C_5H_5N	2	-	-	-	
Pyrocatechol	120-80-9	$C_6H_4(OH)_2$	5	20	-	-	
Q							
Quinone	106-51-4	C6H4O2			See p-benzoquinone		
Quintozene	82-68-8	$C_6Cl_5NO_2$			See pentachloronitro benzene		
R							
Resorcinol	108-46-3	$C_6H_4(OH)_2$	20	-	40	-	SKIN
Rhodium							
Metal and insoluble compounds [as Rh]	7440-16-6	Rh	-	2	-	-	
Soluble compounds [as Rh]			-	0,02	-	-	DSEN
Rosin core solder thermal decomposition products [colophony]	8050-09-07	-	Exposure by all routes should be carefully controlled to ALARP				
S							
Selenium and compounds, except hydrogen selenide [as Se]	7782-49-2	Se	-	0,4	-	-	
Silicon carbide	409-21-2	SiC					
Total particulate (nonfibrous)	-	-	-	10[R, E]	-	-	CARC
Respirable particulate (nonfibrous)	-	-	-	5[R]	-	-	CARC
Fibrous (including whiskers)			-	0,1 f/ml[R]	-	-	CARC
Silicon tetrahydride [silane]	7803-62-5	SiH_4	10	-	-	-	
Silver							
Metal	7440-22-4	Ag	-	0,2	-	-	
Soluble compounds [as Ag]	-	-	-	0,02	-	-	
Sodium azide	26628-22-8	NaN_3	-	-	-	0,6	SKIN
Sodium 2,4-dichlorophenoxy ethyl sulphate [2,4-DES], [sesone]	136-78-7	$C_9H_7Cl_2NaO_5S$	-	10	-	-	CARC
Sodium fluoroacetate	62-74-8	$CH_2FCOONa$	-	0,1	-	-	SKIN
Sodium hydrogen sulphite [sodium bisulphite]	7631-90-5	$NaHSO_3$	-	10	-	-	
Sodium hydroxide	1310-73-2	NaOH	-	-	-	4	
Sodium metabisulphate	7681-57-4	$Na_2S_2O_5$	-	10	-	-	
Starch	9005-25-8	-	-	10	-	-	

Stibine [antimony hydride]	7803-52-3	SbH_3	0,2	-	-	-	
Strychnine	57-24-9	$C_{21}H_{22}N_2O_2$	-	0,3	-	-	
Subtilisins (proteolytic enzymes as 100% pure crystalline enzyme)	1395-21-7, 9014-01-1	-	-	-	-	0,00012	RSEN
Sucrose	57-50-1	$C_{12}H_{22}O_{11}$	-	10	-	-	
Sulfotep	3689-24-5	$[(CH_3CH_2O)_2PS]_2O$	-	0,2(IFV)	-	-	SKIN
Sulphur dioxide	7446-09-5	SO_2	-	-	0,5	-	
Sulphur hexafluoride	2551-62-4	SF_6	2000	-	-	-	
Sulphuric acid (mist)	7664-93-9	H_2SO_4	-	0,4(T)	-	-	CARC
Sulphur monochloride	10025-67-9	S_2Cl_2	-	-	2	-	
Sulphur pentafluoride	5714-22-7	S_2F_{10}	-	-	0,02	-	
Sulphur tetrafluoride	7783-60-0	SF_4	-	-	0,2	-	
Sulphuryl fluoride [sulphuryl difluoride]	2699-79-8	SO_2F_2	10	-	20	-	
Synthetic vitreous fibres [SVF]:	-	-					
Continuous filament glass fibres	-	-	-	2 f/ml(F)	-	-	
Continuous filament glass fibres			-	10	-	-	
Glass wool fibres	-	-	-	2 f/ml(F)	-	-	
Rock wool fibres	-	-	-	2 f/ml(F)	-	-	
Slag wool fibres	-	-	-	2 f/ml(F)	-	-	
Special purpose glass fibres			-	2 f/ml(F)	-	-	
Refractory ceramic fibres	-	-	-	0,4 f/ml(F)	-	-	CARC
T							
Talc (containing no asbestos fibres)	14807-96-6	$Mg_3Si_4O_{10}(OH)_2$	-	4(E, R)	-	-	
Tellurium and compounds, except hydrogen telluride [as Te]	13494-80-9	Te	-	0,2	-	-	
Terphenyls, all isomers	26140-60-3	$C_{18}H_{14}$	-	-	-	10	
1,1,2,2-Tetrabromoethane	79-27-6	$CHBr_2CHBr_2$	0,2	-	-	-	SKIN
Tetracarbonyl nickel [as Ni]	13463-39-3	$Ni(CO)_4$			See nickel carbonyl		
1,1,2,2-Tetrachloro-1,2-difluoroethane	76-12-0	CCl_2FCCl_2F	100	-	-	-	
1,1,1,2-Tetrachloro-2,2-difluoroethane	76-11-9	CCl_3CClF_2	200	-	-	-	
Tetrachloroethylene	127-18-4	$Cl_2C=CCl_2$	50	-	200	-	
Tetrachloronaphthalene	1335-88-2	$C_{10}H_4Cl_4$	-	4	-	-	
Tetraethyl orthosilicate	78-10-4	Si(OC2H5)4			See ethyl silicate		
Tetraethyl pyrophosphate [TEPP]	107-49-3	$[(CH_3CH_2O)_2PO]_2O$	-	0,02(IFV)	-	-	SKIN
Tetrahydrofuran	109-99-9	C_4H_8O	100	-	200	-	SKIN
Tetramethyl succinonitrile	3333-52-6	$C_8H_{12}N_2$	1(IFV)	-	-	-	SKIN
Tetryl	479-45-8	$(NO^2)^3C^6H^2N(NO^2)CH^3$	-	3	-	-	
Thallium, soluble compounds [as Tl]	-	Tl	-	0,04	-	-	SKIN
4,4′-Thiobis(6-tert-butyl-m-cresol)	96-69-5	$C_{22}H_{30}O_2S$	-	2	-	-	
Thioglycolic acid	68-11-1	$HSCH_2COOH$			See mercaptoacetic acid		
Thionyl chloride	7719-09-7	$SOCl_2$	-	-	0,4	-	
Thiram	137-26-8	$(CH_3)_2NCS_2CS_2N(CH_3)_2$	-	0,1(IFV)	-	-	DSEN

Tin compounds:		-					
Tin metal	7440-31-5	-	-	4	-	-	
Tin oxide and inorganic, except SnH_4 [as Sn]		-	-	4	-	-	SKIN
Organic except cyhexatin [as Sn]	-	-	-	0,2	-	-	SKIN
Titanium dioxide	13463-67-7	-	-	10		-	CARC

Toluene	108-88-3	$C_6H_5CH_3$	40	-	-	-	SKIN
2,4-Toluene diisocyanate [TDI]	584-84-9	$CH_3C_6H_3(NCO)_2$	0,002[IFV]	-	0,01[IFV]	-	
o-Toluidine	95-53-4	$CH_3C_6H_4NH_2$	4	-	-	-	CARC, SKIN
m-Toluidine	108-44-1	$CH_3C_6H_4NH_2$	4	-	-	-	SKIN
p-Toluidine	106-49-0	$CH_3C_6H_4NH_2$	4	-	-	-	SKIN
Tribromomethane	75-25-2	$CHBr_3$			See bromoform		
Tributyl phosphate, all isomers	126-73-8	$(C_4H_9)_3PO_4$	-	10[IFV]	-	-	
Trichloroacetic acid	76-03-9	CCl_3COOH	1	-	-	-	CARC
1,2,4-Trichlorobenzene	120-82-1	$C_6H_3Cl_3$	-	-	10	-	SKIN
1,1,2-Trichloroethane	79-00-5	$CHCl_2CH_2Cl$	20	-	-	-	SKIN
Trichlorofluoromethane	75-69-4	CCl_3F	-	-	2000	-	
Trichloronitromethane	76-06-2	CCl_3NO_2			See chloropicrin		
2,4,5-Trichlorophenoxyacetic acid [2,4,5-T]	93-76-5	$Cl_3C_6H_2OCH_2COOH$	-	10	-	-	CARC
1,2,3-Trichloropropane	96-18-4	$CH_2ClCHClCH_2Cl$	0,01	-	-	-	CARC
1,1,2-Trichlorotrifluoroethane [1,1,2-trichloro-1,2,2-trifluoroethane]	76-13-1	CCl_2FCClF_2	2000	-	2500	-	
Tri-o-cresyl phosphate [Tri-o-tolyl phosphate]	78-30-8	$(CH_3C_6H_4O)_3P=O$	-	0,04[IFV]	-	-	
Tricyclohexyltin hydroxide	13121-70-5	$(C_6H_{11})_3SnOH$			See cyhexatin		
Triethanolamine	102-71-6	$(CH_2OHCH_2)_3N$	-	10	-	-	
Triethylamine	121-44-8	$(C_2H_5)_3N$	1	-	2	-	SKIN
Trifluorobromomethane	75-63-8	CF_3Br	2000	-	-	-	
Trimellitic anhydride	552-30-7	$C_9H_4O_5$			See benzene-1,2,4,-tricarboxylic acid 1,2-anhydride		
Trimethylamine	75-50-3	$(CH_3)_3N$	10	-	30	-	
Trimethylbenzene, all isomers or mixtures	25551-13-7	$C_6H_3(CH_3)_3$	50	-	-	-	
Trimethyl phosphite	121-45-9	$(CH_3O)_3P$	4	-	-	-	
2,4,6-Trinitrotoluene [TNT]	118-96-7	$CH_3C_6H_2(NO_2)_3$	-	0,2	-	-	SKIN
Triphenyl phosphate	115-86-6	$(C_6H_5O)_3PO_4$	-	6	-	-	SKIN
Tungsten and compounds, in the absence of cobalt, as W	7440-33-7			5[R]			
Turpentine	8006-64-2	$C_{10}H_{16}$ (approx.)	40	-	-	-	
U							
Uranium (natural), soluble and insoluble compounds [as U]	7440-61-1	-	-	0,4	-	1,2	
V							
Vanadium pentoxide	1314-62-1	V_2O_5	0,1[2]	-	-	-	CARC
Vinyl acetate	108-05-4	CH_3=CHOOCCH$_3$	20	-	30	-	CARC
Vinyl benzene	100-42-5	C_6H_5CH=CH_2			See styrene, monomer		
Vinyl bromide	593-60-2	CH_2=CHBr	1	-	-	-	CARC
4-Vinyl cyclohexene	100-40-3	C_8H_{12}	0,2	-	-	-	CARC
4-Vinyl cyclohexene dioxide	106-87-6	$C_8H_{12}O_2$	0,2	-	-	-	CARC, SKIN
Vinyl toluene	25013-15-4	CH_2=$CHC_6H_4CH_3$	100	-	200	-	
W							
Warfarin	81-81-2	$C_{19}H_{16}O_4$	-	0,02[3]	-	-	SKIN
Wood dust, all species, excluding oak, beech, birch, mahogany, teak and walnut	-		-	5	-	-	CARC, RSEN
X							
Xylene, o-, m-, p- or mixed isomers	1330-20-7	$C_6H_4(CH_3)_2$	200	-	300	-	SKIN

Xylidine, all isomers	1300-73-8	$(CH_3)_2C_6H_3NH_2$	1[IFV]	-	-	-	CARC, SKIN
Y							
Yttrium and compounds [as Y]	7440-65-5	Y	-	2	-	-	
Z							
Zinc chloride, fume	7646-85-7	$ZnCl_2$	-	2	-	4	
Zinc oxide, fume	1314-13-2	ZnO	-	4[R]	-	20[R]	
Zirconium compounds [as Zr]	7440-67-7	Zr	-	10	-	20	

Abbreviations:
ALARP: as low as reasonable practicable
OEL eight-hour TWA: occupational exposure limit – eight-hour time-weighted average
OEL-ML: occupational exposure limit – maximum limit
OEL-RL: occupational exposure limit – restricted limit
OEL-STEL/C: occupational exposure limit – short-term exposure limit, ceiling limit

Notations:
CARC: denotes carcinogenicity, which is based on GHS categorisation, including category 1A, 1B;
DSEN: dermal sensitisation, potential to produce dermal sensitisation;
E: the value is for particulate matter containing no asbestos and ≤ 1% crystalline silica;
F: respirable fibres: length> 5 µm; aspect ratio ≥ 3:1 as determined by the membrane filter method at 400-450X magnification (4mm objective), using phase-contrast illumination;
H: aerosol only;
I: inhalable fraction;
IFV: inhalable fraction and vapour;
Inhalable particulate matter (IPM): for those materials that are hazardous when deposited anywhere in the respiratory tract;
R: respirable fraction;
RSEN: respiratory sensitisation, potential to produce respiratory sensitisation;
SKIN: danger of cutaneous absorption – refers to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes and the eyes by contact with vapours, liquids and solids; overexposure may also occur following dermal contact with liquids and aerosols, even when airborne exposures at or below the OEL;
T: thoracic fraction; and
V: vapour fraction.

RSEN and DSEN do not imply that sensitisation is the critical effect on which the OEL is based, nor do they imply that this effect is the sole basis for the agent's OEL.

Table 4: BIOLOGICAL EXPOSURE INDICES (BEIs) FOR HAZARDOUS CHEMICAL AGENTS

AGENT/DETERMINANT	CAS NUMBER	SAMPLE MATRIX	SAMPLING TIME	VALUE	UNIT	NOTATION
A						
Acetone	67-64-1					
Acetone		urine	End of shift	25	mg/L	Ns
Acetylcholinesterase inhibitors						
Cholinesterase activity in red cells		blood	Discretionary	70	% of baseline	Ns
Aniline	62-53-3					
p-Aminophenol		urine	End of shift	50	mg/L	B, Ns, Sq
Arsenic, elemental and soluble inorganic compounds (excluding gallium arsenide and arsine)	7440-38-2					
Inorganic arsenic plus methylated metabolites		urine	End of work-week	35	µg/L	B
B						
Benzene	71-43-2					
S-phenylmercapturic acid (SPMA)		urine	End of shift	25	µg/g creatinine	B
t,t-Muconic acid (ttMA)		urine	End of shift	500	µg/g creatinine	B
1,3-Butadiene	106-99-0					
1,2-Dihydroxy-4-(N-acetylcysteinyl)-butane		urine	End of shift	2,5	mg/L	B, Sq
Mixture of N-1-and N-2-(hydroxybutenyl)valine haemoglobin adducts		blood	Not critical	2,5	pmol/g Hb	Sq
2-Butoxyethanol	111-76-2					
Butoxyacetic acid (BAA)		urine	End of shift	200	mg/g creatinine	-
C						
Cadmium and inorganic compounds	7440-43-9					
Cadmium		urine	Not critical	5	µg/g creatinine	B
Cadmium		blood	Not critical	5	µg/L	B

Carbon disulphide	75-15-0					
2-thiothiazolidine-4-carboxlyic acid (TTCA)		urine	End of shift	0,5	mg/g creatinine	B, Ns
Carbon monoxide	630-08-0					
Carboxyhaemoglobin		blood	End of shift	3,5	% haemoglobin	B, Ns
Carbon monoxide		end exhaled	End of shift	20	ppm	B, Ns
Chlorobenzene	108-90-7					
4-Chlorocatechol		urine	End of shift at end of work-week	100	mg/g	Ns
p-Chlorophenol		urine	End of shift at end of work-week	20	creatinine	Ns
Chromium VI (water-soluble fume)	7440-47-3					
Total chromium		urine	End of shift at end of work-week	25	µg/L	-
Total chromium		urine	Increase during shift	10	µg/L	-
Cobalt and inorganic compounds, including cobalt oxides but not combined with tungsten carbide	7440-48-4					
Cobalt		urine	End of shift at end of work-week	15	µg/L	Ns
Cyclohexanone	108-94-1					
1,2-Cyclohexanediol		urine	End of shift at end of work-week	80	mg/L	Ns, Sq
Cyclohexanol		urine	End of shift	8	mg/L	Ns, Sq
D						
Dichloromethane	75-09-2					
Dichloromethane		urine	End of shift	0,3	mg/L	Sq
N,N-Dimethylacetamide	127-19-5					
N-Methylacetamide		urine	End of shift at end of work-week	30	mg/g creatinine	-
N,N-Dimethylformamide (DMF)	68-12-2					
N-methylformamide		urine	End of shift	15	mg/L	-
N-Acetyl-S-(N-methylcarbamoyl) cysteine		urine	Prior to last shift of work-week	40	mg/L	Sq
E						
2-Ethoxyethanol (EGEE) and 2-Ethoxyethyl acetate (EGEEA)	110-80-5; 111-15-9					
2-Ethoxyacetic acid		urine	End of shift at end of work-week	100	mg/g creatinine	-
Ethyl benzene	100-41-4					
Sum of mandelic acid and phenylglyoxylic acid		urine	End of shift	0,15	g/g creatinine	Ns
F						
Fluorides	16984-48-8					
Fluoride		urine	Prior to shift	2	mg/L	B, Ns
Fluoride		urine	End of shift	3	mg/L	B, Ns
Furfural	98-01-1					
Furoic acid		urine	End of shift	200	mg/L	Ns
G						
H						
1,6-Hexamethylene diisocyanate	822-06-0					
1,6-Hexamethylene diamine		urine	End of shift	15	µg/g creatinine	Ns

n-Hexane	110-54-3					
2,5-Hexanedione		urine	End of shift at end of work-week	0,4	mg/L	-
L						
Lead	7439-92-1					
Lead		blood	Not critical	See Lead Regulations		
M						
Mercury (Elemental)	7439-97-6					
Mercury		urine	Prior to shift	20	µg/g creatinine	-
Methanol	67-56-1					
Methanol		urine	End of shift	15	mg/L	B, Ns
Methemoglobin inducers						
Methemoglobin		blood	During or at end of shift	1,5	% haemoglobin	B, Ns, Sq
2-Methoxyethanol and 2-Methoxyethylacetate	109-86-4; 110-49-6					
2-Methoxyacetic acid		urine	End of shift at end of work-week	1	mg/g creatinine	-
Methyl n-butyl ketone	591-78-6					
2,5-Hexanedione		urine	End of shift at end of work-week	0,4	mg/L	-
Methyl chloroform	71-55-6					
Methyl chloroform		end exhaled	Prior to last shift of work-week	40	ppm	
Trichloroacetic acid		urine	End of work-week	10	mg/L	Ns, Sq
Total trichloroethanol		urine	End of shift at end of work-week	30	mg/L	Ns, Sq
Total trichloroethanol		blood	End of shift at end of work-week	1	mg/L	Ns
Methyl Ethyl ketone (MEK)	78-93-3					
Methyl ethyl ketone (MEK)		urine	End of shift	2	mg/L	Ns
Methyl isobutyl ketone (MIBK)	108-10-1					
Methyl isobutyl ketone (MIRK)		urine	End of shift	1	mg/L	-
N						
Nitrobenzene	98-95-3					
Methemoglobin		blood	See methemoglobin inducers BEI			
P						
Parathion	56-38-2					
Total p-nitrophenol		urine	End of shift	0,5	mg/g creatinine	Ns
Cholinesterase activity in red blood cells		blood	Discretionary	70	% of baseline	B, Ns, Sq
Phenol	108-95-2					
Phenol		urine	End of shift	250	mg/g creatinine	B, Ns
2-Propanol	67-63-0					
Acetone		urine	End of shift at end of work-week	40	mg/L	B, Ns
S						
Styrene	100-42-5					
Mandelic acid and phenylglyoxylic acid		urine	End of shift	400	mg/g creatinine	Ns
Styrene		urine	End of shift	40	µg/L	-
T						

Tetrachloroethylene (Perchloroethylene)	127-18-4					
Tetrachloroethylene		end exhaled	Prior to shift	3	ppm	-
Tetrachloroethylene		blood	Prior to shift	0.5	mg/L	-
Tetrahydrofuran	109-99-9					
Tetrahydrofuran		urine	End of shift	2	mg/L	-
Toluene	108-88-3					
Toluene		blood	Prior to last shift of work-week	0,02	mg/L	-
Toluene		urine	End of shift	0,03	mg/L	-
o-Cresol		urine	End of shift	0,3	mg/g creatinine	B
Toluene diisocyanate-2,4, or as a mixture of isomers	584-84-9					
Toluene diamine		urine	End of shift	5	µg/g creatinine	Ns
Trichloroethylene	79-01-6					
Trichloroacetic acid		urine	End of shift at end of work-week	15	mg/L	Ns
Trichloroethanol		blood	End of shift at end of work-week	0,5	mg/L	Ns
U						
Uranium	7440-61-1					
Uranium		urine	End of shift	200	µg/L	-
X						
Xylenes	95-47-6; 106-42-3; 108-38-3; 1330-20-7					
Methylhippuric acids		urine	End of shift	1,5	g/g creatinine	-

Notations:
B: background
The determinant may be present in biological specimens collected from subjects who have not been occupationally exposed, at a concentration which could affect interpretation of the results. Such background concentrations are incorporated in the BEI value.
Nq: non-quantitative
Biological monitoring should be considered for this compound based on the review; however, a specific BEI could not be determined due to insufficient data.
Ns: non-specific
The determinant is non-specific, since it is also observed after exposure to other chemicals.
Sq: semi-quantitative
The biological determinant is an indicator of exposure to the chemical, but the quantitative interpretation of the measurement is ambiguous. These determinants should be used as a screening test if a quantitative test is not practical or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.

ANNEXURE 3

HAZARDOUS CHEMICAL AGENT GUIDELINES

Prevention and control of exposure

1. Exposure of employees to agents hazardous to health should be prevented or, where this is not reasonably practicable, adequately controlled. This is a fundamental requirement of the Regulations for Hazardous Chemical Agents (HCA), 2020. Exposure can occur by inhalation, ingestion or absorption through the skin, but inhalation is usually the main route of entry into the body. Tables 2 and 3 of Annexure 2 list the OELs which should be used in determining the adequacy of control of exposure by inhalation, as required by the HCA Regulations.
2. The advice in this document should be taken in the context of the requirements of the HCA Regulations, especially regulation 5 (Assessment of exposure) regulation 10 (Control of exposure), regulation 12 (Maintenance of control measures) and regulation 6 (Air monitoring). Agents hazardous to health are defined in regulation 1. There is separate legislation for lead and asbestos and these agents are not covered in detail in this document. This document also does not apply to exposure below ground in mines or exposure to hazardous biological agents.
3. Adequate control of exposure (when prevention is not reasonably practicable) should be achieved by one or more of a range of control measures described in regulation 10 of the HCA Regulations. Control by personal protective equipment should be applied only when other means are not reasonably practicable.

MEDICAL SURVEILLANCE

Guidance on medical surveillance and biological monitoring

Important concepts

4. Medical surveillance refers to the overall monitoring of employees to identify changes in their health status because of exposure to certain chemical agents. These monitoring activities are not limited to only medical testing. Monitoring activities also include the monitoring and analysis of the individual and group outcome data, including historical data, derived from the medical testing.
5. Medical testing, therefore, is that aspect of medical surveillance that involves the use of interviews, questionnaires and standard clinical assessments to detect the presence of adverse health effects. This can also include tests like spirometry (lung function), radiography (e.g. chest Xrays) and laboratory tests (e.g. full blood counts).
6. Medical surveillance ideally aims to detect symptoms or a disease at an early subclinical or pre-symptomatic stage to enable interventions that may reverse these effects or slow their progression. However, medical surveillance is also directed at established occupational disease when the adverse effects have progressed to clinical impairment.

Medical surveillance and biological monitoring

7. Biological monitoring is discussed in detail in paragraph 23. It is often incorrectly categorised as a type of medical surveillance. Biological monitoring provides an additional means to assess the exposure to an HCA by measuring metabolites of the HCA, or other similar markers of exposure. Therefore, it does not represent an adverse effect or an occupational disease - it only reflects exposure. A positive finding during biological monitoring does not necessarily mean that there has been a breach of the safety standard, but is a positive indication of employee exposure.
8. The distinction between early biological effects and established disease is not always

clear, there tends to be a severity gradient in which one blends into the other. An occupational disease may be said to be present when the adverse biological effect progresses to clinically detectable organ damage requiring treatment or permanent impaired function. The categorisation of the condition is, therefore, sometimes at the discretion of the responsible medical practitioner. The distinction becomes important when considering a case for statutory reporting. As described in paragraphs 20, 21 and 22, where reporting of cases of established occupational disease is legally prescribed.

9. The presence of chemical agents in the workplace does not automatically infer the need for medical surveillance; certain criteria must be met for medical surveillance to be warranted. This principle is addressed in subregulation 7(1)(b) and is further elaborated in paragraphs 11, 12 and 13.
10. Work-related adverse health findings, identified by medical surveillance, not only affect the individual employee's management in the workplace but may also have important implications regarding the effectiveness of exposure control measures in the workplace and warrant further steps by the employer.
11. Medical surveillance must be provided if an employee is using, handling, generating or storing an HCA that is known to cause adverse health effects, and -
    (a) the level of exposure is such that an occupational disease or adverse effect may reasonably be expected to occur, and
    (b) valid medical testing techniques are available to detect the adverse effect on the employee's health.
12. This means the employer must ensure that a health risk assessment is conducted to determine the likelihood of exposure to an HCA, in conjunction with the known health effects of the HCA, which the occupational medicine practitioner can use to decide if a programme of medical surveillance is necessary. Test selection should consider relevant target organs and test performance as referred to in paragraph 14(b).
13. Additionally, medical surveillance should be provided if, in the opinion of an occupational medicine practitioner, it is necessary, notwithstanding the above criteria are not met.

Designing and implementing a programme of medical surveillance

14. The following steps should be included in any programme:
    (a) Risk assessment: this will determine the potential exposure to and routes of absorption of an HCA, and identify potential target organ toxicity to direct medical surveillance.
    (b) Test selection: tests should have the desirable operating characteristics of appropriate sensitivity, specificity, reliability and predictive value.
    (c) Test schedule: the frequency of testing is laid down in general terms by regulation 7(2), but should in any case be based on an understanding of the nature of the hazard and the natural history of any adverse effects that may develop in specific target organs.
    (d) Development of action criteria: interpretative criteria for various types of medical tests have been published in the medical literature. However, the occupational medicine practitioner must develop pragmatic action criteria in the context of the specific workplace.
    (e) Standardisation of test process: quality control needs to be exercised both at the testing site and in the laboratory contracted to carry out analyses. Consistency over time should be sought to make longitudinal measurements comparable.
    (f) Ethical considerations:
        i. Information and training of employees as required by regulation 3(1) should include the rationale for doing medical surveillance, and the consequence of abnormal findings.
        ii. Written informed consent should be obtained for medical tests to be conducted, in accordance with requirements prescribed by the Health Professions' Council of South Africa. Should an employee refuse to give consent, it should be explained to the employee that this means he/she cannot be offered the work for which medical surveillance is required, which may affect his/her employment.
        iii. An employee must be notified of the results and interpretation of his/her tests and any recommendations made, including, where appropriate, the need for medical referral for confirmation of diagnosis and related actions.
        iv. The confidentiality of personal medical records is laid down by regulation 9.
    (g) Determination of steps to be taken in the event of identifying a work-related health problem: this is detailed in paragraphs 20, 21 and 22. Cooperation of employees can be best secured by a policy of protection of conditions of service in case of medical removal from a particular job.
    (h) Evaluation of controls: an abnormal finding in an employee, or a pattern of findings in a group of employees, may point to inadequate primary control of exposure(s). In such cases the employer needs to be notified of such details of the medical findings as are necessary to evaluate the workplace problem and take remedial action to prevent the continued exposure of the worker and yet unexposed workers.
    (i) Record keeping: this includes both medical records and exposure information for every employee. While the employer is responsible for record keeping in terms of regulation 9, access to the contents of personal medical records should be restricted to the occupational health practitioner, the employee, and any person nominated by the employee in writing.
15. The medical surveillance programme should be described in a written document in which the key issues listed in paragraph 14 are addressed. The document must be made available to the Health and Safety Committee.
16. The employer must provide the occupational health practitioner with the following information about the work to be performed, which has triggered the requirement for medical surveillance:
    (a) the work the employee is, or will be, carrying out;
    (b) if the employee has started that work, how long the employee has been carrying it out;
    (c) a list of the HCAs to which the employee is, or will be, exposed, as detailed in the risk assessment and relevant SDSs;
    (d) relevant risk assessment reports and results of air monitoring carried out at the workplace; and
    (e) the type of personal protective equipment being used by the employee.
17. Non work-related findings include various health conditions that may be identified by the medical testing process, such as hypertension and diabetes. These findings should be shared with the employee (preferably in writing) by the occupational health practitioner to enable the employee to take appropriate action to improve his or her general health. In addition, the occupational health practitioner should refer the employee to his/her own healthcare provider for further treatment, if necessary.
18. The presence of non-occupational disease does not require notification to the employer.

Work-related findings

19. Work-related findings include two categories:
    (a) Occupational disease: this relates to adverse health effects consequent on exposure to an HCA. It is a legal requirement that those which have progressed to occupational disease must be communicated to the employee, employer and the Department of Labour. This important process is further described below.
    (b) Medical fitness to work: this relates to identified health conditions that are not caused by the workplace but which impact on the vulnerability of the employee who may be exposed to an HCA, and which may be aggravated by workplace exposures, for example, an employee who has had asthma since childhood and is performing work that may result in exposure to a respiratory irritant or allergen. In these circumstances, the occupational nurse practitioner, in consultation with an occupational medicine practitioner, must carefully consider the risks and convey the appropriate task or workplace restrictions to the employer in the form of a written certificate of fitness. The employer may not allow the employee to return to normal duties until cleared by an occupational medicine practitioner (see regulation 7(3)).

Important notes:

(a) Neither of the above work-related findings are reason to automatically declare that the employee is medically unfit to perform his or her job. It is an incapacity that should be handled with careful thought, and all options for accommodation should be considered, as prescribed by the Labour Relations Act, 1995 (Act No. 66 of 1995) and the Employment Equity Act, 1998 (Act No. 55 of 1998).
(b) Informing the employer of a health-related restriction does not mean that disclosure of the specific medical diagnosis is required. Disclosure of the diagnosis may occasionally be warranted, but then should be done with the consent of the employee, and where such disclosure is in the best interests of the employee. Should the employee refuse consent despite a necessity to inform the employer, the employee should be told that the employer will be informed and the details of the information to be provided, as allowed for in the Health Professions Act, 1974 (Act No. 56 of 1974).

Actions by the employer if an occupational disease is identified

20. The employer must initiate an incident investigation to identify the failures of controls that led to the disease and put into place appropriate corrective actions (subregulation 7(4); and also regulation 8 of the General Administrative Regulations).
    (a) The employer must provide training to the employee on ways to mitigate further exposure.
    (b) The employer has a statutory duty to

report the incident.

(c) The employer must report the case as prescribed by regulation 8 of the General Administrative Regulations.

(d) If the prescribed criteria are met, the employer must notify the chief inspector as prescribed in section 24(1)(a) of the Act.

(e) The employer has a statutory duty to submit a claim for compensation as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993), by completing the necessary forms and following the procedure prescribed by the Compensation Commissioner.

Legal duties prescribed for a medical practitioner* if an occupational disease is identified

21. The medical practitioner must notify the chief inspector as prescribed in section 25 of the Act. The prescribed format is the use of the WCL forms used for the submission of claims for an occupational disease under the Compensation for Occupational Injuries and Diseases Act, 1993.
22. The occupational medical practitioner must facilitate the submission of a claim for compensation under the Compensation for Occupational Injuries and Diseases Act, 1993, by completing the necessary medical reports and following the procedure prescribed by the Compensation Commissioner. These are described in the "Internal Instruction" documents published by the Compensation Commissioner.
    - Note that this legal duty is placed on any medical practitioner, not just an occupational medicine practitioner.

BIOLOGICAL MONITORING

Distinction between biological monitoring, biological exposure monitoring and biological effect monitoring

23. In these regulations, biological exposure monitoring and biological effect monitoring are subsets of the overarching term, biological monitoring.
24. Biological exposure monitoring is the measurement and assessment of chemicals or their metabolites (substances the body converts the chemical into, for purposes of elimination) in exposed workers. These measurements are made on samples of exhaled air, urine, blood or other biological materials, or any combination of these. Biological monitoring measurements reflect the total uptake of a chemical by an individual by all routes (inhalation, ingestion, through the skin or by a combination of these routes). Biological exposure monitoring, therefore, does not represent an adverse effect or an occupational disease – it only reflects exposure, but it is often incorrectly listed as a type of medical surveillance.
25. Biological effect monitoring is the measurement and assessment of early non-adverse reversible subclinical physiological effects caused by absorption of chemicals (i.e. prior to established clinical disease). It typically involves measuring biochemical responses. For example, measuring plasma and erythrocyte cholinesterase activity in workers exposed to organophosphate pesticides; or measuring increases in urinary protein following exposure to cadmium; or changes in functioning of enzymes.
26. Biological effect monitoring should be distinguished from medical testing for established clinical disease, which is also known as effect monitoring. For example, changes in blood cell counts following exposure to bone marrow toxins do not constitute biological effect monitoring.
27. Biological effect monitoring responses may have potential health implications for the individual, and may also arise from causes other than occupational exposure. Consequently, biological effect monitoring should always be carried out with the close involvement of an occupational medicine practitioner.

Objectives and uses of biological exposure monitoring

28. The main objective of biological monitoring is to provide a complementary technique to air monitoring when air sampling techniques alone may not give a reliable indication of exposure. Hence, it may be particularly useful in the following ways:
    (a) to detect and determine absorption via the skin or gastrointestinal system, in addition to that by inhalation;
    (b) to test the efficacy of personal protective equipment and monitor work practices;
    (c) to compliment air monitoring in circumstances when work practices are not normal, such as abnormally long or variable working hours or very strenuous work (high breathing rates = increased chemical intake);
    (d) to detect non-occupational exposures;
    (e) to assess total body burden;
    (f) to reconstruct past exposure in the absence of other exposure measurements for chemicals with long half-lives; and
    (g) to assess the effectiveness of medical removal procedures when indicated for certain chemicals (e.g. arsenic).

Important considerations in biological exposure monitoring

29. In choosing a test to meet the above objectives, it is important to understand the relationship between environmental exposure and the concentration of an HCA in biological samples. This includes an understanding of the principles of absorption, biotransformation, distribution and excretion of the HCA or its metabolites.
30. In addition, there should be analytical methods available of sufficient sensitivity and specificity to detect concentrations of the agent in biological media in the range likely to be encountered in industry. The HCAs listed in Table 4 of Annexure 1 are those for which the above criteria have a reasonable chance of being met.

Biological exposure indices

31. Biological exposure indices (BEIs) are reference values intended as guidelines for the evaluation of potential health hazards in the practice of industrial hygiene. BEIs must not be used as statutory reference values.
32. A BEI represents in theory the level of an HCA or metabolite most likely to be observed in a specimen collected from a healthy worker who has been exposed to an HCA to the same extent as a worker with inhalation exposure to an OEL-TWA. BEIs do not represent a sharp distinction between hazardous and non-hazardous exposures. For example, owing to biological variability, it is possible that an individual's measurements can exceed the BEI without incurring an increased health risk. Conversely, there may be some susceptible individuals who may be harmed at levels below the BEI.
33. If measurements in specimens obtained from a worker on different occasions persistently exceed the BEI, or if the majority of measurements in specimens obtained from a group of workers at the same workplace exceed the BEI, the cause of the excessive values must be investigated and proper action be taken to reduce the exposure.
34. BEIs apply to eight-hour exposures, five days a week. However, BEIs for differing work schedules may be extrapolated on toxicokinetic grounds. BEIs should not be applied, either directly or through a conversion factor, in the determination of safe levels for non-occupational exposure to air and water pollutants, or food contaminants. The BEIs are not intended for use as a measure of adverse effects or for diagnosis of occupational disease.
35. Actual exposures can be determined using some of the above methods, but it is important to understand the limitations of results. The level of a hazardous chemical or its metabolites in the body does not necessarily correlate with exposure to the hazardous chemicals, symptoms or damage to health.

Background to exposure limits

36. Two types of OELs are defined in regulation 1 of the HCA Regulations. The two types are OEL - maximum limit (OEL-ML) and OEL - restricted limit (OEL-RL), as listed in Tables 2 and 3 of Annexure 2.
37. Regulation 10 of the HCA Regulations lays down the requirements for the use of an OEL-ML and an OEL-RL for an HCA for the purpose of achieving adequate control. Regulation 10(1) requires that, where there is exposure to an agent for which an OEL-ML is specified in Table 2 of Annexure 2, the control of exposure must, so far as inhalation of that agent is concerned, be treated as adequate only if the level of exposure is reduced as far as is reasonably practicable and, in any case, below the OEL-ML.
38. There is no fixed timeframe for the publication of new or revised OELs or BEIs.
39. Regulation 10(1) of the HCA Regulations requires that, where there is exposure to an agent for which an OEL-RL has been assigned, the control of exposure must, so far as inhalation of that agent is concerned, be treated as adequate if -
    (a) that OEL-RL is not exceeded; or
    (b) where that OEL-RL is exceeded, the employer identifies the reasons for the exceeding of the standard and takes appropriate action to remedy the situation as soon as is reasonably practicable.

Setting occupational exposure limits

40. OEL-RLs and OEL-MLs are proposed by the Standing Technical Committee No. 7, (TC7), reviewed by the chief inspector, approved by the Advisory Council for Occupational Health and Safety and promulgated by the Minister.
41. For both OEL-MLs and OEL-RLs, as listed in Tables 2 and 3 of Annexure 2, the intent is to provide a level of minimum protection for all workers in the Republic.
42. An OEL-ML is typically assigned to an agent with serious adverse implications for the health of workers exposed to the agent. Such effects are related to an agent being a carcinogen, sensitiser, teratogen or mutagen. However, those with lower orders of potency may not be assigned an OEL-ML.
43. The American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs) and biological exposure limits (BEIs) represent a scientific opinion, which are health-based values where exposure at these limits does not create an unreasonable risk of disease or injury. The TLVs and BEIs are established by committees that review existing published and peer reviewed literature in various scientific disciplines. These disciplines include occupational hygiene, toxicology, occupational medicine and epidemiology.
44. The primary method for setting an OEL is to double the ACGIH TLV. This provides a uniform and systematic method that considers the principle of reasonably practicable, including both health risk and socio-economic impacts. Guideline values such as the ACGIH TLVs and NIOSH RELs consider only

health risk and not socio-economic impacts, so it follows that these are not comparable to the OEL-RL and OEL-ML.

45. For exposure to agents that are predominantly associated with mining operations, consideration will be given to align OEL-RLs and OEL-MLs with the Department of Mineral Resources. An example is setting of the OEL for silica.
46. With the extensive number of OELs and industry processes, it is beyond the resources of TC7 to consider all socio-economic impacts on industry as well as the range of use of the OEL within industry. To mitigate this risk, TC7 may request interested or affected parties to submit substantive evidence to TC7 for consideration of a change to the OEL.
47. The final OEL-RLs and OEL-MLs will form a combination of the outcomes of paragraphs 42, 43 and 44.

Applying occupational exposure limits

General

48. The lists of OELs given in Table 2 and Table 3 of Annexure 2, unless otherwise stated, relate to personal exposure to agents hazardous to health in the air of the workplace.

Units of measurement

49. For OELs, concentrations of gases and vapours in air are usually expressed in parts per million (ppm), a measure of concentration by volume, but, may also be expressed in milligrams per cubic metre of air (mg/m³), a measure of concentration by mass. Concentrations of airborne particles (fume, dust, etc.) are usually expressed in mg/m³. In the case of airborne particulates, the limits, where applicable, in Table 2 and Table 3 refer to the inhalable particulate matter, unless specifically indicated as referring to the respirable particulate matter. In the case of man-made mineral fibres, the limit is expressed as fibres per millilitre of air (f/ml).
50. OELs for prohibited agents are not provided in Table 2 of Annexure 2. The reason for this exclusion is that, as prohibited agents, the agents may not be used within the workplace and so it is appropriate that these HCAs are not provided with OELs.

Occupational exposure limit - control limit: OEL-ML (Table 2 of Annexure 2)

51. An OEL-ML is the maximum concentration of an airborne agent, averaged over a reference period, to which employees may be exposed by inhalation under any circumstances, and is specified together with the appropriate reference period in Table 2 of Annexure 2.
52. Regulation 10(1) of the HCA Regulations, when read in conjunction with the Act, imposes a duty on the employer to take all reasonable precautions and to ensure that exposure is kept as far below an OEL-ML as is reasonably practicable.
53. To comply with this duty, in the case of agents with an eight-hour reference period, employers should undertake a programme of monitoring, in accordance with regulation 6, so that they can show (if it is the case) that an OEL-ML is not exceeded. Such a monitoring programme needs not be undertaken if the assessment carried out in accordance with regulation 5 shows that the level of exposure is most unlikely ever to exceed an OEL-ML. For agents assigned a ceiling limit, such value should never be exceeded.
54. The assessment should also be used to determine the extent to which it is reasonably practicable to reduce exposure further below an OEL-ML, as required by regulation 10(1). In assessing reasonable practicability, the nature of the risk presented by the agent in question should be weighed against the cost and the effort involved in taking measures to reduce the risk. (See reasonably practicable as defined in the Act.)

Occupational exposure limit - restricted limit: OEL-RL (Table 3)

55. An OEL-RL is the concentration of an airborne agent, averaged over a reference period, at which, according to current knowledge, there is no evidence that it is likely to be injurious to employees if they are exposed by inhalation, day after day, to that concentration.
56. For an agent which has been assigned an OEL-RL, exposure by inhalation should be reduced to that standard. However, if exposure by inhalation exceeds the OEL-RL, then control will still be deemed to be adequate, provided that the employer has identified why the OEL-RL has been exceeded and is taking appropriate steps to comply with the OEL-RL as soon as reasonably practicable. In such a case, the employer's objective must be to reduce exposure to the OEL-RL, but the final achievement of this objective may take some time. The assessment under regulation 5 will determine the urgency of the necessary action, taking into account the extent and cost of the required measures in relation to the nature and degree of exposure involved.
57. Control of an OEL-RL as prescribed in regulation 10(1)(a) can always be regarded as adequate control of that agent for the purpose of the HCA Regulations, so far as exposure from inhalation is concerned. However, due to the variations in process control and the fluctuations in agent concentrations in the workplace, it will be prudent for employers to reduce exposure below an OEL-RL to ensure that the exposure of all employees does not exceed that OEL-RL. Similarly, it is not intended that the statutory requirements under regulation 10(1) should discourage the further application of good occupational hygiene principles in order to reduce exposure below the OEL-RL.

Long-term and short-term exposure limits

58. Effects of exposure to agents hazardous to health vary considerably depending on the nature of the agent and the pattern of exposure. Some effects require prolonged or accumulated exposure. The long-term (eight-hour TWA) exposure limit is intended to control such effects by restricting the total intake by inhalation over one or more work shifts, depending on the length of the shift. Other effects may be seen after brief exposures. Short-term exposure limits (usually 15 minutes) may be applied to control these effects. For those HCAs for which no short-term limit is specified, it is recommended that a figure of three times the long-term limit be used as a guideline for controlling short-term peaks in exposure. Some workplace activities give rise to frequent short periods (less than 15 minutes) of high exposure which, if averaged over time, do not exceed either an eight-hour TWA or a 15-minute TWA. Such exposures have the potential to cause harm and should be subject to reasonably practicable measures to protect the worker.
59. Ceiling limits are set for HCAs that are predominantly fast acting and whose OELs are more appropriately based on this particular response. HCAs with this type of response are best controlled by an OEL-C that should not be exceeded. It is implicit that the manner of sampling to determine non-compliance with the OEL-C for each similar exposure group must differ. Consequently, a single, brief sample that is applicable to an OEL-C is not appropriate to the OEL-TWA; here a sufficient number of samples are needed to permit determination of a TWA concentration throughout a complete cycle of operation or throughout the work shift. Whereas the OEL-C places a definite boundary that exposure concentrations should not be permitted to exceed, the OEL-TWA requires an explicit limit to the excursions which are acceptable to the promulgated TLV-TWAs. HCAs with ceiling limits are identified in Table 2 and 3 in Annexure 2, in the column "STEL/C", by means of a "C" notation.
60. Both the long-term and short-term exposure limits are expressed as airborne concentrations averaged over a specified period of time. The period for the long-term limit is normally eight hours, when a different period is used this is stated. The averaging period for the short-term exposure limit is normally 15 minutes, such a limit applying to any 15-minute period throughout the working shift. Exposure to agents hazardous to health should be calculated according to the approved method, which is reproduced in Annexure 3.

Limitations to the application of exposure limits

61. The list of OELs, unless otherwise stated, relates to personal exposure to agents hazardous to health in the air of the workplace. The limits cannot be adapted readily to evaluate or control non-occupational exposure, e.g. levels of contamination in the neighbourhood close to an industrial plant. OELs are approved only for application to people at work. Although OELs are developed for atmospheric pressures between 85 kPa and 101,325 kPa, there are areas in South Africa where the atmospheric pressures are below 85 kPa. For practical purposes, uncorrected OELs may be used at atmospheric pressures as low as 80 kPa. Where higher atmospheric pressures may be encountered, for example, in tunnelling or underwater hyperbaric chambers, such situations will require special assessments. Guidance may be sought in the HSE guidance document "Occupational exposure limits for hyperbaric conditions", which is a hazard assessment document.
62. The OELs, as set out in Tables 2 and 3 of Annexure 2, are intended to be used for normal working conditions in workplaces. Employers should also take into account their duties and the provisions of the National Environmental Management Act, 1998 (Act No. 107 of 1998). OELs are not, however, designed to deal with serious accidents or emergencies, particularly where employees may be exposed to rapidly rising concentrations of gas, as may arise from a major escape due to plant failure. Over and above their responsibilities to ensure that the requirements of the HCA Regulations are met, employers also have a clear responsibility to ensure that the plant is designed, operated and maintained in a way that avoids accidents and emergencies. Where appropriate, detection, alarm and response measures should be used in order to minimise the effect of any such unplanned events. To help maintain adequate operational control, employers may find it helpful to select their own indicators of control when undertaking investigations or corrective action.

Exposure in mines

63. The HCA Regulations and the OELs in this publication do not apply to exposure to agents hazardous to health in mines.

Lead and asbestos

64. Work with asbestos or lead is not subject to the HCA Regulations. The exposure limits for various types of asbestos and lead are specified in the Asbestos Abatement Regulations and the Lead Regulations.

Pesticides

65. Agents used as active ingredients in pesticides are listed under their chemical names

and/or their common names. These names may sometimes be used as parts of the names of proprietary pesticide formulations. In all cases, the exposure limit applies to the specific active ingredients and not to the formulation as a whole.

Dusts

66. The general approach necessary to control occupational exposure to dusts is as follows: not all dusts have been assigned OELs, but the lack of such limits should not imply an absence of hazard. In the absence of a specific exposure limit for a particular dust, exposure should be adequately controlled. Where there is no indication of the need for a lower value, personal exposure should be kept below both 10 mg/m³, eight-hour time-weighted average, total airborne dust and 5 mg/m³, eight-hour time-weighted, average respirable dust. Such, or greater, dust concentrations should be taken as excessive concentrations.
67. Where dusts contain components which have their own assigned OELs, all the relevant limits should be complied with.

Particle size selective criteria for sampling of total airborne particulate and respirable particulate

68. Unless specified otherwise, OELs for all airborne particulates (HCAs comprising of airborne particulates) refer to the inhalable particulate matter of that agent. Sampling of these airborne particulates must be carried out with a method specifically designed to collect the inhalable particulate matter of the HCA. Inhalable particulate matter approximates to the particle size fraction of particulates that can be suspended in air with an upper size limit of approximately 100 micrometres (µm) in aerodynamic diameter.
69. Respirable particulate matter refers to materials that are hazardous when deposited in the gas exchange region of the lung. Respirable particulates generally have an aerodynamic diameter of less than 10 µm and a median of 4 µm. These materials are sampled with a respirable particulate matter sampler with a median cut point of 4 µm.

Inhalable fraction: the mass fraction of total airborne particles which is inhaled through the nose and mouth, measured by a size-selective device conforming to a sampling efficiency curve which passes through the points in the table below.

Aerodynamic diameter (µm)	Inhalable fraction (%)
0	100
1	97
2	94
5	87
10	77
20	65
30	58
40	54,5
50	52,5
100	50

Thoracic fraction: the mass fraction of inhaled particles which penetrate beyond the larynx, measured by a size-selective device conforming to a sampling efficiency curve which passes through the points in the table below.

Aerodynamic diameter (µm)	Thoracic fraction (%)
0	100
2	94
4	89
6	80,5
8	67
10	50
12	35
14	23
16	15
18	9,5

Respirable fraction: the mass fraction of inhaled particles which penetrate to the unciliated airways, measured by a size-selective device conforming to a sampling efficiency curve which passes through the points in the table below.

Aerodynamic diameter (µm)	Respirable fraction (%)
0	100
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

Wood dust

70. Wood dust is a general term covering a wide variety of airborne wood dusts. The health effects of wood dust differ between the dust generated from the processing of different species of trees. Specific species of both hard and soft woods induce sensitisation and so the categorisation of woods into hard and soft woods to indicate relative toxicity is not useful. For this reason, OELs are indicated by species and not hard/soft wood categorisation. Oak and beech are listed with an A1 (confirmed human) carcinogenic potential and birch, mahogany, teak and walnut are listed with an A2 (suspected human) carcinogenic potential by the ACGIH. For further information on the health effects of woods refer to the HSE (UK) Woodworking Sheet No. 30 and the ACGIH TLVs and BEIs, Appendix D, which provides information on tree species suspected of inducing sensitisation. Dust is generated by the machining and working of wood and wood-containing materials such as chipboard and fibreboard. Operations such as sawing, turning and routing produce relatively coarse dust, while sanding and assembly operations generate fine dust.
71. Dust is generated by the machining and working of wood and wood-containing materials such as chipboard and fibreboard. Operations such as sawing, turning and routing produce relatively coarse dust, while sanding and assembly operations generate fine dust.

Fume

72. The word fume is often used to include gases and vapours. This is not the case for exposure limits where fume should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usually after volatilisation from melted substances. The generation of fume is often accompanied by a chemical reaction such as oxidation or thermal breakdown.

Absorption through the skin

73. In general, for most agents the main route of entry into the body is by inhalation. The OELs given in these regulations relate solely to exposure by this route. Certain agents such as phenol, aniline and certain pesticides (marked in the Tables with a SKIN notation) have the ability to penetrate intact skin and thus become absorbed into the body. Absorption through the skin can result from localised contamination, for example, from a splash on the skin or clothing, or in certain cases from exposure to high atmospheric concentrations of vapour. Serious effects may result with little or no warning; therefore, it is necessary to take special precautions to prevent skin contact when handling these agents. Where the properties of the agents and the methods of use provide a potential exposure route via skin absorption, these factors should be taken into account in determining the adequacy of the control measures.

Sensitisers

74. Certain agents may cause sensitisation of the respiratory tract if inhaled or if skin contact occurs. Respiratory sensitisers can cause asthma, rhinitis or extrinsic allergic alveolitis. Skin sensitisers cause allergic contact dermatitis. Agents which cause skin sensitisations are not necessarily respiratory sensitisers or vice versa. Only a proportion of the exposed population will become sensitised, and those who do become sensitised will not have been identified in advance. Individuals who become sensitised may produce symptoms of ill health after exposure even to minute concentrations of the sensitiser.
75. In general, for most agents the main route of entry into the body is by inhalation. The OELs given in these regulations solely relate to exposure by this route. Certain agents such as phenol, aniline and certain pesticides (marked in the Tables with a SKIN notation) have the ability to penetrate the intact skin and thus become absorbed into the body. Absorption through the skin can result from localised contamination, for example, from a splash on the skin or clothing, or in certain cases from exposure to high atmospheric concentrations of vapour. Serious effects can occur with little or no warning and it is necessary to take special precautions to prevent skin contact when handling these agents. Where the properties of the agents and the methods of use provide a potential exposure route via skin absorption, these factors should be taken into account in determining the adequacy of the control measures. [Query: this is a duplication of paragraph 73, should it be removed or replaced?]
76. Where it is reasonably practicable, exposure to sensitisers should be prevented. Where this cannot be achieved, exposure should be kept as low as is reasonably practicable and activities giving rise to short-term peak-concentrations should receive particular attention. As with other agents, the spread of contamination by sensitisers to other working areas should also be prevented, as far as is reasonably practicable.
77. RSEN and DSEN notations (marked in the Tables) have been assigned only to those sensitisers that may cause sensitisation by inhalation and skin respectively. Other agents not contained in these Tables may act as sensitisers.

Other factors

78. Working conditions which impose additional stress on the body, such as exposure to ultra-violet radiation and high temperatures, pressures and humidity, may increase the toxic response to an agent. In such cases, specialist advice may be necessary to evaluate the effect of these factors.

MIXED EXPOSURES

General

79. The majority of OELs listed in Tables 2 and

3 of Annexure 2 are for single compounds or for HCAs containing a common element or radical, e.g. tungsten and compounds, and isocyanates. A few of the limits relate to HCAs commonly encountered as complex mixtures or compounds, e.g. white spirit, rubber fume and welding fume. However, workers are frequently subject to other mixed exposures involving solids, liquids, aerosols or gases. These exposures can arise as a result of work with materials containing a mixture of agents, or from work with several individual HCAs, simultaneously or successively, in a work shift. Mixed exposures require careful assessment of their health effects and the appropriateness of control standards. The following paragraphs provide a brief summary of the advice on the application of exposure limits in these circumstances. In all cases of doubt, specialist advice should be sought.

Effects of mixed exposures

80. The ways in which the constituent agents of a mixed exposure interact vary considerably. Some mixed exposures involve agents that act on different body tissues or organs, or by different toxicological mechanisms, these various effects being independent of each other. Other mixtures will include agents that act on the same organs, or by similar mechanisms, so that the effects reinforce each other and the agents are additive in their effect. In some cases, the overall effect is considerably greater than the sum of the individual effects and the system is synergistic. This may arise from mutual enhancement of the effects of the constituents or because one agent potentiates another, causing it to act in a way which it would not do alone.

Assessment and control

81. With all types of mixed exposures it is essential that assessments be based on the concentrations of each of the constituents in air to which workers are exposed. Depending on the nature of the constituents and the circumstances of use, the relative concentrations of the constituents in air may differ considerably from those in the liquid or solid source material. The composition of the bulk material should not be relied on for assessment unless there is good evidence for doing so.

82. The ways in which the constituent agents of a mixed exposure interact vary considerably. Some mixed exposures involve agents that act on different body tissues or organs, or by different toxicological mechanisms, these various effects being independent of each other. Other mixtures will include agents that act on the same organs, or by similar mechanisms, so that the effects reinforce each other and the agents are additive in their effect. In some cases the overall effect is considerably greater than the sum of the individual effects and the system is synergistic. This may arise from mutual enhancement of the effects of the constituents or because one agent potentiates another, causing it to act in a way which it would not do alone. [Query: this is a duplication of paragraph 80, should it be removed or replaced?]

[Editor's note: Words preceding paragraph (a) as per Government Gazette]

(a) Synergistic agents: known cases of synergism and potentiation are considerably less common than the other types of behaviour in mixed exposures. However, they are the most serious in their effects and require the strictest control. They are also the most difficult to assess and wherever there is reason to suspect such interaction, specialist advice should be obtained;

(b) Additive agents: where there is reason to believe that the effects of the constituents are additive, and where the exposure limits are based on the same health effects, the mixed exposure should be assessed by means of the formula -

$$E_m = \frac{(C1)}{(OEL1)} + \frac{(C2)}{(OEL2)} + \frac{(Cn)...)}{(OELn...)}$$

Here E_m is the exposure for the mixture, and C1, C2, etc. are the time-weighted average (TWA) concentrations of constituents in air. OEL1, OEL2, etc. are the corresponding exposure limits. The use of this formula is only applicable where the additive agents have been assigned OELs which relate to the same reference period in the list of promulgated OELs. If the equation generates a result that is > 1, then the exposure limit for the mixture (E_m) has been exceeded. If one of the constituents has been assigned an OEL-ML, then the additive effect should be taken into account in deciding the extent to which it is reasonably practicable to further reduce exposure; and

(c) Independent agent: where no synergistic or additive effects are known or considered likely, the constituents can be regarded as acting independently. It is then sufficient to ensure compliance with each of the OELs individually.

83. The above steps provide basic protocol for assessment of mixed exposures. It is open to persons responsible for control of exposure to treat all non-synergistic systems as though they were additive. This avoids the need to distinguish additive and independent systems and can be regarded as the most prudent course, particularly where the toxicity data are scarce or difficult to assess.

Monitoring mixed exposure

84. Further information on monitoring airborne contaminants is given in paragraphs 55 and 56. *[Note: please check if these are the correct paragraphs.]* The number of components of a mixed exposure for which routine air monitoring is required can be reduced if their relative concentrations can be shown to be constant. This involves the selection of a key or marker, which may be one of the constituents, as a measure of the total contamination. Exposure to the marker is controlled at a level selected so that exposures to all components will be controlled in accordance with the criteria in paragraphs 82(a) and (b). However, if one of the components has been assigned an OEL-ML, the level of the exposure to that agent should always be reduced as far as is reasonably practicable. If this approach is to be used, it should take place under the guidance of suitable specialist advice.

Complicating factors

85. Several factors that complicate the assessment and control of exposure to individual agents will also affect cases of mixed exposures and will require similar special consideration. Such factors include:

(a) exposure to an agent for which there is no established limit or for which an OEL-ML has been set;

(b) the relevance of factors such as alcohol, medication, smoking and additional stresses;

(c) exposure of the skin to one or more agents that can be absorbed by this route, as well as by inhalation; and

(d) agents in mixture may mutually affect the extent of their absorption, as well as their health effects, at a given level of exposure.

Monitoring exposure

86. Regulation 5(4) of the HCA Regulations imposes a duty on the employer to monitor the exposure of employees to agents hazardous to health. Details of routine sampling strategies for individual agents are outside the scope of this document. However, advice is available in HSG 173, Monitoring strategies for toxic substances, produced by the HSE, which provides practical guidance on monitoring agents hazardous to health in air.

Calculation of exposure with regard to the specified reference periods

87. The following guidance is provided as an approved method for the calculation of exposure in relation to the eight-hour, short-term and one-year reference periods.

The 8-hour reference period

88. The term "8-hour reference period" relates to the procedure whereby the occupational exposures in any 24-hour period are treated as equivalent to a single uniform exposure for eight hours [the 8-hour time weighted average (TWA) exposure].

The eight-hour TWA may be represented mathematically by

$$\frac{C_1T_1+C_2+T_2+..+C_nT_n}{8}$$

where C1 is the occupational exposure value (concentration) and T1 is the associated exposure time in hours in any 24-hour period.

Examples

89. The operator works for 7 hours 20 minutes on a process in which he is exposed to an agent hazardous to health. The average exposure during that period is measured as 0,12 mg/m3.

The 8-hour TWA therefore is-

7h20 min(7.33h) at 0,12mg/m^3
40 min (0.67h) at 0mg/m^3
That is-

$$\frac{(0,12 \times 7,33)+(0 \times 0,67)}{8}$$

$$=0.11 mg/m^3$$

90. The operator works for eight hours on a process in which he is exposed to an agent hazardous to health. The average exposure during that period is measured as 0,15mg/m^3.

The eight-hour TWA therefore is:

$$\frac{0,15 \times 8}{8} = 0,15 mg/m^3$$

91. Working periods may be split into several sessions for the purpose of sampling to take account of rest and meal breaks, etc. This is illustrated by the following example:

Exposure is assumed to be zero during the period 10:30 to 10:45, 12:45 to 13:30 and 15:30 to 15:45.

Working period	Exposure (mg/m^3)	Duration of sampling (h)
08:00-10:30	0,32	2,5
10:45-12:45	0,07	2
13:30-15:30	0,20	2
15:45-17:15	0,10	1,5

The 8-hour TWA therefore is:

$$\frac{(0,32 \times 2,5) + (0,07 \times 2) \times (0,20 \times 2) + (0,10 \times 1,5) + (0 \times 1,25)}{8}$$

$$= 0.19 mg/m^3$$

92 An operator works for eight hours during the night shift on a process in which he is intermittently exposed to an agent hazardous to health. The operator's work pattern during the working period should be known and the best available data relating to each period of exposure should be applied in calculating the eight-hour TWA. This data should be based on direct measurement, estimates based on data already available or reasonable assumptions.

Working period	Task	Exposure (mg/m³)
22:00-24:00	Helping in workshop	0,1 (known to be the exposure of full-time group in the workshop)
24:00-01:00	Cleaning elsewhere in factory	0 (assumed)
01:00-04:00	Working in canteen	0 (assumed)
04:00-06:00	Cleaning up after breakdown in workshop	0,21 (assumed)

The 8-hour TWA therefore is-

$$\frac{(0{,}10 \times 2) + (0{,}21 \times 2) + (0 \times 4)}{8} = 0{,}078 \text{mg/m}^3$$

93. The operator works a 12-hour shift each day for five days, and then has seven days' rest. The exposure limits are based on an eight-hour reference period in each 24 hours in which an exposure occurs; the seven days' rest makes no difference. While at work, the operator is exposed to 4mg/m³.

The eight-hour TWA =

$$\frac{(4 \times 12)}{8} = 6\text{mg/m}^3$$

The short-term reference period

94. Exposure should be recorded as the average over the specified short-term reference period, normally 15 minutes, and should be determined by sampling over that period. For short emissions of less than the reference period, which still may have the potential to cause harm, appropriate action should be taken to ensure that a suitable and sufficient risk assessment is carried out to ensure that there is no risk to health from such exposures.

Example where the short-term reference period is 15 minutes

Exposure period is less than 15 minutes

95. The sampling result should be averaged over 15 minutes. For example, if a 5-minute sample produces a level of 600 ppm and is immediately followed by a period of zero exposure, then the 15-minute average exposure will be 200 ppm.

Exposure period is 15 minutes or longer

96. Measurements should be taken over a 15-minute period and the result is the 15-minute average exposure. Measurements for periods greater than 15 minutes should not be used to calculate a 15-minute average exposure, but if the average exposure over the longer period exceeds the 15-minute exposure limit, then this limit must have been exceeded over some 15-minute period.

Methods of measurement and calculation for determining fibre concentrations of man-made mineral fibre

Refractory ceramic fibre (RCF)

97. RCFs are man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide ($Na_2O+K_2O+CaO+MgO+BaO$) content less or equal to 18% by weight. The term RCF also includes non-oxide ceramic fibre such as boron and silicon carbides and nitrides.

Cotton dust

98. Cotton is the cellulose fibre that grows inside the seed pods (or bolls) of the cotton plant. When mature, the boll breaks and the cotton appears as a soft wad of fine fibres. After picking, the cotton is separated from the seed etc., and is packed and compressed into bales.
99. The OELs, which are based on personal sampling, applies to exposure to dust during the handling of raw and waste cotton, including blends containing raw or waste cotton, with the following exceptions:
    (a) dust from weaving, knitting, braiding and subsequent processes;
    (b) dust from bleached or dyed cotton; and
    (c) dust from finished articles, for example, garments.

    (Where the OEL does not apply, exposure should still be adequately controlled.)

    Two OELs apply:
    a) Cotton dust less fly; and
    b) Cotton dust inhalable airborne particulate.

Cotton dust less fly

100. Area concentrations of cotton dust less fly must be measured using a vertical elutriator in accordance with OSHA Analytical Method, Appendix A 29 CFR 1910.1043, as updated from time to time.

Cotton dust inhalable airborne particulate

101. Personal exposure concentrations must be measured by means of an Institute of UK Occupational Medicine (IOM) inhalable dust sampler in accordance with MDHS14/3 or any other sampler giving equivalent results, as updated from time to time.

Asphyxiants

102. Some gases and vapours, when present at high concentration in air, act as simple asphyxiants by reducing the oxygen content by dilution to such an extent that life cannot be supported. Many asphyxiants are odourless, colourless and not readily detectable. Monitoring the oxygen content of the air is often the best means of ensuring safety. The oxygen content of air in the workplace should never be allowed to fall below a minimum of 19% by volume under normal atmospheric pressure. Particular care is necessary when dense asphyxiants, e.g. argon, are used since very high localised concentrations can arise due to their collecting in pits, confined spaces and other low-lying areas where ventilation is likely to be poor. Many asphyxiants present a fire or explosion risk. The concentrations at which these risks can arise are liable to be well below those levels at which asphyxiation is likely to occur and should be taken into account when assessing the hazards.

Rubber fume and rubber process dust

103. Rubber fume is fume evolved in the mixing, milling and blending of natural rubber or synthetic elastomers, or of natural rubber and synthetic polymers combined with chemicals, and in the processes which convert the resultant blends into finished products or parts thereof, and including any inspection procedures where fume continues to be evolved.
104. Rubber process dust is evolved during the manufacture of intermediates or articles from natural rubber and/or synthetic elastomers. This definition does not include dusts, which, for occupational purposes, can be dealt with individually. In each case the relevant OEL will apply.
105. Dust produced by the abrasion of cured rubber should be dealt with as particles (insoluble or poorly soluble) not otherwise specified [PNOS], i.e.dust of any kind when present at a substantial concentration in air.

Flour dust

106. Flour dust is taken to be finely ground particles of cereals or pulses (including contaminants) that result from any grinding process and from any subsequent handling and use of that flour. Any additives (e.g. flour improvers) are included in this definition only after they have been added to the final product mix.

Grain dust

107. Grain dust is taken to be dust arising from the harvesting, drying, handling, storage or processing of barley, wheat, oats, maize and rye, including contaminants.

Halogeno-platinum compounds

108. These are coordination compounds in which a platinum atom or ion is directly coordinated to one or more halide (i.e. fluoride, chloride, bromide or iodide) ions. These compounds are subject to an OEL and cause sensitisation.
109. For substances which, although they contain platinum and halide ions, the halogen is not directly co-coordinated by a chemical bond to the platinum, the OEL for soluble platinum compounds is applicable.

Globally Harmonised System (GHS)

110. As SANS 10234 is aligned with the UN Globally Harmonized System (GHS), SANS 10234 may be used as alternate guide to HCA classification, preparation of safety data sheets and labelling. However, it is noted that version differences may exist between SANS 10234 and the GHS, Purple Book, which is updated biennially. By implication, if SANS 10234 is used by the manufacturer or importer of chemical agents for the classification of an HCA, preparation of an SDS or labelling, the requirement for conformance to the latest version of the GHS remains. The GHS requirements for classification, labelling and SDS are not applicable to foodstuffs, cosmetics or pharmaceutical in their final form.
111 Hazard classes and categories provided in Annexure 1, Table 3 for Environmental Hazards are intended as a guideline only for the classification of chemicals.
112. On any label of an HCA the pictogram size must be at least 16 x 16 millimetres where possible, with a red boarder and minimum letter size of 1,2 mm. For further guidance on labelling refer to the European Chemicals Agency (ECHA), Guidance on labelling and packaging in accordance with Regulation (EC) No. 1272/2008, as may be updated from time to time.

UN number and proper shipping name

113. The UN proper shipping name is the standard technical name to describe the hazard properties and the composition of dangerous goods. Select the UN number (4 digits) and a proper shipping name from the UN Transport of Dangerous Goods, Dangerous Goods List that can most accurately describe the dangerous goods. The UN number and a proper shipping name should also be included in the Dangerous Goods Declaration and section 14 of safety data sheets.

LEAD REGULATIONS

GNR.236 of 28 February 2002

[These regulations wer first published in GNR.586 of 22 March 1991 and repealed by GNR.236 of 28 February 2002]

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions. - In these Regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"approved lead inspection authority" means an approved inspection authority for the-

(*a*) monitoring of lead concentrations in the air; or

(*b*) analysis of blood lead or urinary lead concentrations;

"exposed" means exposed to lead while at the workplace and "**exposure**" has a corresponding meaning;

"General Administrative Regulations" means the General Administrative Regulations published under section 43 of the Act under Government Notice No. R.1449 of 6 September 1996;

"health and safety standards" means the health and safety standards that have been incorporated into these regulations under section 44 of the Act;

"HSG 173" means the Monitoring Strategies for Toxic Substances, HSG 173, published by the Health and Safety Executive of the United Kingdom;

"intake" includes inhalation, ingestion and any other means of absorption;

"lead" means lead, lead alloys and lead compounds that can be absorbed in any way by any person;

"lead paint" means any paint, primer, paste, spray, stopping, filling or other material used in painting, which, when treated in accordance with the health and safety standards, yields to an aqueous solution of hydrochloric acid a quantity of soluble lead compound exceeding five percent of the dry weight of the portion taken for analysis when calculated as lead monoxide;

"measurement programme" means a programme according to the monitoring strategy as contemplated in HSG 173 and OESSM;

"monitoring" means the planning and carrying out of a measurement programme and the recording of the results thereof;

"occupational exposure limit for lead, in the case of tetra-ethyl lead", means an exposure limit of 0,10 mg lead per cubic metre of air, measured in accordance with a health and safety standard;

"occupational exposure limit for lead, other than for tetra-ethyl lead" , means an exposure limit of 0,15 mg lead per cubic metre of air, measured in accordance with a health and safety standard;

"OEL" or "**occupational exposure limit**" means a limit value set by the Minister for a stress factor in the workplace;

"OESSM" means the Occupational Exposure Sampling Strategy Manual, published by the National Institute for Occupational Safety and Health (NIOSH), United States of America: Department of Health, Education and Welfare;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations;

"respiratory protective equipment" means a device which is worn over at least the mouth and nose to prevent the inhalation of air that is not safe and which furthermore conforms to a standard approved by the Minister;

"respirator zone" means a respirator zone contemplated in regulation 9 (*a*);

"SABS 0228" means the Code of Practice for the Identification and Classification of Dangerous Substances and Goods, SABS 0228, published by the South African Bureau of Standards (SABS);

"SABS 0229" means the Code of Practice for Packaging of Dangerous Goods for Road and Rail Transportation in South Africa, SABS 0229, published by the South African Bureau of Standards (SABS);

"SABS 0400" means the Code of Practice for the Application of the National Building Regulations, SABS 0400, published by the South African Bureau of Standards (SABS);

"SABS SM 1164" means the Standard method for the determination of lead (inorganic and tetra-alkyl) in the workplace air by atomic absorption and spectrophotometry, SABS SM 1164, published by the South African Bureau of Standards (SABS);

"the Act" means the Occupational Health and Safety Act, 1993 (Act No.85 of 1993).

2. Scope of application. - (1) Subject to subregulation (2), these regulations shall apply to every employer and self-employed person at a workplace where lead is produced, processed, used, handled or stored in a form in which it can be inhaled, ingested or absorbed by any person in that workplace.

(2) Regulations 4(1), 4(2), 4(3), 4(4), 4(6), 6(2), 7, 8, 10(*c*), 10(*d*), 10(*f*), 11(2)(*f*) and 12(6) shall not apply in the case of self-employed persons.

3. Exposure to airborne lead. - Subject to regulation 12(1), no employer or self-employed person shall require or permit any person to work in an environment in which he or she would be exposed to lead in excess of the prescribed occupational exposure limits.

4. Information and training. - (1) An employer shall, before any employee is exposed or may be exposed to lead, and after consultation with the health and safety committee established for that section of the workplace, ensure that the employee is adequately and comprehensively informed and trained, on both practical aspects and theoretical knowledge, with regard to-

(*a*) the contents and scope of these Regulations;

(*b*) the potential sources of exposure;

(*c*) the potential health risk caused by exposure to lead, including the health risks to employees' families and others, which could result from taking home lead contaminated equipment and clothing;

(*d*) the measures taken by the employer to protect an employee against any risk from exposure;

(*e*) the precautions to be taken by the employee to protect him- or herself against the health risks associated with the exposure, which precautions include the wearing and use of protective clothing and respiratory protective equipment;

(*f*) the necessity, correct use, maintenance and limitations of protective equipment, facilities and engineering control measures provided;

(*g*) the assessment of exposure, the purpose of air sampling, the necessity of medical surveillance and the long term benefits of undergoing such surveillance;

(*h*) the occupational exposure limits and their meaning;

(*i*) the importance of good housekeeping in the workplace and personal hygiene;

(*j*) the safe working procedures regarding the use, handling, processing and storage of any material containing lead, including the correct application of control measures to limit the spread of lead outside the work area, and to limit the exposure of workers inside the work area as far as is reasonably practicable;

(*k*) the procedures to be followed in the event of spillages or any other similar emergency or situation which could arise by accident;

(*l*) the procedures for reporting and correcting defects likely to result in the release of airborne lead;

(*m*) safe waste disposal;

(*n*) the procedures for record keeping; and

(*o*) all other matters contemplated in regulation 5.

(2) Refresher training shall be given on mat ters contemplated in subregulation (1) at least every year or at more frequent inter vals that may be recommended by the health and safety committee.

(3) Training shall be given more frequently than once a year if-

(*a*) work methods change;

(*b*) the type of work carried out, changes significantly; or

(*c*) the type of equipment used to control exposure, changes.

(4) Training shall be provided by somebody who is competent to provide it and has adequate personal practical experience and theoretical knowledge of all aspects of the work being car ried out by the employer.

(5) An employer or a self-employed person

shall ensure, as far as is reasonably practicable, that his or her mandatory or any person other than employees who may be affected by lead ex posure at the workplace, are given adequate in formation, instruction and training.

(6) An employer shall keep a record of any training, both practical and theoretical, that was given to an employee.

(7) An employer or a self-employed person shall give instructions in writing of the procedures contemplated in subregulation (1)(k) to drivers of vehicles carrying lead or lead containing ma terial that has the potential of causing environ mental pollution or bodily absorption.

5. Duties of persons who may be exposed. Any person who is or may be exposed to lead in the workplace, shall obey any lawful instruction given by or on behalf of the employer or a self-employed person, regarding-

(*a*) the prevention of lead being released into the environment;
(*b*) the wearing and use of personal protective equipment;
(*c*) the wearing of monitoring equipment to measure personal exposure to airborne lead;
(*d*) reporting for medical surveillance as required by regulation 8;
(*e*) the notification of pregnancy to the occupational health practitioner;
(*f*) the cleaning up and disposal of materials containing lead;
(*g*) housekeeping at the workplace, personal hygiene and good environmental and health practices; and
(*h*) information and training received as contemplated in regulation 4.

6. Assessment of potential exposure. - (1) An employer or a self-employed person shall cause

(*a*) his or her undertaking to be assessed within six months after the commencement of these regulations and thereafter at intervals not exceeding two years, to determine if any person may be exposed to lead; and
(*b*) the results of the assessment contemplated in paragraph (*a*) to be recorded as required by regulation 10.

(2) An employer contemplated in subregula tion (1) shall, before causing an assessment to be made, consult with the relevant health and safety representative or relevant health and safety committee and thereafter inform them in writing of the arrangements made for the assess ment, give them reasonable time to comment thereon and ensure that the results of the assess ment are made available to them for comment.

(3) When making the assessment contemplat ed in subregulation (1)(*a*), the employer or a self-employed person shall take the following into account:

(*a*) The presence of any lead (organic or inorganic) to which a person may be exposed;
(*b*) where the lead may be present, in what physical form it is likely to be and the extent to which a person may be exposed;
(*c*) the nature of the work, process and any likely deterioration in, or failure of, any control measures;
(*d*) the details of expected exposures, in particular-
  (i) whether the expected exposure is above the OEL for lead, so that the appropriate respiratory protective equipment can be selected pending the implementation of engineering control measures;
  (ii) whether such exposures are intermittent, including the frequency and duration of exposures;
  (iii) the number of employees exposed and any other person who may be exposed, and their expected exposure values; and
  (iv) where applicable, results which may be available from any previous monitoring performed at the workplace;
(*e*) the steps to be taken to reduce exposure to the lowest level reasonably practicable and the steps to be taken to reduce the release of airborne lead into the environment;
(*f*) procedures for dealing with emergencies; and
(*g*) procedures for removal of lead waste from the workplace, and the disposal thereof.

(4) If the assessment or any of its reviews made in accordance with subregulations (1) and (5) indicates that any person may possibly be exposed to lead, the employer or a self-employed person shall ensure that the exposure is adequately controlled as contemplated in regulation 11.

(5) An employer or a self-employed person shall forthwith review the assessment required by subregulation (1) if-

(*a*) there is reason to believe that the previous assessment is no longer valid;
(*b*) control measures are no longer efficient;
(*c*) technological or scientific advances allow for more efficient control methods; or
(*d*) there has been a significant change in-
  (i) work methods;
  (ii) the type of work carried out; or
  (iii) the type of equipment used to control exposure, and subregulations (2) and (3) shall apply.

7. Air monitoring. - (1)Where exposure to airborne lead is in excess of half the OEL for lead, an employer contemplated in regulation 2(1) shall ensure that the measurement programme of the airborne concentrations of lead to which an employee is exposed, is-

(*a*) carried out in accordance with these Regulations;
(*b*) carried out only after the relevant health and safety representative or relevant health and safety committee has been informed thereof and given a reasonable opportunity, as mutually agreed upon, to comment thereon;
(*c*) carried out by-
  (i) an approved lead inspection authority; or
  (ii) a person whose ability to do the measurements is verified by an approved lead inspection authority;
(*d*) representative of the exposure of employees to airborne lead in accordance with subregulation (2); and
(*e*) verified in accordance with subregulation (3) if the measurements are carried out by a person contemplated in subregulation (1)(*c*)(ii).

(2) In order to comply with the provisions of subregulation (1)(*d*) an employer shall ensure-

(*a*) that the measurement programme-
  (i) in the case of a group measurement, makes provision for the selection of the number of persons for a sample to be done as contemplated in chapters 3 and 4 and table A-2 of Technical Appendix A of the OESSM: Provided that in so far as any provision of the OESSM and the HSG 173 is repugnant to a provision of the Occupational Health and Safety Act, 1993, and these Regulations, the provisions of the Act and these Regulations shall apply;
  (ii) in the case of the most exposed employee measurement, if the exposure exceeds the OEL for lead, then any other employee whose exposure could be above the OEL for lead is identified and that measurements representative of typical exposure shall be carried out on every employee identified; and
(*c*) that representative measurements are car ied out at least every 12 months: Provided that whenever the OEL for lead is exceeded, regulation 11 shall apply.

(3) In order to comply with subregulation (1)(e), an employer shall obtain the services of an approved lead inspection authority who shall, at intervals not exceeding 12 months, perform the required verification by-

(*a*) examining the measurement and analysis equipment of the employer;
(*b*) questioning the person contemplated in subregulation (1)(c)(ii) regarding the measurement programme;
(*c*) carrying out together with the person contemplated in subregulation (1)(c)(ii), the measurement programme required by subregulation (2) for any one group; and
(*d*) recording the results of the measurement and investigation as contemplated in subregulations (2) and (3) respectively, as required by regulation 10.

8. Medical surveillance. - (1) An employer shall ensure that an employee is under the medical surveillance of an occupational medicine practitioner if-

(*a*) the employee is exposed to an airborne lead concentration exceeding the OEL;
(*b*) the employee is exposed to tetra-alkyl lead; or
(*c*) an occupational medicine practitioner certifies that the relevant employee should be under medical surveillance.

(2) In order to comply with subregulation (1), an employer shall ensure that-

(*a*) an initial medical examination comprising of the following is carried out immediately before or within 14 days after a person commences employment:
  (i) An evaluation of the employee's medical and occupational history;
  (ii) clinical examinations; and
  (iii) in the case of lead other than tetra-alkyl lead, measurement of the employee's blood lead and haemoglobin concentrations and other relevant biological tests at the discretion of the occupational medicine practitioner: Provided that the measurement of blood lead concentrations shall be repeated during the third and the sixth month after commencement of employment: Provided further that when monitoring of zinc protoporphyrine (ZPP) in blood expressed in µg ZPP/g haemoglobin is performed at intervals not exceeding two months, only annual blood lead concentration measurements are required;
(*b*) subject to the provisions of subregulation (2)(*a*)(iii), biological monitoring consisting of the following is carried out:
  (i) Measurement of blood lead concentration for employees exposed to lead other than tetra-alkyl lead, at intervals as prescribed in the Table contained in Annexure A to these Regulations: Provided that in the case of female employees who are capable of procreation, all such measurements are carried out at three-monthly intervals;
  (ii) immediate measurement of urinary lead concentration for employees exposed to tetra-alkyl lead and thereafter at intervals as prescribed in the Table contained in Annexure B to these Regulations;
(*c*) clinical examinations and relevant biological tests are carried out at the discretion of the occupational medicine practitioner;
(*d*) where the blood lead concentration of an employee exposed to lead other than tet-

ra-alkyl lead, is equal to or greater than 60 µg/100 mℓ the test is repeated, and if the result of the repeated test corrected for the haematocrit value, with reference to a standard value of 43 % for men and 38 % for women, is greater than 60 µg/100 mℓ, that the employee is certified to be unfit for work in an area where he or she is exposed to lead: Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a blood lead concentration of less than 60 µg /100 mℓ to be unfit for work in an area in which he or she is exposed to lead: Provided further that the removal blood lead level of 60 µg/100 mℓ may be phased-in by reducing the level from 80 µg/100 mℓ to 75 µg/100 mℓ with effect from 30 June 2002, and then by a further 5 µg/100 mℓ every twelve months thereafter in order to reach 60 µg/100 mℓ by 30 June 2005, as depicted in the Table contained in Annexure C to these Regulations;

(*e*) where the urinary lead concentration of an employee exposed to tetra-alkyl lead is equal to or greater than 150 µg/ℓ the test is repeated, and if the result of the repeated test is greater that [sic] 150 µg/ℓ that the employee is certified to be unfit for work in an area in which he or she is exposed to lead: Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a urinary lead concentration of less than 150 µg/ℓ to be unfit for work in an area in which he or she is exposed to lead; and

(*f*) where the ZPP value in the blood of an employee who is exposed to lead other than tetra-alkyl lead, is equal to or greater than 10 µg ZPP/g haemoglobin, the blood lead shall be measured as contemplated in subregulation 2(*d*): Provided that the occupational medicine practitioner, if he or she deems it necessary, may certify an employee who has a ZPP value of less than 10 µg/g haemoglobin, but higher than 8 µg ZPP per gram haemoglobin in his or her blood, to be unfit for work in an area in which he or she is exposed to lead.

(3) An employer shall ensure that no employee certified by the occupational medicine practitioner to be unfit for work in an area which exposes him or her to lead, returns to work until-

(*a*) the occupational medicine practitioner certifies in writing that the employee is fit for such work;

(*b*) the employee's blood lead concentration is less than 50 µg/100 mℓ: Provided that the return blood lead level of 50 µg/100 mℓ may be phased-in by reducing the level from 70 µg/100 mℓ to 65 µg/100 mℓ with effect from 30 June 2002, and then by a further 5 µg/100 mℓ every twelve months thereafter in order to reach 50 µg/100 mℓ by 30 June 2005, as depicted in the Table contained in Annexure D to these Regulations;

(*c*) the ZPP value in the blood of the employee is less than 6 µg/g haemoglobin; or

(*d*) the employee's urinary lead concentration is less than 130 µg/ℓ

(4) An employer shall ensure that-

(*a*) a female employee who is capable of procreation and who carries out work that exposes her to lead, is removed from such work when her blood lead concentration exceeds 40 µg/100 mℓ or her urinary lead concentration exceeds 75 µg/ℓ, or if she falls pregnant; and

(*b*) the employee contemplated in subregulation (4)(*a*) is not permitted to return to work that will expose her to lead unless her blood lead concentration is less than 30 µg/100 mℓ or her urinary lead concentration is less than 65 µg/ℓ or, where the removal was due to pregnancy, the employee is no longer pregnant.

(5) Where it is found that an employee had to be removed from his or her workplace owing to the provisions of subregulations (2) (*d*), (2) (*e*), (2) (*f*) and (4) (*a*), the employer shall record and investigate the incident in accordance with regulation 8 of the General Administrative Regulations.

9. Respirator zone. - An employer or self-employed person shall ensure that-

(*a*) workplace or part of a workplace under his or her control, where the concentration of lead in the air is or may be such that the exposure of persons in that workplace exceeds the OEL without the wearing of respiratory protective equipment, is zoned as a respirator zone;

(*b*) a respirator zone is clearly demarcated and identified by notice indicating that the relevant area is a respirator zone and that the respiratory protective equipment and protective clothing contemplated in regulation 12 must be worn;

(*c*) no person enters or remains in a respirator zone unless he or she wears the required respiratory protective equipment and protective clothing; and

(*d*) the reason why the OEL is exceeded is identified and that action is taken, as soon as is reasonably practicable, by other means than respiratory equipment, in order to lower the airborne lead concentrations so that it does not exceed the OEL for lead.

10. Records. - An employer shall-

(*a*) keep records of the results of all assessments, air monitoring, medical surveillance reports and maintenance of control measures required by regulations 6, 7 and 8: Provided that personal medical records shall only be made available to an occupational health practitioner;

(*b*) subject to paragraph (*c*), make the records contemplated in paragraph (*a*), excluding personal medical records, available for inspection by an inspector;

(*c*) subject to formal consent in writing of an employee, allow any person to peruse the records of that particular employee;

(*d*) make the records of all assessments and air monitoring available for perusal by the relevant health and safety representative or health and safety committee;

(*e*) keep all records of assessments and air monitoring for a minimum period of 40 years;

(*f*) keep all medical surveillance records for a minimum period of 40 years and if he, she or it ceases activities, hand over or forward by registered post all those records to the relevant provincial director: Provided that those records shall contain at least the following information:

(i) Surname, forename(s), gender, date of birth, name of spouse or closest relative and, where available, permanent address and postal code;

(ii) a record of types of work carried out with lead and, where relevant, its location, the starting and finishing dates and the average duration of exposure expressed in hours per week;

(iii) a record of any work with lead prior to this employment; and

(iv) dates of medical surveillance reports;

(g) keep record of the tests and investigations carried out in terms of regulation 14 (*b*) and of any repairs resulting from the relevant tests and investigations, and keep that record for at least three years; and

(h) keep a record of training given to an employee in terms of regulation 4 (6) for as long as the employee remains employed at the workplace in which he or she is being exposed to lead.

11. Control of exposure to lead. - (1) An employer or self-employed person shall ensure that the exposure of a person to lead is either prevented or, where this is not reasonably practicable, adequately controlled: Provided that the control of the exposure shall be regarded as adequate if-

(*a*) the level of airborne lead is-

(i) at or below the OEL; or

(ii) above the OEL but the reason has been identified and action has been taken, as soon is reasonably practi cable to lower the airborne level by means other than respiratory protective equipment, so that it does not exceed the OEL for lead; or

(*b*) in the case of exposure to-

(i) ingestible lead, the blood lead level is less than 20 µg/100 mℓ; or

(ii) lead alkyls, the urinary lead level is less than 120 µg/ℓ.

(2) Where reasonably practicable, an employer or a self-employed person shall control a person's exposure to lead by-

(*a*) using a substitute for lead or lead-containing material;

(*b*) limiting the number of persons who will be exposed or may be exposed;

(*c*) limiting the period during which a person will be exposed or may be exposed;

(*d*) limiting the amount of lead that may contaminate the working environment;

(*e*) introducing the following engineering control measures for the control of exposure:

(i) Process separation, automation or enclosure;

(ii) the installation of local extraction ventilation systems to processes, equipment or tools for the control of emissions of airborne lead;

(iii) the use of wet methods where appropriate;

(iv) separate workplaces for different processes;

(v) the identification of early corrective action to be taken; and

(*f*) introducing appropriate written work procedures that an employee must follow to ensure that-

(i) lead is safely handled, used and disposed of;

(ii) process machinery, installations, equipment, tools, local extraction and general ventilation systems are safely used and maintained; and

(iii) early corrective action regarding the control of lead exposure can be taken.

(3) The employer or self-employed person shall ensure that the release of lead into any environment or water system complies with the provisions of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965), the Environment Conservation Act, 1989 (Act No. 73 of 1989), the National Water Act, 1998 (Act No. 36 of 1998), and the National Environmental Management Act, 1998 (Act No. 107 of 1998).

12. Personal protective equipment and facilities - (1) An employer or self-employed person shall -

(*a*) provide all persons who are exposed to concentrations of airborne lead in excess of half the OEL for lead, with suitable protective clothing with no pockets so as to reduce the possibility of contamination and collection of lead dust;

(*b*) in the case of tetra-alkyl leads which can be absorbed through the skin, provide the person with suitable lead impermeable Protective equipment; and

(*c*) provide a person with suitable respiratory protective equipment to ensure that the per-

son's exposure is adequately controlled as contemplated in regulation 11.

(2) Where respiratory protective equipment is provided, the employer or self-employer person shall ensure that-

(*a*) the relevant equipment is capable of keeping the exposure at or below the OEL for the type of lead;

(*b*) the relevant equipment is correctly selected and properly used;

(*c*) information, instruction, training and supervision that are necessary with regard to the use of the equipment are known to the persons; and

(*d*) the equipment is kept in good condition and efficient working order.

(3) An employer or self-employed person shall, as far as is reasonably practicable

(*a*) issue no personal protective equipment which has already been used to a person, unless the relevant protection equipment is properly decontaminated and, where appropriate, sterilised;

(*b*) provide separate containers or storage facilities for personal protective equipment when not in use; and

(*c*) ensure that all personal protective equipment not in use is stored only in the place provided.

(4) An employer or self-employed person shall, as far as is reasonably practicable, ensure that all contaminated personal protective equipment is cleaned and handled in accordance with the following procedures:

(*a*) Where the equipment is cleaned on the premises of the employer or self-employed person, care shall be taken to prevent contamination during handling, transport and cleaning;

(*b*) where the equipment is sent off the premises to a contractor for cleaning purposes, the-

(i) equipment shall be packed in impermeable containers;

(ii) containers shall be tightly sealed and have clear indication thereon that the content thereof is contaminated with lead; and

(iii) relevant contractor shall be fully informed of the requirements of these Regulations and the precautions to be taken for the handling of the lead contaminated equipment.

(5) Subject to subregulation (4) (*b*), an employer or self-employed person shall ensure that no person removes dirty or contaminated personal protective equipment from the premises:

Provided that where contaminated personal protective equipment has to be disposed of, it shall be treated as lead waste as contemplated in regulation 17.

(6) Subject to the provisions of the Facilities Regulations promulgated by Government Notice No. R. 2362 of 5 October 1990, an employer shall, where reasonably practicable, provide employees who use personal protective equipment as contemplated in subregulation (1), with-

(*a*) adequate washing facilities which are readily accessible and located in an area where the facilities will not become contaminated, in order to enable the employees to meet a standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of lead;

(*b*) two separate lockers labelled "protective clothing" and "personal clothing" respectively, located in both the "dirty" and "clean" change rooms, and also ensure that the clothing is kept separately in the lockers concerned; and

(*c*) separate "clean" and "dirty" change rooms if the employer uses or processes lead to the extent that the lead could endanger the health of persons outside the workplace.

13. Cleanliness of premises and plant. - Every employer or self-employed person shall, as far as is reasonably practicable, take steps to ensure that-

(*a*) all workplaces are kept in a clean state and free of lead waste and, when lead is accidentally spilled or airborne lead is accidentally released into the workplace, corrective measures are immediately taken, before any work is continued;

(*b*) cleaning is carried out by vacuum-cleaning equipment with a filtration efficiency of at least 99 per cent for particles of one micrometre in size, or by some other means so that lead dust neither escapes nor is released into the air to such an extent that it contaminates any workplace or the environment;

(*c*) the vacuum-cleaning equipment is regularly serviced and all its external surfaces are kept in a clean state and free from lead dust; and

(*d*) where the use of vacuum-cleaning equipment is impracticable, surfaces which are to be cleaned are dampened and that persons undertaking such cleaning wear appropriate protective clothing and respiratory protective equipment.

14. Maintenance of control measures. - An employer or self-employed person shall ensure that-

(*a*) all control equipment and facilities provided in terms of regulations 11, 12, and 13 are maintained in good working order; and

(*b*) examinations and tests of engineering control measures are carried out at intervals not exceeding 24 months by an approved inspection authority approved for such examinations and tests or by a person whose ability to do the measurements and tests is verified by such an approved inspection authority.

15. Prohibitions. - (1) No person shall-

(*a*) use compressed air to blow away particles of lead from any surface, or require or permit any other person to use compressed air to blow away particles of lead from any surface; or

(*b*) smoke, eat, drink or keep food or beverages in an area not specifically designated for it or require or permit any other person to smoke, eat, drink or keep food or beverages in such area.

(2) Lead paint shall not be-

(*a*) used for the interior painting of buildings;

(*b*) scraped or rubbed down from a surface by a dry process;

(*c*) removed by burning; or

(*d*) used on furniture.

16. Labelling, packaging, transportation and storage. - An employer or self-employed person shall, in order to avoid the spread of lead, take steps, as far as is reasonably practicable, to ensure that-

(*a*) the lead in storage or distributed is properly identified, classified and handled in accordance with SABS 0228;

(*b*) a container or a vehicle in which lead is transported is clearly identified, classified and packed in accordance with SABS 0228 and SABS 0229.

17. Disposal of lead waste. - An employer or self-employed person shall as far as is reasonably practicable-

(*a*) recycle all lead waste, but not into non-lead production processes;

(*b*) ensure that all collected lead waste is placed into containers that will prevent the likelihood of exposure during handling;

(*c*) ensure that all vehicles, re-usable containers and covers which have been in contact with lead waste are cleaned and decontaminated after use, in such a way that such vehicles, containers or covers do not cause a hazard inside or outside the premises concerned;

(*d*) ensure that all lead waste that can cause exposure to lead, is disposed of only on sites specifically designated for this purpose in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) and the National Environmental Management Act, 1998 (Act No. 107 of 1998), and in such a manner that it does not cause a hazard inside or outside the site concerned;

(*e*) ensure that all persons involved in the collection, transport and disposal of lead waste and who may be exposed to that waste, are provided with suitable personal protective equipment; and

(*f*) ensure that, in cases where the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor too shall comply with the provisions of these Regulations.

18. Offences and penalties. - Any person who contravenes or fails to comply with any provision of regulation 3, 4, 5, 6, 7, 8, 9, 10, 11 (1), 11 (2), 12, 13, 14, 15, 16, 17 (*a*), 17 (*b*), 17 (*c*), 17(*e*) or 17 (*f*) shall be guilty of an offence and liable on conviction to a fine or imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

19. Repeal of regulations. - The Lead Regulations published under Government Notice No. R. 586 of 22 March 1991, are hereby repealed.

20. Short title. - These regulations shall be called the Lead Regulations, 2001.

ANNEXURE A

[Regulation 8 (2) (*b*) (i)]

Blood lead µg/100 mℓ	*Maximum intervals between blood lead measurements*
Under 20	12 months
20 - 39	6 months
40 - 59	3 months
60 and over	At the discretion of the occupational medicine practitioner

ANNEXURE B

[Regulation 8 (2) (*b*) (ii)]

Urinary lead µg/litre	*Maximum intervals between urinary lead measurements*
Under 120	6 weeks
120 – 149	1 week
150 and over	At the discretion of the occupational medicine practitioner

ANNEXURE C
[Regulation 8 (*d*)]

Blood lead level µg / 100 mℓ *Removal level*	*Date effected*
75	30 June 2002
70	30 June 2003
65	30 June 2004
60	30 June 2005

ANNEXURE D
[Regulation 8(3) (*b*)]

Blood lead level µg / 100 mℓ *Return level*	*Date effected*
65	30 June 2002
60	30 June 2003
55	30 June 2004
50	30 June 2005

NOISE-INDUCED HEARING LOSS REGULATIONS

GNR.307 of 7 March 2003

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions. - In these regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates -

"approved noise inspection authority" means an approved inspection authority for the monitoring of noise in the workplace;

"assessment" means a programme to determine any risk from exposure to noise associated with the workplace in order to identify the steps that need to be taken to remove, reduce or control such hazard;

"attenuation-of-hearing protectors" means hearing protectors with the proven capability of reducing the sound exposure to which the wearer thereof is exposed;

"audiogram" means a chart, graph or table indicating the hearing threshold levels of an individual as a function of frequency, (namely 0,5, 1, 2, 3, 4, 6 and 8 kilohertz), as determined during a measurement of a person's hearing threshold levels by means of a monaural, pure-tone, air-conduction threshold test;

"Compensation Commissioner" means the Compensation Commissioner appointed under section 2 (1) (*a*) of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);

"competent person" means-

(*a*) a person registered in terms of the Health Professions Act, 1974 (Act No. 56 of 1974), with the Health Professions Council of South Africa in any of the following three categories:
  (i) Otorhinolaryngologist (ear, nose and throat specialist);
  (ii) speech therapist and audiologist; or
  (iii) occupational medicine practitioner; or

(*b*) a person with a qualification in audiometric techniques obtained from an institution registered with the South African Qualification Authority or any of its structures in terms of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), and registered with the South African Society for Occupational Health Nursing (SASOHN);

"exposed" means exposed to noise while at a workplace and "**exposure**" has a corresponding meaning;

"equivalent continuous rating level" means the equivalent continuous A- weighted sound pressure level during a specified time interval, plus a specified adjustment for impulsiveness of the sound, as contemplated in SABS 083;

"General Administrative Regulations" means the General Administrative Regulations published under section 43 of the Act in Government Notice No. R.1449 of 6 September 1996;

"health and safety standards" means the health and safety standards that have been incorporated in these regulations under section 44 of the Act;

"hearing protective equipment" means ear-muffs or ear-plugs which are of a type, or conform to a standard, approved by the Minister,

"Instruction No. 171" means the Compensation Commissioner's Circular Instruction No. 171 and Supplement entitled Determination of Permanent Disablement Resulting from Noise Induced Hearing Loss and Trauma;

"noise-rating limit" means the value of the 8-hour rating level, 85dBA at and above which hearing impairment is likely to result;

"SABS 083" means the Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083, published by the South African Bureau of Standards;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"8-hour rating level" means the rating level normalized to a nominal 8- hour working day as indicated in SABS 083.

2. Scope of application. - These regulations shall apply to an employer or self-employed person who, at any workplace under his or her control, carries out work that may expose any person at that workplace to noise at or above the noise-rating limit.

3. Exposure to noise. - Subject to regulations 9 and 10, no employer or self-employed person shall require or permit any person to enter any workplace under his or her control where such person will be exposed to noise at or above the 85dBA noise-rating limit.

4. Information and training. - (1) An employer shall, after consultation with the health and safety committee established in respect of a workplace under his or her control and the health and safety representative designated for that workplace or for different sections thereof, establish for all employees who may be exposed to noise at or above the noise-rating limit a training programme that incorporates the following-

(*a*) The content and scope of these regulations;
(*b*) the potential sources of exposure to noise;
(*c*) the potential risks to health and safety caused by exposure to noise;
(*d*) the measures taken by the employer to protect an employee against the detrimental effects of exposure to noise;
(*e*) the precautions to be taken by the employees to protect themselves against the health risks associated with the exposure, including the wearing and use of earplugs and earmuffs;
(*f*) the necessity, correct use, maintenance and limitations of hearing protectors, facilities and engineering control measures provided;
(*g*) the assessment of exposure, the purpose of noise monitoring, the necessity for medical surveillance and the long-term benefits and limitations of undergoing such surveillance;
(*h*) the noise-rating limit for hearing conservation and its meaning;
(*i*) the procedures for reporting, correcting and replacing defective personal hearing protectors and for engineering noise control measures; and
(*j*) the matters contemplated in regulation 5.

(2) The training contemplated in subregulation (1) shall be conducted prior to the placement of the relevant employee.

(3) Refresher training shall be conducted annually or at intervals that may be recommended by the health and safety committee and the health and safety representative.

(4) The training contemplated in subregulation (1) shall be provided by a person who is competent to do so and who has adequate personal practical experience and theoretical knowledge of all aspects of the work carried out by the employee.

(5) An employer or self-employed person shall ensure as far as is reasonably practicable that his or her mandatories or persons other than employees who may be affected by noise exposure at the workplace are given adequate information, instruction and training.

(6) An employer shall keep a record of any training that is given to an employee in terms of this regulation.

5. Duties of persons who may be exposed

to noise. - Any person who is or may be exposed to noise at or above the noise- rating limit shall obey any lawful order given to him or her by the employer or self-employed person or by anyone authorized thereto by the employer or self-employed person, regarding-

(*a*) the use of measures adopted for noise control;
(*b*) the immediate reporting of defective, damaged or lost noise control equipment to the health and safety representative or the employer;
(*c*) the use of personal hearing protectors where provided;
(*d*) a prohibition to enter or remain in an area where personal hearing protectors are required unless the person is authorized to do so and is wearing the required hearing protectors;
(*e*) co-operation with the employer in his or her task of determining the employee's noise exposure, which may include the wearing of personal sound exposure meters;
(*f*) the reporting for medical surveillance as required by regulation 8; and
(*g*) information and training received as contemplated in regulation 4.

6. Assessment of potential noise exposure. (1) An employer or self-employed person shall-

(*a*) in respect of a workplace under his or her control cause an assessment to be done within six months after the commencement of these regulations and thereafter at intervals not exceeding two years, to determine if any person may be exposed to noise which is at or above the noise-rating limit, regardless of whether any personal hearing protectors are used; and
(*b*) cause the results of the assessments to be entered into the records as required by regulation 11.

(2) An employer contemplated in subregulation (1) shall, before causing an assessment to be made, consult with the relevant health and safety representative or the relevant health and safety committee and thereafter inform them in writing of the arrangements made for the assessment, allow them reasonable time to comment thereon and ensure that the results of the assessment are made available to them for comment.

(3) When making an assessment contemplated in subregulation (1), an employer or self-employed person shall take into account and keep a record of relevant factors, including the following-

(*a*) The noise sources to which a person may be exposed;
(*b*) adverse health effects that the excessive noise may have on persons;
(*c*) the extent to which a person may be exposed; and
(*d*) the nature of the work process and any reasonable deterioration in or failure of any control measures.

(4) If an assessment made in accordance with subregulation (1) or a review of such assessment made in accordance with subregulation (5) indicates that any person may be exposed to noise at or above the noise- rating limit, the employer or self-employed person shall ensure that such exposure is adequately controlled as contemplated in regulation 10 (1).

(5) An employer or self-employed person shall forthwith review an assessment made in accordance with subregulation (1) if-

(*a*) there is reason to believe that such assessment is no longer valid;
(*b*) control measures are no longer efficient;
(*c*) technological or scientific advances allow for more efficient control methods; or
(*d*) there has been a significant change in-
  (i) work methods;
  (ii) the type of work carried out; or
  (iii) the type of equipment used to control exposure,

and subregulations (2) and (3) shall apply for such review assessment.

7. Noise monitoring. - (1) Where an assessment of noise exposure or a review of such assessment indicates that any employee may be exposed to noise at or above the noise-rating limit, an employer contemplated in regulation 2 shall ensure that a measurement programme of noise exposure at that workplace is-

(*a*) carried out in accordance with the provisions of these regulations;
(*b*) carried out only after the relevant health and safety representative or relevant health and safety committee has been informed thereof and given a reasonable period, as mutually agreed upon, to comment thereon;
(*c*) carried out by an approved noise inspection authority; and
(*d*) representative of the employees' exposure to noise, in accordance with subregulation (2).

(2) In order to comply with subregulation (1) (d), an employer shall ensure-

(*a*) that the measurement programme, in the case where a number of employees work in an area of approximately equal noise level, makes provision for the selection of not less than three locations which are representative of the positions occupied by employees well distributed over the area under investigation, and for the taking of measurements at each position as contemplated in SANS 10083;
(*b*) that the measurement programme, in the case of an employee working at an approximately fixed location relative to the noise source, makes provision for the measurement to be taken at the approximate position of the person's ear that receives the higher noise level as contemplated in SANS 10083; and
(*c*) that representative measurements are carried out at least every 24 months: Provided that whenever the noise is at or above the noise- rating limit, the provisions of regulation 10 (1) shall apply.

(3) An employer shall ensure that the results of measurements as contemplated in subregulation (2) (*c*) are recorded in the record required by regulation 11.

8. Medical surveillance. - (1) An employer shall establish and maintain a system of medical surveillance for all employees exposed to noise at or above the noise- rating limit.

(2) An employer shall ensure that the medical surveillance contemplated in subregulation (1)-

(*a*) consists of a baseline audiogram which is recorded-
  (i) in the case of a new employee, before the employee commences employment or within 30 days of commencement of such employment; or
  (ii) in the case of all other employees in the employment of the employer, before 16 November 2003; and
  (iii) in accordance with the requirements of Instruction No. 171:

  Provided that the baseline audiogram conducted in terms of that instruction applies to that employee for the rest of his or her working career;
(*b*) consists of a periodic audiogram which is conducted in accordance with SABS 083 and which, during the first three years of employment, is obtained at least annually and thereafter at intervals which may be extended to a maximum period of two years if no referral threshold shift is evident: Provided that-
  (i) employees working in, or required to enter, noise zones where the noise exposure equals or exceeds an 8-hour rating level of 105dBA shall undergo audiometric testing at 6- monthly intervals until it is established that no referral threshold shift is evident and thereafter the interval between tests may be extended to a maximum interval of one year; and
  (ii) employees who are regularly exposed to gunshots or other explosive events during their working day shall undergo audiometric tests at time intervals in accordance with subparagraph (1);
(*c*) consists of an exit audiogram, conducted in accordance with SABS 083, which is obtained for every employee whose employment is terminated or who is permanently transferred to another workplace in respect of which audiometric tests are not required: Provided that an audiogram conducted within six months prior to termination of employment or transfer shall meet this requirement; and
(*d*) is performed by a competent person: Provided that if it is impossible for the competent person to establish a baseline audiogram for an employee as contemplated in paragraph (a), the employee must be referred to an audiologist who may establish baseline-hearing levels by using other techniques, such as speech reception thresholds.

(3) An employer shall ensure that-

(*a*) copies of the audiograms contemplated in subparagraphs (2) (*a*), (*b*) and (*c*) are entered into the employee's record of medical surveillance;
(*b*) a copy of each audiogram contemplated in subparagraphs (2) (*a*) and (*c*) is given to the employee when he or she leaves the employment of that employer;
(*c*) new employees provide him or her with their baseline audiograms, exit audiograms or most recent audiograms and the percentage of loss of hearing calculated in accordance with Instruction No. 171; and
(*d*) in the case of an employee whose percentage loss of hearing has deteriorated by 10% or more since the baseline audiogram was recorded or an employee for whom no baseline audiogram is available but who has a 10% or more loss of hearing that is not obviously due to medical causes, and that has been confirmed by a repeat audiogram -
  (i) the relevant health and safety committee or the relevant health and safety representative is informed of the finding;
  (ii) the employee is retrained and re-instructed as contemplated in regulations 4 and 5;
  (iii) noise control measures are reassessed; and
  (iv) such hearing loss is reported to the provincial director, on form WCL1/2, as contemplated in regulation 6 of the General Administrative Regulations.

9. Noise zone. - An employer or self-employed person shall ensure that-

(*a*) in any workplace or part of such workplace under his or her control, where the exposure to noise is at or above the noise-rating limit, that workplace or part thereof is zoned as a noise zone;
(*b*) a noise zone is clearly demarcated and identified by a notice indicating that the relevant area is a noise zone and that hearing protective equipment as contemplated in regulation 12 must be worn
(*c*) no person enters or remains in a noise zone unless he or she wears the required hearing protective equipment; and
(*d*) the reason why noise exposure is at or above the noise-rating limit is identified and that action is taken, as soon as is reason-

ably practicable, by means other than the use of hearing protective equipment, to lower the noise level so that it is not at or above the noise-rating limit.

10. Control of noise exposure. - (1) An employer or self-employed person shall ensure that the exposure of a person to noise is either prevented or, where this is not reasonably practicable, adequately controlled: Provided that the control of the exposure shall be regarded as adequate if the exposure is below the noise-rating limit, or if the exposure is at or above the noise-rating limit but the reason has been identified and action is taken as soon as is reasonably practicable, by means other than the use of hearing protective equipment, to lower exposure so that it does not exceed the noise-rating limit.

(2) In order to comply with subregulation (1) an employer or self-employed person shall, as far as is reasonably practicable, reduce exposure to noise by implementing noise control measures in the following order of priority:

(*a*) Engineering control measures to eliminate or reduce noise at its source, or the modification of the routes by which noise reaches workplaces;

(*b*) administrative control measures to limit the number of persons exposed and the duration of exposure; and

(*c*) the use of hearing protective equipment if engineering and administrative control measures fail to reduce exposure below the noise-rating limit.

11. Record. - An employer or self-employed person shall-

(*a*) keep records of the results of all assessments, noise monitoring and medical surveillance reports and of maintenance of control measures required by these regulations;

(*b*) subject to the provisions of paragraph (c), make the records contemplated in paragraph (a) available for inspection by an inspector;

(*c*) subject to the formal written consent of an employee, allow any person to peruse the records with respect to that particular employee;

(*d*) make the records of all assessments and noise monitoring available for perusal by the relevant health and safety representative or relevant health and safety committee;

(*e*) keep all records of assessments and noise monitoring for a minimum period of 40 years;

(*f*) keep all medical surveillance records, including the baseline audiogram of every employee, for a minimum period of 40 years and if the employer ceases activities, hand over or forward by registered post all those records to the relevant provincial director: Provided that those records shall contain at least the following information:

(i) An employee's surname, forenames, gender, date of birth, name of spouse or closest relative and, where available, permanent address and postal code;

(ii) a record of the types of work carried out that caused noise exposure and, where relevant, their location, with starting and finishing dates and with average duration of exposure in hours per week;

(iii) a record of any previous work-related noise exposure prior to an employee's current employment; and

(iv) the dates of medical surveillance and results of all audiograms; and

(*g*) keep a record of training given to an employee in terms of regulation 4(6) for as long as the employee remains employed at the workplace in which he or she is being exposed to noise.

12. Hearing protective equipment. - (1) Where hearing protective equipment is provided, an employer or self-employed person shall ensure that-

(*a*) the equipment is capable of keeping the exposure below the noise- rating limit;

(*b*) the equipment is correctly selected and properly used;

(*c*) employees receive the information, instruction, training and supervision that are necessary with regard to the use of the equipment; and

(*d*) the equipment is kept in good condition and efficient working order.

(2) An employer or self-employed person shall, as far as is reasonably practicable-

(*a*) issue no reusable hearing protective equipment to any person, unless the hearing protective equipment is properly decontaminated and, where appropriate, sterilised;

(*b*) provide separate containers or storage facilities for hearing protective equipment when not in use; and

(*c*) ensure that all hearing protective equipment not in use is stored only in the place provided for it.

13. Maintenance of control measures. - Every employer or self-employed person shall ensure that anything that he or she provides for the benefit of employees in compliance with his or her duties under these regulations-

(*a*) is fully and properly used; and

(*b*) is maintained in an efficient state, in good working order and in good repair and cleanliness.

14. Offences and penalties. - Any person who contravenes or fails to comply with any provision of regulation 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 or 13 shall be guilty of an offence and liable on conviction to a fine or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

15. Withdrawal of regulations. - Regulation 7 of the Environmental Regulations for Workplaces as published in Government Notice No. R. 2281 of 16 October 1987, and amended by Government Notice No. R. 489 of 18 March 1994, is hereby repealed.

DRIVEN MACHINERY REGULATIONS

R.540 of 2015
(G.G. 38905 of 24/06/2015)

as amended by
R.913 of 2015 (G.G. 39253 of 02/10/2015)

[Editor's Note: These Driven Machinery Regulations, 2015, were originally published under R.527 of 2015 (G.G. 38887 of 19/06/2015) and re-published under R.540 of 2015 (G.G. 38905 of 24/06/2015). Both of these documents have been checked and there is no difference in the content of the two publications. R.573 of 2015 (G.G. 38925 of 03/07/2015) is an official Withdrawal Notice confirming the withdrawal of R.527 of 2015 and replacement thereof by R.540 of 2015]

DEPARTMENT OF LABOUR- OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
DRIVEN MACHINERY REGULATIONS, 2015

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

1. Definitions - 1. In these Regulations, "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and, unless the context otherwise indicates

"bench saw" means a circular saw working in a bench (including a rack-bench) for the purpose of ripping, deep cutting or cross cutting, but does not include a swing-saw or other saw that is moved towards the wood;

"block and tackle" means a lifting device consisting of one or more pulley blocks reeved with fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally, but does not include chain blocks, lever hoists or steel- wire rope pullers;

"calender rolls" means a series of counter-rotating rollers at the end of a rolling process;
Notes:
(a) These rolls are used in steel paper mills, printing industry as well as food industry.

"capstan-type hoist" means a rotating machine used to control or to apply force to move or raise loads by traction on a rope or cable;
Notes:
(a) This machine is used generally in fishing industry, harbours as well as pull rolling stock(railway vehicles).

"competent person" means a person who has the knowledge, training, experience and qualifications specific to the work performed: provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995, those qualifications and that training shall be deemed to be the required qualifications and training;
Notes:
(a) None

"hand-powered lifting device" means a lifting device consisting of one or more sheave components reeved with chains, steel rope or fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally and includes chain blocks, lever hoists, hand chain hoists, steel-wire rope pullers and winches, but does not include hand-powered hydraulic lifting devices;
Notes:
(a) This definition was introduced to differentiate between lifting machine and hand powered lifting device.
(b) Hand powered hydraulic lifting devices are amongst others hydraulic jacks.

"lifting machine" means a power-driven machine that is designed and constructed for the purpose of raising or lowering a load or moving it in suspension, but does not include an elevator, escalator or hand-powered lifting device;
Notes:
(a) The definition listed the exclusions.
Power-driven machine means that a machine is powered by any energy source excluding manpower.

"lift truck" means a mobile lifting machine, but does not include-
(a) a vehicle designed solely for the purpose of lifting or towing another vehicle;
(b) a mobile earth-moving machine; or
(c) a vehicle designed solely for the removal of a waste bin;
Notes:
(a) This machine is generally known as forklift.

"lifting machinery entity" means a legal entity approved and registered by the chief inspector in terms of regulation 19;
Notes:
(a) These are commonly known as LME

"lifting machinery Inspector" means a person who is employed by a Lifting Machinery Entity and who is registered by the Engineering Council of South Africa in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);
Notes:
(a) These are commonly known as LMI and are registered at ECSA on behalf of Department of Labour.

"lifting tackle" means chain slings, wire rope slings, woven webbing slings, master links, hooks, shackles and swivels, eye bolts, lifting or spreader beams, tongs, ladles, coil lifters, plate lifting clamps and drum lifting clamps used to attach a load to a lifting machine;
Notes:
(a) Coil lifters is found at steel industry for lifting hot rolled steel products.

"load path" means all the parts of the lifting machine under stress during the lifting operation;
Notes:
(a) None

"man-cage" means a platform enclosed on all sides, whether closed or open at the top, designed for the purpose of raising and lowering persons by means of a lifting machine, but does not include mobile elevated work platforms and suspended access platforms;
Notes:
(a) None

"point of operation" means that place in a machine where material is positioned and where the actual work is performed;
Notes:
(a) None

"press" means a driven machine that shears, punches, forms or assembles metal or other material by means of cutting, shaping or combination dies attached to slides having a controlled reciprocating motion, but does not include bending brake presses, hot bending or hot metal presses, forging hammers and riveting machines or similar types of fastener applicators;
Notes:
(a) None

"safe working load" means the mass load applicable to a piece of equipment or system as determined by a competent person taking into account the environment and operating conditions;
Notes:
(a) The rigger must determine the Safe working load based on the condition at the time of lifting.

"thorough examination" means examination or inspection to determine whether the equipment is safe to use;
Notes:
(a) None

"training provider" means a training provider for lifting machinery operators approved and registered by the chief inspector in terms of regulation 20;
Notes:
(a) None

"transportation plant" means apparatus used for the transportation of material by means of an elevated conveyance suspended from and traveling along a catenary rope or chain where persons may pass or work below the path of the conveyance, or any such apparatus used for the transportation of persons.
Notes:
(a) None

2. Scope of Application
2. These Regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection, testing and commissioning of driven machinery.
Notes:
(a) The aim of this regulation is to ensure the safety of operators, maintenance providers as well as inspection and testing providers operate safely.
(b) The aim is to ensure that all driven machineries are safe for use.

3. Revolving machinery
3. Unless moving or revolving components of machinery are in such a position or of such construction that they are as safe as they would be if they were securely fenced or guarded, the user shall cause -
(a) every shaft, pulley, wheel, gear, sprocket, coupling, collar, clutch, friction drum or similar object to be securely fenced or guarded;
(b) every set screw, key or bolt on revolving shafts, couplings, collars, friction drums, dutches, wheels, pulleys, gears and the like to be countersunk, enclosed or otherwise guarded;
(c) every square projecting shaft or spindle end and every other shaft or spindle end that projects for more than a quarter of its diameter to be guarded by a cap or shroud;
(d) every driving belt, rope or chain to be guarded; and
(e) the underside of every overhead driving belt, rope or chain above passages or workplaces to be so guarded as to prevent a broken belt, rope or chain from falling and so injuring persons: provided that the provisions of this paragraph shall not apply where, in the opinion of an inspector, no danger exists in the case of light belts owing to the nature thereof and the speed of operation.
Notes:
(a) None

4. Circular saws - (1) No user may require or permit any person to operate a power-driven circular saw-
(a) at a speed in excess of the manufacturer's rated maximum speed for the saw blade; or
(b) the saw blade of which is damaged in any way or that is dull or not regular or not correctly sharpened and set.
(2) The user of a power-driven bench saw shall cause -
(a) the saw blade to be effectively guarded below the table; and
(b) the part of the saw blade above the table to be covered by a substantial guard that shall cover the saw at all times to at least the depth of the teeth and that shall automatically adjust itself to the thickness of and remain in contact with the material being cut: provided that where such a guard is impracticable, the top of the saw shall be covered by a strong manually-adjustable guard that shall be adjusted to extend downwards to a point as near as practicable to the cutting point of the saw: provided further that in the case of a breakdown saw, the guard shall effectively cover the top of the saw blade.
(3) The user shall cause every power-driven circular saw that is used for ripping wood to be provided with a riving knife, which shall
(a) be placed as close as practicable to the saw blade, but not more than 12 mm behind it, and in a direct line with the saw teeth at the level of the bench table;
(b) have the edge nearest the saw in the form of an arc of a circle that shall have a radius not exceeding the radius of the largest saw blade that can be used on the bench by more than 3 mm;
(c) extend to a height above the table to within 5 mm of the top of the saw blade; and
(d) have a smooth surface and be strong, rigid and easily adjustable.
(4) The user shall cause every tilting saw or tilting table saw to be so arranged that the adjustment of the riving knife and the guard remains effective with any position of the saw or table.
(5) The user shall-
(a) cause a suitable push stick to be kept available at every bench saw that is fed by hand, to enable work to be carried out without danger to persons;
(b) provide suitable mechanical means for holding rough timber that is to be slabbed on a bench saw; and
(c) provide an effective guard for the automatic feed rollers of every bench saw equipped

with such rollers.

(6) The user shall cause every swing or radial saw that is moved towards the material-

(a) to be guarded so that only the cutting portion of the saw blade is exposed;
(b) to be arranged in such a manner that the saw will automatically move away from the cutting position when it is released; and
(c) to be fitted with a device that will oppose the thrust or tendency of the saw to pick up the timber or to throw the timber back at the operator when such saw is used for ripping timber.

(7) The user of a portable power-driven circular saw shall provide -

(a) a fixed guard above the slide or shoe, which shall cover the saw blade to at least the depth of the teeth; and
(b) a guard that shall automatically cover the portion of the saw blade below the slide or shoe while sawing is not actually being done.

Notes:
(a) None

5. Band saws and band knives

The user shall -

(a) cause all moving parts, except the working portion of the blade at the point of operation, of every band saw or band knife to be effectively guarded; and
(b) ensure that the machine is operated by a person trained for that particular machine.

Notes:
(a) None

6. Wood planing machines -

(1) The user shall cause every wood-planing machine that is used for overhand planing and that is not mechanically fed, to be fitted with a cylindrical cutter block.

(2) The user shall cause every planing machine used for overhand planing to be provided with a bridge guard that is capable of covering the furt length and breadth of the cutting slot in the table and that can be adjusted easily in a vertical and horizontal direction.

(3) No user may require or permit any planing machine that is not mechanically fed to be used for the overhand planing of any piece of wood that is less than 300 mm long, unless a safe holder is used for such a piece of wood: provided that this subregulation shall not apply to the planing of the edges of flat pieces of wood.

(4) The user shall provide an effective guard for the feed-roller of every planing machine used for thicknessing, except in the case of a combined machine for overhand planing and thicknessing.

Notes:
(a) None

7. Wood moulding and mortising machines

(1) Having regard to the nature of the work that is performed, the user shall cause the cutter or chain of every wood-moulding or mortising machine to be effectively guarded.

(2) If work cannot be performed when the cutter of a moulding machine is guarded, the user shall cause the wood being moulded to be held in a jig or holder that is so constructed that it will ensure safe working of the machine: provided that where a jig or holder cannot be used, the user shall provide a suitable spike or push stick and shall require persons who operate the machine to use such spike or push stick when necessary.

Notes:
(a) None

8. Sanding machines - The user shall cause every -

(a) drum sanding-machine to be provided with effective guards so arranged as to completely enclose the revolving drum except such portion as is necessary for the performance of the work;
(b) disc sanding-machine to be provided with suitable guards that shall completely enclose the periphery and back of the sanding disc and that portion of the working face of the disc under the table; and
(c) belt sanding-machine to be provided with guards at the trap points where the sanding belt runs onto its pulleys and cause any section of the belt not used for sanding to be effectively enclosed.

Notes:
(a) None

9. Grinding machines -

1) The user of a power-driven grinding machine shall cause such machine to be marked in a conspicuous place with the manufacturer's rated speed or speeds of the spindle in revolutions per minute.

(2) No user may require or permit a grinding wheel of a power-driven grinding machine to be operated at a speed exceeding that stipulated by the manufacturer of such wheel: provided that a grinding wheel larger than 100 mm in diameter shall only be used if the recommended operating speeds therefor are distinctly marked on such machine.

(3) The user shall cause every grinding wheel of a power-driven grinding machine to be mounted concentrically on the spindle by means of robust metal flanges with annular peripheral bearing surfaces of adequate breadth, which shall bear upon the wheel, and a layer of suitable compressible material to be fitted between the flanges, and the wheel: provided that grinding wheels for specialized application that cannot be fixed by flanges shall be so secured that displacement or rupture of the wheel in motion is eliminated as far as possible.

(4) Having regard to the nature of the work that is performed, the user shall cause every power-driven grinding machine to be provided with a substantial guard. which shall enclose the grinding wheel as far as practicable and shall be of sufficient strength to withstand the force of impact of a rupturing wheel.

(5) Having regard to the nature of the work that is performed, the user shall cause a power-driven grinding machine where the work piece is applied to the wheel by hand, to be provided with a substantial adjustable work rest, which shall be securely fixed in position and adjusted to within 3 mm from the grinding face of the wheel.

(6) The user shall cause every power-driven grinding machineto be provided with a strong transparent shield, which shall be. kept adjusted so as to protect the operator's eyes: provided that such shield may be omitted if every operator of the machine is personally issued with suitable eye protection and is obliged to wear it.

(7) The user shall cause a notice to be posted in a conspicuous place at every power-driven grinding machine prohibiting persons from carrying out, inspecting or observing grinding work without using suitable eye protection.

(8) The user shall ensure that the operators of machinery used for the purpose of grinding, cutting, fettling, polishing or similar applications are specifically trained for that particular machinery.

Notes:
(a) This regulation does not apply to portable electrical grinders.
(b) In house training for operators of grinding machines is acceptable provided that there is proof thereof.

10. Shears, guillotines and presses - (1)

(1) Where the opening at the point of operation of shears, a guillotine or a press is greater than 10 mm, the user shall cause such machine to be provided with -

(a) a fixed guard that prevents hands or fingers reaching through, over, under or around the guard into the point of operation;
(b) a self-adjusting guard that automatically adjusts itself to the thickness of the material being worked and that prevents hands or fingers reaching through, over, under or around the guard into the point of operation;
(c) a manually or automatically operated moving guard that completely encloses the point of operation of such machine, is so arranged that the working stroke cannot be commenced unless the guard is dosed, and cannot be opened unless the ram or blade is stationary;
(d) an automatic sweep-away or push-away that pushes any part of the operator's body out of the danger zone when the working stroke commences; or
(e) an electronic presence-sensing device that prevents or arrests a working stroke if it senses that any part of a person's body or any other foreign object is in the danger zone:

Provided that any guarding provided in terms of this subregulation shall not in itself create any threat to the safety of persons.

(2) The user may use or permit the use of shears, a guillotine or a press without the guarding referred to in subregulation (1) if the operating controls to set it in motion require the simultaneous engagement of both hands of all the operators involved in the operation of the machine, and those operating controls -

(a) are situated at such distance from the point of operation that none of the operators has enough time to reach the danger zone with any part of their body before the working stroke is completed; or
(b) are so designed that the working stroke will be arrested if any one of the operators removes one of their hands from the controls:

Provided that the operating controls shall be so arranged that they cannot be bypassed.

(3) A user shall cause any full-revolution clutch shear, guillotine or press that is fed by hand to be provided with an anti-repeat device that incorporates a control system designed to limit the press to a single stroke every time even if the control that is actuating the press is held in the operating position, and that requires the actuating controls to be returned to the neutral position before another stroke can be initiated.

Notes:
(a) None

11. Slitting machines -

(1) Having regard to the nature of the work that is performed, the user of a slitting machine shall cause -

(a) the cutting edge of the disc cutter to be effectively guarded;
(b) fixed guarding or enclosures to prevent access to a slitting machine; and
(c) access points to be controlled by an interlocked safety device, which must prevent or arrest the motion of the machine when activated by unauthorised entry.

Notes:
(a) None

12. Mixing, agitating and similar machines-

(1) The user shall cause all dangerous moving parts of a mixing, agitating or similar machine to be placed beyond the reach of persons by means of doors, covers, guards or any other means.

(2) The user shall, wherever practicable, cause every mixing, agitating or similar machine to be so arranged that it cannot be set in motion unless the doors, covers, guards or other means referred to in subregulation (1) are in position and that the machine wiH come to a stop if any one of them is opened, unlocked or removed, or if the dangerous moving parts of the machine are exposed for any reason whatsoever: provided that the provisions of this subregulation shall not apply to doors, covers or guards that are bolted in position or to an inspection hatch that is pro-

vided for controlling a process while the machine is in operation.
Notes:
(a) None

13. Rolls and calenders -The user shall, where practicable, cause every power-driven machine consisting of calender rolls or incorporating two or more rolls rotating in opposite directions that are less than 75 mm apart and where the in-running side or nip of the rolls is within the reach of persons, to be guarded for the full length of such nip with
(a) a fixed guard; or
(b) a trip bar, a cable or an electronic sensing device not more than 300 mm from the nip that will stop or reverse the rotation of the rolls if the bar or cable is touched or if the danger area is invaded by any foreign object:
Provided that where it is not practicable to install any of the specified devices an inspector may require or permit any other means of protection at the intake of the rolls.
Notes:
(a) Rotating rolls could cause serious injury to hands and or arms and in some instances death. The objective of the tripping devices consisting of tension cables or wires tripping rods and bars as well as micro switch and optical beams protecting devices installed in closed proximity to these pinch points to prevent injuries to the persons operating these machines.
(b) To avoid injuries persons who are not trained should be made aware of the dangers and are not allowed to operate or use this machinery.
(c) Tripping device means a device designed to stop the machine when a foreign object comes in close proximity with a pinch point.
(d) Nip/Pinch point is that part of the machine which can cause injury if a person comes into contact.

14. Washing machines, centrifugal extractors, etc. - The user shall, wherever practicable, cause every power-driven washing machine, centrifugal extractor or similar machine of double cylinder construction in which the inner cylinder, drum or basket rotates, to be provided with a door or lid on the outer cylinder, so interlocked that -
(a) the inner cylinder cannot be put into motion unless the door or !id is closed;and
(b) the door or lid cannot be opened unless the inner cylinder is stationary.
Notes:
(a) This includes all industrial machines however domestic machines are also protected
by a door interlocks.

15. Air compressors - The user of a positive displacement-type air compressor that is not provided with automatic means for limiting the operating temperature to a safe level shall provide a fusible plug fitted close to the outlet valves or discharge ports of every stage of compression: provided that the provisions of this regulation shall not apply to air compressors with a free air delivery of less than 8,5 cubic metres per minute or in which compression does not take place in the presence of lubricating oil.
Notes:
(a) Piston type air compressor are used in industry.

16. Refrigeration and air conditioning installations - No user may use or permit the use of a refrigeration or an air-conditioning installation unless it complies with a safety standard with respect to its construction, installation, operation and inspection incorporated for this purpose into these Regulations under section 44 of the Act.
Notes:
(a) None

17. Transportation plants -
(1) No user may use or permit the use of a transportation plant unless -
(a) it complies with a safety standard with respect to the design, construction, installation, operation and inspection thereof incorporated for this purpose into these Regulations under section 44 of the Act; and
(b) the user is in possession of written authorization for the use thereof from an inspector.
(2) Any person who wishes to use a transportation plant shall apply in writing to the head of the relevant provincial office of the Department of Labour for permission for such use and shall, together with such application, submit -
(a) a complete set of design calculations and drawings of the proposed installation; and
(b) a certificate issued by a registered professional engineer certifying that they have checked the design of the installation and that such design will ensure the safe operation of the installation under all permitted loadings.
(3) An inspector may, if they are satisfied that the provisions of this subregufation have been complied with and that the transportation plant may be safely used, grant permission in writing for the use thereof, subject to the conditions that they may determine.
Notes:
(a) Anybody who wants to install a transportation plant must be in possession of a letter authorising him or her to install and operate the plant.
(b) Applications for permission to install and operate a transportation plant must be submitted to a DoL office in a province where a plant is installed.

(4) An inspector may withdraw the permission granted in terms of subregulation (3) if they deem it necessary in the interests of safety.
(5) The user shall cause the entire installation and all working parts of a transportation plant to be subjected to a thorough examination and a performance test, as prescribed by the standard to which the transportation plant was manufactured, by a person who has knowledge and experience of the erection and maintenance of transportation plants or similar machinery and who shall determine the serviceability of the structures, ropes, machinery and safety devices before they are put into use and every time after they are erected, and thereafter at intervals not exceeding 12 months: provided that in the absence of such prescribed performance test the entire installation of the transportation plant shall be subjected to a load of 120% of the rated mass load, applied over the complete operation range of such plant and in such a manner that every part of the installation is stressed accordingly.
(6) Notwithstanding the provisions of subregulation (5), the user shall cause every hoisting rope and every hook or other load-attaching device that forms part of the transportation plant to be thoroughly examined by a person referred to in subregulation (5) at intervals not exceeding six months.
(7) The user shall cause the results of the examinations and tests prescribed by subregulations (5) and (6) to be entered and signed by the person carrying out such examinations and tests, in a record book that shall be kept on the premises at all times.

18. Lifting machines and lifting tackle - (1) No user may use or permit the use of a lifting machine or hand- powered lifting device unless -
(a) it has been designed and constructed in accordance with a generally accepted technical standard;
(b) it is conspicuously and clearly marked with the safe working load: provided that when such safe working load varies with the conditions of use of the manufacturer, a table showing the safe working load with regard to every variable condition shall be posted by the user in a conspicuous place easily visible to the operator;
Notes:
(a) WLL is an international marking that is attached to the machine when it is purchased from the manufacturer (OEM).
(b) WLL is part of the design specification.
(c) The end user must determine the safe working load (SWL) as per the prevailing conditions .The operator should be able to see the plate as the intention of the subregulation is for the operator to see.

(c) the manufacturer's identification plate displaying the name of the manufacturer, the design standard, the serial or reference number and the country of origin is affixed to such machine; and
Notes:
(a) These requirements do not apply to machines that were in use prior to the publication of these regulations.
(d) it has at all times at least three full turns of rope on the drum of each winch that forms part of such a machine when such winch has been run to its lowest limit, and that is controlled by an automatic cut-out device:
Provided that paragraphs (b) and (d) above shall not apply to capstan-type hoists.
Notes:
(a) An automatic cut out device is a built in safety device.

(2) The user shall ensure that every power-driven lifting machine is fitted with a brake or other device capable of holding the safe working load should -
(a) the power supply or lifting effort fail;
(b) the load attachment point of the power-driven lifting machine reach its highest and lowest safe position; or
(c) the load condition be greater than the rated load condition of that machine.
Notes:
(a) This requirement only applies to power driven lifting machines.

(3) The user shall cause every chain or rope that forms part of the load path of a lifting machine or hand-powered lifting device to have the factor of safety prescribed by the standard to which that machine was manufactured: provided that in the absence of such prescribed factor of safety, chains, steel-wire ropes and fibre ropes shall have a factor of safety of at least four, five and 10, respectively, with regard to the safe working load of that machine.
Notes:
(a) The objective is to maintain the integrity of the load bearing capacity of the machine.
(b) When replacing the ropes and you know the safe working load of the machine then the factor of safety mentioned above must apply.

(4) The user shall cause every hook or any other load-attaching device that forms part of the load path of a lifting machine or hand-powered lifting device to be so designed or proportioned that accidental disconnection of the load under working conditions cannot take place.
Notes:
(a) We must not look at the hook only but consider the load path. It is about preventing disconnection. The use of disconnecting hooks or latches is not prescribed where the design is of such a nature that accidental disconnection cannot take place. It is the user s responsibility to ensure he or she states clearly what the purpose of the machine will be when purchasing the machine.

(a) (5) (a) The user shall cause the entire installation and all working parts of every lifting machine or hand-powered lifting device, as well as ancillary lifting equipment used with the machine or device, excluding lifting tackle, to be subjected to a thorough examination and a performance test, as prescribed

by the standard to which the lifting machine was manufactured, by a lifting machinery inspector of a lifting machinery entity, which shall determine the serviceability of the structures, ropes, machinery and safety devices before they are put into use and every time they are dismantled and re-erected, and thereafter at intervals not exceeding 12 months: provided that, in the absence of a manufacturing standard or a standard incorporated under section 44(1) of the Act, the whole installation of the lifting machine shall be tested with 110% of the safe working load applied over the complete lifting range of such machine and in such a manner that every part of the installation is stressed accordingly.

(b) The lifting machinery inspector of the lifting machinery entity referred to in paragraph (a) must have knowledge of the erection, load-testing and maintenance of the type of lifting machine or similar machinery involved.

(c) Notwithstanding paragraph (a), mobile cranes, self-erecting cranes and mobile elevated work platforms shall be excluded from the performance test after each re-deployment within the 12-month period referred to in that paragraph.

Notes:
(a) The lifting machinery inspector must do inspection and test on behalf of the Lifting machinery Entity.
(b) Hand powered lifting devices do not have to be tested every time they are attached to an overhead structure.
(c) Self erecting cranes includes self erecting tower cranes.

(6) Notwithstanding subregulation (5), the user shall cause all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine or hand-powered lifting device to be subjected to a thorough examination by a competent person at intervals not exceeding six months.

Notes:
(a) The user of a block and tackle must ensure that it is examined prior to use.
(b) The user is free to use an in house competent person or an LME for six monthly thorough examination of a lifting machine or hand powered lifting device.

(7) (a) Every user of a lifting machine or hand-powered lifting device shall at all times keep on their premises a register in which the user shall record or cause to be recorded full particulars of any performance test and examination referred to in subregulations (5) and (6) and any modification or repair to such lifting machine or hand-powered lifting device, and shall ensure that the register is available on request for inspection by an inspector.

(b) Every user of a leased lifting machine or hand-powered lifting device shall at alt times keep on their premises a register in which the user shall have the latest applicable performance test and service records not older than 12 months.

(c) The owner and the lessor of leased equipment shall keep and maintain full service history records on their premises for at least 10 years.

Notes:
(a) A user of a leased lifting machine or hand powered lifting device is a lessee of that machine?
(b) The owner and the lessor of leased equipment shall keep and maintain full service history records on their premises for at least 10 years.

(8) No user shall require or permit any person to be moved or supported by means of a lifting machine unless that machine is fitted with a man-cage designed and manufactured according to an approved SANS standard approved for that purpose by an inspector and after a risk assessment has been done

Notes:
(a) Man-cage was known as a cradle or suspended basket. The aim of this regulation is ensure that persons are lifted safely and work is done safely .The intention is to limit the use of a man-cage as far as possible. The employer must firstly consider lifting persons with machine/equipment specially designed to lift person (i.e. cherry picker)
.In the event that a lifting machine other than the one designed to lift person i.e. forklift , crane can be used to lift person inside the Man-cages/cradles or suspended basket.
(b) This use of an associated forklift or a crane with a man-cage must be also be approved for a specific site to lift person must be approved by an inspector.
(c) The scope of such approval shall, as a minimum, include design and safe operation .
(d) The use of cradles should in the first instance be avoided by the use of purpose made machinery.
(e) In exceptional instances where the use of cradles cannot be avoided (occasionally) the user must apply for approval from Department of Labour.
(f) Safe working procedure for these activities must be implemented and strictly enforced.

(9) No user shall use or permit any person to use any power-drive lifting machine unless it is provided with -

(*a*) in the case of a power-driven lifting machine with a lifting capacity of greater than 5 000 kg, a load indicator capable of indicating to the operator of the machine the mass of the load being lifted: provided that such device shall not require manual adjustment, from the application of the load to the power-driven lifting machine until the release of that load, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting; and/or

(*b*) a load-limiting device that will automatically arrest the driving effort whenever the load being lifted is greater than the safe working load of the power-driven lifting machine at that particular radius, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting: provided that such device shall not arrest the driving effort when the power-driven lifting machine is being operated into a safer position:

Provided that power-driven lifting machines manufactured or refurbished prior to the commencement of these Regulations shall be deemed to comply with these Regulations.

Notes:
(a) This requirement only applies to a power driven lifting machine with a capacity of 5000kg and greater
(b) The intent is that a Load limiting device is compulsory for all power driven lifting machine.
(c) This requirement only applies to power driven lifting machines manufactured or refurbished after the 30 September 2015.

(10) No user may use or allow the use of any lifting tackle unless -

(*a*) every item of lifting tackle is well constructed of sound material, is strong enough, is free from defects and is constructed in accordance with a generally accepted technical standard;

(*b*) every lifting assembly consisting of different items of lifting tackle is conspicuously and clearly marked with traceable identification particulars and the safe working load that it is designed to lift with safety;

(c) the ropes, chains or woven webbing have a factor of safety with respect to the safe working load they are designed to lift; the safety factor being
(i) 10 for natural -fibre ropes;
(ii) seven for man -made fibre ropes or woven webbing;
(iii) six for steel -wire ropes, except for double -part spliced endless sling legs and double -part endless grommet sling legs made from steel -wire rope, in which case the factor of safety shall be at least eight;
(iv) five for steel chains; and
(v) four for high -tensile or alloy steel chains:

Provided that when the load is equally shared by two or more ropes or chains the factor of safety may be calculated in accordance with the sum of the breaking strengths taking into consideration the angle of loading;

(d) all lifting tackle is inspected and discarded if such items show any sign of damage, defect, wear or distortion that would make them unsafe for use, as per manufacturer's specification; and

(e) such lifting tackle is examined at intervals not exceeding three months by a competent person, appointed by the user in writing for this purpose, who shall record and sign results of such examination.

Notes:
(a) Lifting tackles marked with a Working Load limit are also acceptable to be complying with requirements of this sub regulation.
(b) In practice it is not always possible to ensure equal load sharing and persons performing this work must take into consideration the possible unequal loading in determining the capacity of the lifting tackle.

(11) The user shall ensure that every lifting machine is operated by an operator specifically trained for that particular type of lifting machine: provided that in the case of a lifting machine listed in the National Code of Practice for Training Providers of Lifting Machine Operators, the user shall not require or permit any person to operate such a lifting machine unless the operator is in possession of a certificate of training, issued by a training provider accredited by the Transport Seta approved for the purpose by the chief inspector.

Notes:
(a) Certificate of training here refers to certificate of competence. Training providers in possession of a valid approval certificate signed by Chief Inspector are allowed to train operators of lifting machines listed on the National Code of Practice for Training Providers of Lifting Machine Operators.

19. Approval and registration of lifting machinery entity

(1) The chief inspector may approve any legal entity that has the competency and operational ability and that is involved in the examination and performance-testing of lifting machines, hand powered lifting devices and ancillary lifting equipment used with the machine or devices.

(2) An application for approval and registration as a lifting machinery entity shall be made to the chief inspector in the form of Annexure A.

(3) The chief inspector shall furnish an approved lifting machinery entity with the appropriate certificate of registration and shall enter such registration into the national database.

(4) An approved lifting machinery entity shall on request produce a certificate of registration to an inspector or to any person to whom it intends to render an examination or performance test.

(5) An approved lifting machinery entity shall inform the chief inspector of any change affecting its approval and registration under these Regulations within 14 days of such change.

Notes:
(a) None

20. Approval and registration of training providers

(1) The chief inspector may approve and register any training provider that has been accredited by the Transport Education and Training Authority as an approved training provider.

(2) An application for approval and registration as a training provider must be made to the chief inspector in writing and must be accompanied by -

(*a*) a certified copy of the accreditation letter issued by the Transport Education and Training Authority; and

(b) a canceled company letterhead.

(3) The chief inspector shall furnish an approved training provider with the appropriate certificate of registration and enter such registration into the national database.

(4) An approved training provider shall inform the chief inspector of any change affecting its approval and registration under these Regulations within 14 days of such change.

Notes:

(a) None

21 Withdrawal of approval and registration of lifting machinery entity or training provider

(1) Subject to subregulation (2), the approval and registration of a lifting machinery entity or training provider may be withdrawn if -

(a) a lifting machinery entity no longer has the necessary competency or operational ability;

(b) a training provider is no longer accredited by the Transport Education and Training Authority; or

(c) they are convicted of an offence referred to in regulation 22.

(2) The chief inspector may not withdraw an approval and registration unless -

(a) the holder of such approval and registration has been informed of the intended withdrawal and of the grounds upon which it is based; and

(b) such holder has been afforded a reasonable opportunity to make representations.

(3) The chief inspector shall inform the holder concerned in writing of the reasons for the decision.

(4) Any holder adversely affected by a decision of the chief inspector may appeal in writing to the Director-General: Labour against such decision.

(5) An appeal referred to in subregulation (4) shall -

(a) be lodged within 60 days from the date on which the decision was made known; and

(b) set out the grounds for appeal.

(6) After considering the grounds for appeal and the chief inspector's reasons for their decision, the Director-General: Labour shall confirm, set aside or amend the decision as soon as practicable.

Notes:

(a) Appeals must be lodged to Labour Court

22. Offences and penalties

Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17(1), 17(2), 17(5), 17(6), 17(7), 18, 19(4), 19(5), 20(4) and 20(5) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in case of a continuous offence, to an additional fine not exceeding R200,00 or to additional imprisonment of one day for each day on which the offence continues: provided that the period of such additional imprisonment shall not exceed 90 days.

23. Repeal of regulations and transitionar provisions

(1) The Driven Machinery Regulations, 1988, and subsequent amendments are hereby repealed.

(2) A user of a goods hoist as provided for in regulation 17 of the Regulations referred to in subregulation (1) above shall within five years of the publication of these Driven Machinery Regulations comply with the provisions of the Lift, Escalator and Passenger Conveyor Regulations, 2010, in which "Access Goods only Lift" is defined.

24. Short title and commencement

These Regulations shall be cafled the Driven Machinery Regulations, 2015, and shall come into effect on 30 September 2015

Annexure A

APPLICATION FORM FOR REGISTRATION AS A LIFTING MACHINERY ENTITY

Section 1 to be completed by Chief Executive Officer/Managing Director/Member of Entity

1. ENTITY DETAILS

Company name:
Name of CEO/MD/member: Contact person:
Postal address; Physical address:, Company registration number:, VAT number: ,Telephone No.: , Fax No.:, Cell No.:, Email address:

2. COMPETENCY AND PROFICIENCY OF TECHNICAL STAFF

Section 2 to be completed by lifting machinery inspector directly responsible for the testing of lifting machines.

2(a) Personal details
Surname:, First names:, Date of birth:, Identity number:, Nationality:, Passport No. and country: , Email, Country of normal residence:, ECSA registration:, Position held:, LMINo.:, Signature of person nominated:, Date:

2(b) Relevant qualifications and experience of nominated lifting machinery inspector
2(b)(i) Summary of experience in relation to erection and maintenance of the type of lifting machines

Period No., Dates (inclusive), No. of years and months, Employer, Post held, Type of work
From To
Total number of years and months:
Note: additional training beyond period 9 may be submitted on a: separate sheet.

2(b)(ii)Summary of training in relation to erection and maintenance of the type of lifting machines

Period No.
Dates (inclusive), No. of years and months, Employer, Post held, Subjects and 1 type of work
From To
Total number of years and months:
Note: additional training beyond period 9 may be submitted on a separate sheet.

2(b)(iii) Qualifications
Highest qualification, Date obtained ,Educational institution

I, (full name) hereby accept the nomination as lifting machinery inspector for this company. I solemnly swear/declare that, to the best of my knowledge, all the information contained herein is true.

Name: .....
Signature: .....
Date: .....

3. Scope of application

List all lifting machines tested by the entity/your company: a) b) c) d) e) f)

4 Equipment/Instruments

Indicate minimum equipment/instruments available: a) b) c) d) e) f)

5. Additional information required:

a) Certified copies of qualifications
b) Calibration certificates of testing equipment and/or instruments
c) Copy of test certificate for each type of lifting machine
d) Copy of company code of conduct for technical staff in relation to OHS Act
e) Summary of auditable system of tests carried out
f) Copy of training program for technical staff
g) Summary of inspection method for each type of lifting machine including relevant national standards

6 Declaration by Chief Executive Officer/ Managing Director/Member of Entity

I, (full name) hereby apply for registration of .....(company name) as a lifting machinery entity. I solemnly swear/declare that, to the best of my knowledge, all the information contained herein is true.

Signature:.....

Sworn to/Affirmed before me at .....on..... this.....day of.....20.....

Commissioner of Oaths.....(Commissioner's stamp)

Please post your application form to: Chief Inspector, Department of Labour, Private Bag .X:117, Pretoria, 0001

Physical address: Laboria House, 215 Francis Baard Street, Pretoria, 0001

For office use only
Application APPROVED/NOT APPROVED
Reasons for refusal:, Signature:, Designation: , Registration No.:, Date:

R.1399 of 2020
(G.G. 44029 of 24/12/2020)

DEPARTMENT OF EMPLOYMENT AND LABOUR

INCORPORATION OF HEALTH AND SAFETY STANDARD IN TERMS OF SECTION 44(1) OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993: DRIVEN MACHINERY REGULATIONS 17

as amended by
R.1033 of 2021 (G.G. 45328 of 15/10/2021)

I Tibor Szana, appointed as Chief Inspector in terms of section 27(1) of the Occupational Health and Safety Act 1993, acting in terms of the powers vested in me by regulation 17 of the Driven Machinery Regulation 2015, after consultation with the Advisory Council for Occupational Health and Safety hereby incorporate a Code of Practice for commercial Zip line and Aerial Adventure Parks.

Users of all commercial Ziplines and Aerial Adventure Parks installed prior to incorporation of this code of practice are given 12 months to apply for permission to use. Users of existing installations are only expected to submit a certificate signed by a registered professional engineer or a technologist.

.....
T Szana
Chief Inspector

R.1399 of 2020

(G.G. 44029 of 24/12/2020)

DEPARTMENT OF EMPLOYMENT AND LABOUR

INCORPORATION OF HEALTH AND SAFETY STANDARD IN TERMS OF SECTION 44(1) OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993: DRIVEN MACHINERY REGULATIONS 17

as amended by

R.1033 of 2021 (G.G. 45328 of 15/10/2021)

CODE OF PRACTICE

The installation and operation of commercial Ziplines and Aerial Adventure Parks

CONTENTS

1. Introduction

The requirements stipulated in this code of practice are intended solely to ensure safety in the installation and operation of Ziplines and Aerial Adventure Parks.

The attention of users of this Code of Practice is drawn to the relevant regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

Definitions

"aerial adventure park" means an adventure activity conducted at height above the ground were participants are attached to a self belay system.

"anchorages" means a secure point of attachment for a lifeline or lanyard

"arborist" means a professional in the practice of the cultivation, management, and study of individual trees

"belay" means securing a rope (a running rope) round a cleat, rock, pin, or other object, to secure it.

"braking device" means a solid object placed on the cable that is connected to an active braking system such as a belay device, gravity stop, bungy cord, or manual rope control such that the braking device is able to decelerate the incoming client and bring them to a safe stop at the landing point

"certified equipment" means equipment that has been certified to an applicable standard (Conformite Europeenne (CE), SANS, etc.).

"code of practice" means a set of written rules which explains how people working in the Zipline and Aerial Adventure Park industry should behave.

"commercial zipline" means a Zipline in which the person is required to pay the owner for use thereof.

"competent person" means a person who has in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task

"carabiners" means a specialized type of shackle, a metal loop with a spring-loaded gate used to quickly and reversibly connect components, most notably in safety-critical systems.

"lifeline/safety cable/belay system" means an overhead safety system designed to prevent a participant from falling off the Aerial Adventure Park.

"lifeline" means as the safety line used to support persons while moving along elevated obstacles (climbing bridges, nets, etc).

"mast" means tall structures designed to support a zipline

"rope" means several strands of metal wire twisted into a helix forming a composite 'wire rope', in a pattern known as 'laid wire rope'.

"rope splicing" means the forming of a semi-permanent joint between two ropes or two parts of the same rope by partly untwisting and then interweaving their strands.

"shock load" means a sudden and drastic increase of load.

"swaged fittings" means wire rope components other than swage or stop sleeves, that are attached to the wire by compressing, (swaging) the fitting on to the wire

"tensioning device" means a device that applies a force to create or maintain tension on a rope.

"wirerope clamp" means clamps used to keep wire rope or cable in place

"zipline" means a cable fixed between two points used for the transportation of people.

2. Scope

This Code of Practice covers the general safety aspects, construction, operation and maintenance of commercial Ziplines or and Commercial Aerial Adventure Parks that may be accessed by the public. This code of practice is not meant to cover non-commercial or private ziplines and private aerial adventure parks that is where the person is not required to pay the owner for use of the Zipline and Aerial Adventure Parks.

3. Permission to operate

(1) Any person who wishes to operate a Ziplines or Aerial Adventure Parks shall apply in writing to the Chief Inspector of the Department of Employment and Labour for permission for such use and shall, together with such application, submit—

(a) a complete set of design calculations and drawings of the proposed installation; and

(b) a certificate issued by a registered professional engineer or a technologist and where applicable an inspection report issued by an arborist in which they certify that they have checked the design of the installation and that such design will ensure the safe operation of the installation under all permitted loadings.

(2) Users of Ziplines or Aerial Adventure Parks installed prior to the incorporation of this code of practice must submit a certificate issued by a registered professional engineer or a technologist.

(3) The user shall cause the entire installation and all working parts of every Zipline or commercial Aerial Adventure Park to be subjected to a thorough, documented examination and a performance test, by a competent person, at intervals not exceeding 12 months.

4. Design and construction

(1) The design of Ziplines and Aerial Adventure Parks shall conform to acceptable good practice within the industry.

Due consideration shall be made for the following:

a.) The location's suitability for this type of activity.

b.) The nature of the ground on which foundations are to be built and slides are to cross;

c.) The foundations for masts, platform, anchorages and tension adjustor must be able to accommodate all conditions of loading, including the wind loadings and other required safety factors.

d.) The forces applied to the rope with rope loaded, shock-loaded and unloaded.

e.) Forces applied to rope terminations with rope loaded, shock-loaded and unloaded.

f.) Forces applied to anchors and structures with rope loaded, shock-loaded and unloaded.

g.) The mass of each component part.

(2) The design engineer must refer to all relevant standards for all materials used in the design and construction of the structure.

5. Erection

The erection of all installations shall be carried out under the supervision of a competent person.

6. Requirements for Steel wire rope

(1)(1) Suitability

Any rope used in the operation of commercial Ziplines and Aerial Adventure Parks shall:

be made of steel wire with diameter of no less than 10mm and be accompanied by a rope certificate.

(1)(2) New Rope

A rope test certificate must be obtained from the manufacturer showing the ultimate breaking force in relation to a new rope supplied and must meet requirements of the design specification.

(1)(3) Used Rope

A rope which has been previously in use shall not be installed unless it is certified by a competent person.

7. Design Factors

(1) Breaking load to maximum working load ratios

The ratio of the breaking load to maximum working load of ropes shall be at least equal to 5:1.

(2) Rope joints, terminations and fittings

(2)(1) Rope Splices

The length of a splice in a rope shall be at least 1 200 times the diameter of the rope and the clear distance between successive splices shall be at least 3 000 times the diameter of the rope.

(2)(2) Swaged Fittings

Swaged fittings are preferred for the finishing of rope ends, but when ropes are so fitted the strength of the rope for calculation purposes shall be reduced by 10 %.

(2)(3) Wire rope Clamps

(2)(3)(1) Clamps shall:

(a) be made of the Crosby or Bulldog pattern and shall comply with the requirements of SANS 813.

(b) be of the correct size for the rope on which they are used: or

(c) be of the U-bolt shall be fitted on the portion of rope that does not take the load and nuts on the U-bolt should be tightened by the use of a torque equal to the appropriate test torque given in table 1 of EN 15567-1.
[Item 7.2.3.1 amended by R.1033 of 2021]

(d) The clamps used shall be at least the appropriate number prescribed in table 1 of SANS 813.

(2)(3)(2) When ropes are fitted to clamps, the strength of the rope for calculation purposes shall be reduced by 20 %.

8. Trees as Anchors on Ziplines and aerial adventure parks

(1) Should trees be used as anchor attachment points for Ziplines and Aerial Adventure Parks, or to support platforms, they are to be inspected and approved fit for purpose by a competent person every six months.

(2) Regular inspections at six monthly intervals are to be carried out on such trees to ensure it remains healthy and structurally sound.

(3) An arborist must inspect such installations every twelve months.

9. Safety Equipment

All safety equipment used to secure and transport people shall be certified by a manufacturer that such equipment is fit for the purpose it is being used for.

All custom-made safety equipment shall be tested and certified by a professional engineer.

Harnesses must be of the sit/waist or full body harness type.

Chest harnesses are only to be used together and in conjunction with a waist harness as an additional means of ensuring that a person remains in an upright position.

The use of safety helmets and other Personal Protective Equipment shall be used when required to do so, based on a site-specific risk assessment.

10. Operation

(1) Cable attachment

(1)(1)When moving along the Zipline or Aerial Adventure Park, people shall at all times be connected between harness and pulley/trolley/cable.

(1)(2)Such connections are only to be made with correct safety rated equipment as described in clause 7.2.3 above, and through the use of locking carabiners.

(2) Communication

A clear and adequate form of communication is to be employed between the operators and or competent individual (briefed individual) at the start and end of each slide to ensure the safe and controlled transfer of people along each cable.

(3) Braking Device

In the case of Zipline that approaches the landing station at a speed of more than 10km/hr a suitable braking device is to be put in place to reduce the risk of impact injuries to persons.

(4) Operators

(4)(1) All operators involved with the operation of the activities related to Ziplines and Aerial Adventure Parks must receive competent training from a suitably experienced competent person.

(4)(2) Upon completion of the operator training and relevant supervised practical experience on the activity, trainee operators shall be assessed as competent by a competent person before they are permitted to operate the equipment and take responsibility for client's safety on the activity.

11. Performance Testing

All new Ziplines and Aerial Adventure Parks shall be load tested with 120% of the maximum working load before it is put in use for the first time and thereafter at intervals not exceeding 12 months or after modification or cable replacement, by a competent person.

Where Zipline and Aerial Adventure Park are attached to trees, performance tests must be carried out every 6 months by a competent person.

12. Training and Maintenance

(1) General

All persons involved with the maintenance of Ziplines and Aerial Adventure Parks should receive training and ensure that they are fully competent to maintain the equipment concerned.

(2) Operations manual

The manufacturer or supplier shall provide at least one copy of an instruction manual that contains at least the following information:

a) A description of the installation, detailing its maximum working load, operating speeds, and safety devices;

b) detailed operating instructions;

c) information on maintenance measures (preferably accompanied by a schedule); and

d) emergency procedures to be followed in the event of an incident or accident.

13. Records

(1) A register or log book shall be kept on site in which the following information is recorded:

a) name and address of the person in charge of the installation and the name(s) and address(es) of his deputy/deputies;

b) rope certificate issued by the manufacturer or supplier:

c) dates of periodic inspections, a report on each inspection, and the signature of the person carrying out the inspection;

d) details of stoppages, other than shutdowns, giving dates, times, reason for stoppages, and action taken;

e) dates and details of periodic tests carried out and adjustments made, and the signature of the person carrying out each test.

f) dates and details of the daily visual inspection reports:

g) dates and details of maintenance work carried out and adjustments made, and the signature of the person carrying out such work.

(2) The owner/user shall ensure that at least one copy of an operations manual is available on site for inspection.

14. Safety Briefing

The operator shall provide a clear and concise safety briefing to all occupants before Zipline or Aerial Adventure Park activity is proceeded with. The safety briefing is to ensure that the occupants are aware of the duration, procedures, requirements, equipment and dangers associated with the said activity.

ANNEXURE A
DRIVEN MACHINERY REGULATIONS
PERMIT TO USE A ZIPLINE/AERIAL ADVENTURE PARK

TO: The Chief Inspector
Department of Employment and Labour
215 Francis Baard Street
Pretoria

I/We .....
.....
.....

Hereby give notice of my/our intention to use a zipline/aerial adventure park (Insert the official, name and address of company or person (legal person) giving notice of the installation. Use a separate form for each installation)

1. Physical address .....
2. Company Registration number .....
3. Type of activity .....
4. Design standard .....
5. Serial number (if applicable) .....
6. Year of installation .....

Documents accompanying the request:
Design calculations and drawings (applicable to application for new installations erected after 24 December 2020)
Certificate from professional engineer or technologist

.....

Signature of owner/user
.....
Date

(*Delete whichever is not applicable)

FOR OFFICIAL USE ONLY

Date received .....
Official number allocated .....
Date .....
Inspector .....
Office .....

……..
Tibor Szana
Chief Inspector

[Annexure A inserted by R.1033 of 2021]

GOVERNMENT NOTICE

No. R 2015
DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 INCORPORATION OF SAFETY STANDARDS

I, Nelisiwe Mildred Oliphant, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby, under section 44(1) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate

into the Driven Machinery Regulations, 2015, the safety specifications specified in the Schedule hereto.

"Nelisiwe Mildred Oliphant, MP
Minister of Labour"

SCHEDULE

Safety standards of South Africa:
"EN 14502-1", Cranes: equipment for lifting of persons, Part 1: Suspended baskets.
ISO9927-1 ", Crane inspections - Part 1: General.
"National Code of Practice for Training Providers of Lifting Machine Operators" published in Government Gazette No. 38904, Government Notice No. R.539 of 24 June 2015.

"SANS 19", Inspection, testing and examination of mobile cranes. "SANS 71", Inspection, testing and examination of vehicle hoists in use.
"SANS 500", Inspection, testing and examination of hand-operated chain blocks and lever hoists in use.
"SANS 522", Inspection, testing and examination of tower cranes in use.
11SANS 2972'\ Lifting tackle inspection.
"SANS 10147", Code of Practice: Refrigeration systems, including plants associated with air-conditioning systems.
"SANS 10148", Code of Practice: The installation and operation of cable cranes and aerial ropeways.
"SANS 10295", Parts 1 and 2: Inspection, test and examination of lifting platforms in use.
11SANS 10375", Inspection, testing and examination of overhead cranes (including gantries, electric wire rope hoists & chain hoists).
"SANS 10388", Inspection, testing and examination of lift trucks.
"SANS 18893", Mobile elevated work-platform safety principles, inspection, maintenance and o

GNR.296 of 26 February 1988: Incorporation of Safety Standards

Under the powers vested in me by section 36 (1) of the Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983), I Pieter Theunis Christiaan du Plessis, Minister of Manpower, hereby incorporate into the Driven Machinery Regulations, the safety standard specified in the Schedule hereto.

PTC DU PLESSIS
Minister of Manpower

Schedule

1. Regulation 15
   South African Bureau of Standards, code of practice SABS 0147:

   Refrigeration and air-conditioning installations.

2. Regulation 16 (1) (*a*)
   South African Bureau of Standards, code of practice SABS 0148:

   The installation and operation of cable cranes and aerial ropeways.

GNR.2947 of 23 October 1992: Exemption

I, Imanuel Mulder, appointed as chief inspector in terms of section 19 (1) of the Machinery and Occupational Safety Act, 1983, by virtue of the powers delegated to me by the Minister 0f Manpower in terms of section 34 (1) of that Act, hereby exempt all users of goods hoists fitted with oickets gates at the hatchway landing entrances from the requirements of regulation 17 (1) (*b*) of the Driven Machinery Regulations, 1988 published under Government Notice No.R.295 of 26 February 1988, requiring that any opening in the hatchway landing door or gate shall not be more than 38mm in with: Provided that-
(*a*) the speeed of the conveyance shall not exceed 0,25m/second;
(*b*) the conveyance is fitted with a gate at its access side in addition to hatchway landing gates; and
(*c*)both the car and landing gates shall not have openings exceeeding 65mm in width.

I MULDER
Chief Inspector.

GNR.859 of 2 September 2005: Notice of direction in terms of section 7 (1) of the Occupational Health and Safety Act, 1993

DEPARTMENT OF LABOUR
Under section 7(1) of the Occupational Health and Safety Act,1993 (Act No. 85 of 1993), I, Jacob Pannye Malatse, appointed as chief inspector in terms of section 27 (1) of the said Act, hereby direct all employers in the Class XIII: Iron, steel, artificial limbs, galvanising, garages, metal, etc., as per schedule below, of the classification of industries in terms of the Compensation for Occupational Injuries and Diseases Act. 1993, to prepare a written policy concerning the protection of the health and safety of the employees at work, including a description of the organisation and the arrangements for carrying out and reviewing that policy, within six (6) months from the date of this notice.
The OHSAS 18001: Occupational Health and Safety Management Systems - Specification and OHSAS 18002: Occupational Health and Safety Management Systems - Guidelines for the implementation of OHSAS 18001 may be used as a guideline.

J.P. MALATSE
Chief Inspector

GNR.396 of 28 April 2006: Notice of Exemption in terms of Section 40 (1)
DEPARTMENT OF LABOUR

Under section 40 (3) (*b*) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Jacob Pannye Malatse appointed as chief inspector in terms of section 27 (1) of the said Act, and by virtue of the power delegated to me by the Minister of Labour in terms of section 42(1) of the Act, hereby grant exemption in terms of section 40 (1) from amended regulation 18 (5) of the Driven Machinery Regulations published in government notice R.158 on 18 February 2005, until 29 September 2006 to all approved lifting machinery entities to perform load test on lifting machines without a lifting machine inspector who is registered by Engineering Council of South Africa.

J.P MALATSE
Chief Inspector

GNR. 1116 Of 10 November 2006: Notice of exemption in terms of section 40 (1) of the Occupational Health and Safety Act, 1993

DEPARTMENT OF LABOUR
Under sectioon 40 (3) (*b*) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Jacob Pannye Malatse appointed as chief insoector in terms of section 27 (1) of the said Act , and by virtue of the power delegated to me by the Minister of Labour in terms of section 42 (1) of the Act, hereby grant the exemption in terms of section 40 (1) to applicants who submitted their application for registration as lifting machinery inspectors to Engineering Council of South Africa (ECSA) BEFORE 30 September 2006 as per *Government Gazette* No. 28755 until 31 October 2007.

J.P. MALATSE
Chief Inspector

GNR.260 of 30 March 2007: Notice of exemption in terms of section 40 (1) of the Occupational Health and Safety Act, 1993: Driven Machinery Regulations 18 (5)

DEPARTMENT OF LABOUR
Under section 40(3)(b) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I Jacob Pannye Malatse appointed as chief inspector in terms of section 27(1) of the said Act, and by virtue of the power delegated to me by the Minister of Labour in terms of section 42(1) of the Act, hereby grant exemption in terms of section 40 (1) to applicants who submitted their application for registration as lifting machine inspectors to Engineering Council of South Africa (ECSA) before 30 September 2006 as per *Government Gazette* No.28755 until 31 October 2007.

J.P. MALATSE
CHIEF INSPECTOR

GNR.257 of March 2008: Notice of exemption in term of section 40 (1) of the Occupational Health and Safety Act, 1993: Driven Mchinery Regulation 18 (5)
DEPARTMENT OF LABOUR

Under section 40 (3) (*b*) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Jacob Pannye Malatse appointed as chief inspector in terms of section 27 (1) of the said Act, and by virtue of the power delegated to me by the Minister of Labour in terms of section 42 (1) of the Act, hereby grant exemption in terms of section 40 (1) to applicants who have submitted their application for registration as lifting machine inspectors to the Engineering Council of South Africa (ECSA) before 30 September 2006 as per *Government Gazette* No. 28755 until 27 June 2008.
This registration does not apply to persons who examine lifting tackles in terms of regulation 18 (10) (e) of the Driven Machinery Regulations.

J.P. MALATSE
CHIEF INSPECTOR

GNR.201 of 22 March 2013: Withdrawl of government Notice : Driven Machinery Regulations
(*Government Gazette No. 36258*)
DEPARTMENT OF LABOUR
I, Thobile Lamati, appointed as Chief Inspector in terms of section 27 (1) of the Occupational Health and Safety Act, 1993, acting in terms of the powers vested in me by the regulation 18 (11) of the Driven Machinrt Regulation published under the Government Notice r.1075 of 21 December 2011

T.LAMATI
Chief Inspector

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT No. 85 of 1993), AS AMENDED DRIVEN MACHINERY REGULATIONS, 2015 NOTICE OF WITHDRAWAL OF CERTIFICATES (WITHOUT EXPIRY DATE) ISSUED TO TRAINING PROVIDERS

I Tibor Szana appointed as the Chief Inspector in terms of section 27(1) of the said Act, and by virtue of the powers delegated to me by the Minister of Labour in terms of section 42(1) of the Act, hereby withdraw all certificates without expiry date issued to training providers in terms of regulation 18.(11) of the Driven Machinery Regulations: Provided that all such certificates issued under the above mentioned regulation shall be valid for a further period of 12 months from the date of this notice to allow training providers in possession of such certificates to lodge a written

application to Department of Labour for an updated certificate.

T Szana

APPENDIX 1: LIFTING MACHINE CERTIFICATION CODES

Forklift Codes

For illustrations of typical codes refer to Appendix 6

Code No	Code Description
F1	Counterbalanced lift truck up to rated capacity of 3000 kg
F2	Counterbalanced lift truck up to rated capacity of 7000 kg
F3	Counterbalanced lift truck up to rated capacity of 15000 kg
F4	Counterbalanced lift truck above a rated capacity of 15000 kg
F5	Reach lift truck up to rated capacity of 2500 kg
F6	Pedestrian-controlled lift truck below rated capacity of 2000 kg
F7	Pedestrian-controlled lift truck above rated capacity of 2000 kg
F8	Order Picker lift truck - for first and second level racking (NAIWA)
F9	Order Picker lift truck- for all racking levels including high-rise (NAIWA)
F10	Side Loader lift truck
F11	Rough Terrain I Earthmoving/Agricultural Equipment with lift truck attachments,
F12	Pallet lift truck, battery-powered for propulsion (Specify Capacity)
F13	VNA lift truck, non-elevating cab, to service all levels
F14	VNA lift Truck, elevating cab, to service all levels
F15	Rail mounted stacker lift truck, non-elevating cab
F16	Rail mounted stacker lift truck, elevating cab

- VNA = Very Narrow Aisle
- NA Narrow Aisle
- WA Wide Aisle

Attachments & Special Equipment

A Side-shift
B Single Pole
C Carton or Paper Roll Clamp
D Crane Hook
E Push-Pull/ Slip Sheet Equipment
F Load Rotator
G Wire Guidance System
H Load Extender Pantograph
I Rotating Mast (Order Picker)
J Tilting Bucket
K Tandem Forks
L Container Handling
M Lifting Cradle (Personnel Cage)
N Tyre handler

Code Specification on Competency Certificates
Accrediting Organisations are required to annotate certificates to clearly identify the machine category, code number and description. The description only where it significantly differs from the basic code description: i.e. code F11 (Bell Three Wheeler/Front End Loader/Excavator with Fork/grab attachment)

Special Cases
In the case of additional or new attachment/s, the learner will be required to undergo retraining and assessment to include the attachment/s. Refer also to Training Course Duration.

Cranes Codes

Code No	Code Description
C31	Overhead Crane Pendant and Radio Controlled
C32	Overhead Crane Cab Controlled
C33	Truck mounted Crane up to the Capacity specified on the Certificate
C34	Hydraulic Crane Pick up and Carry up to a rated capacity of 50 000kg
C35	Hydraulic Mobile Crane to the rated capacity of above 50 000 kg and as specified on the Certificate
C36	Hydraulic Crane Pick up and Carry to the rated capacity of above 50 000 kg and as specified on the Certificate
C37	Lattice Boom Mobile Truck Crane up to rated capacity of 50 000 kg
C38	Lattice Boom Mobile Crawler up to rated capacity of 50 000 kg
C39	Lattice Boom Mobile Truck Crane to the rated capacity of above 50 000 kg as specified on the Certificate
C40	Lattice Boom Mobile Crawler Crane to the rated capacity of above 50 000 kg as specified on the Certificate
C41	Tower Crane: Top Slewing
C42	Tower Crane: Bottom Slewing
C43	Hydraulic Mobile Crane up to rated capacity of 15 000 kg
C44	Sugar Cane Crane
C45	Ships Crane
C46	Telescopic Boom Handler
C47	Wharf side Crane {Rail mounted)
C48	Reach Stacker (Telescopic Container Handler)
C49	Straddle Carrier
C50	Cantilever container Crane (Ship to Shore)
C51	Scotch Derrick Crane (Ship Mounted)
C52	Rail mounted Gantry Crane(RMG)
C53	Mobile elevated work platform
C54	Hoist & Winches.
C55	Rubber Tyred Gantry Crane
C56	Side Loader Container
C57	Floating crane
C58	Powered Wallmounted/Pedestal Jib crane
C59	Wharfside Jib crane(rubber tyred)
C60	Side boom crane

Note that several SAQA approved unit standards cover the above codes. Providers must ensure that they are accredited on the relevant unit standards linked to these codes.

Attachments and Special Operations

0 Fly Jib (Lattice)
P Boom Extension (Hydraulic)
Q Counterweight Options
R Tandem Lifts
S Special Categories
T Lifting Cradle {Personnel Cage)
U Rail Mounted
V Steam driven
W Spreader
X Grab I grapple/forks

Code Specification on Competency Certificates
Accredited training providers are required to annotate certificates to clearly identify the machine category, code number and description. The description only where it significantly differs from the basic code description.

Special Cases

1. It is a pre-requisite that the operator of specialised equipment will be certificated in a basic category applicable to the special machine in question.
2. Where lifting machine/s are in use that are reasonably considered to be a “one off’ type and where no experience in their use is available. The manufacturer/supplier of the lifting machine will train the operator and issue a certificate of training. This can be accomplished by sending the learner/ operator to the supplier or the supplier sending a qualified instructor to the learner/operator. In such cases full course details must be made available to the relevant authorised body and the learner I operator will be required to do a theoretical and practical assessment set by the to authorised body. The authorised body will issue a statement of results the results of the theoretical examination to the operator’s employer.

APPENDIX 2: GENERAL EXPLANATORY NOTES

These form part of the provisions of the Code

This appendix contains explanatory notes, which should be taken into account when additional clarity maybe required.

1. Accreditation of accredited training providers will remain valid whilst no non-conformances are recorded during annual audits. If any non-conformances are recorded the accredited training provider will have 30 days of the audit date to correct and provide any explanations, which may be required.
2. The responsibility of the accredited training provider shall go beyond simply carrying out training and assessments but shall include applying measures to ensure that the standards of training and assessments are maintained at all times.
3. An accredited training provider may operate as a training organisation on a client’s premises. The registered facilitator shall ensure that sufficient equipment and facilities are available at the client’s premises to undertake and complete the training programme to ensure the required level of competence. In all cases a record must be kept of the facilities and equipment used at the premises for inspection during audits. Any special circumstances such as the absence of suitable equipment to perform the practical tests required should be recorded and the certificate issued may require limitation endorsements.
4. Copies of all assessment papers and practical test marking sheets are required to be kept for each certificate of competence issued for audit purposes.
5. A composite organisation involved in the direct sale of equipment and which has sufficient staff to perform accredited training provider functions shall obtain accreditation and shall be required to demonstrate the following:
   (a) That adequate safeguards are in place to isolate certification staff from those involved in the other aspects of the organisation to ensure that no pressures are brought to bare which may influence registered facilitator’s and assessor’s judgement;
   (b) The organisation has a clearly defined policy for the resolution of conflict that may arise;
6. Accredited training providers requiring registered facilitators to use alternative course material, to their own proprietary material, must be able to demonstrate to the authorised body that they are conversant with the material and able to use it effectively.
7. An organisation applying for accreditation, as an accredited training provider must provide written approval for the use of the course material submitted unless it is clearly

entirely of its own origination

8. Where conditions and/or equipment are insufficient to be able to assess an operator's performance under all types of situation then any certificate must be limited accordingly.
9. In the case of the client's only requirement is for the operator to load and off load road vehicles then the certificate of competence must be limited in either of the following manner:
   (a) 'Whilst in the employment of the Client"; or
)b) "For loading and off loading road vehicles only"

The second alternative is preferred, as this will adequately represent the operator's competency if the certificate of competence is presented to another employer.

APPENDIX 6: ILLUSTRATIONS OF LIFTING MACHINE CODES

CODE DESCRIPTION

CODE F1
Counterbalanced Lift Truck
Up to rated capacity of 3000 kg

CODE F2
Counterbalanced Lift Truck
Up to rated capacity of 7000 kg

CODE F3
Counterbalanced Lift Truck
Up to rated capacity of 15000 kg

CODE F4
Counterbalanced Lift Truck
Above rated capacity
of 15000kgs

CODE F5
Reach Lift Truck
Up to Rated Capacity of 2500 kg

CODE F6
Pedestrian-Controlled Lift Truck
Below rated capacity of 2000 kg

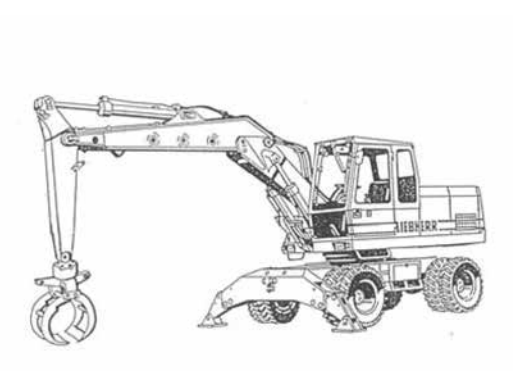
CODE F7
Pedestrian-Controlled Lift Truck
Above rated capacity of 2000 kg

CODE F8
Order Picker Lift Truck
For First and Second Level Racking (NA/WA)

CODE F9
Order Picker Lift Truck
For All Racking Levels Including High-Rise (NA/WA)

CODE F10
Side Loader Lift Truck
Capacity as Specified on the Certificate

CODE F11
Rough Terrain/Eartmoving/ Agriculture Equipment
with Lift Truck Attachments

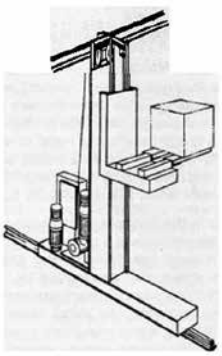


CODE F11
Rough Terrain/Eartmoving/ Agriculture Equipment
with Lift Truck Attachments

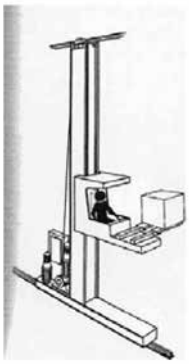
CODE F12
Pallet Lift Truck Battery Operated

CODE F13
VNA Lift Truck Non-Elevating Cab
Service all levels

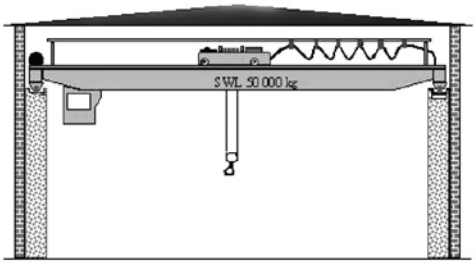
CODE F14
VNA Lift Truck Elevating Cab
Service all levels



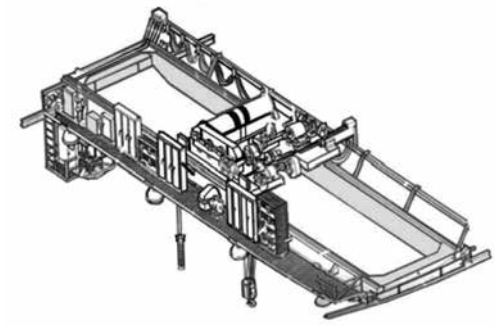
CODE F15
Railmounted Stacker Lift Truck
Non-elevating cab



CODE F16
Railmounted Stacker Lift Truck
Elevating cab



CODE C30
Overhead Crane Pendant and Radio Controlled



CODE C31
Overhead Crane Cab Controlled

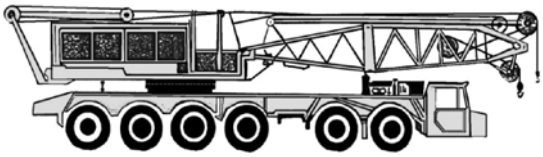
CODE C32
Truck mounted Crane up to the capacity stated on the certificate

CODE C33
Hydraulic Mobile Crane Up to 50 000 kg capacity

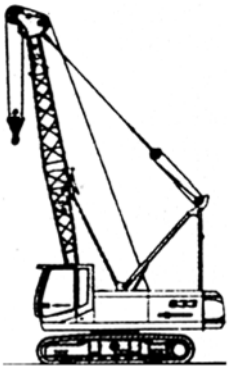
CODE C34
Hydraulic Crane Pickup and Carry up to 50 000 kg capacity

CODE C35
Hydraulic Mobile Crane above 50 000 kg capacity

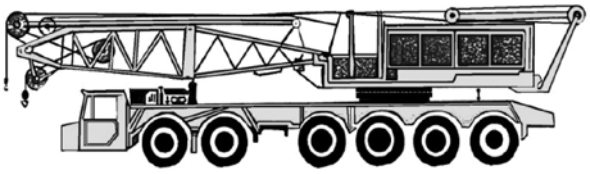
CODE C36
Hydraulic Crane Pickup and Carry above 50 000 kg capacity



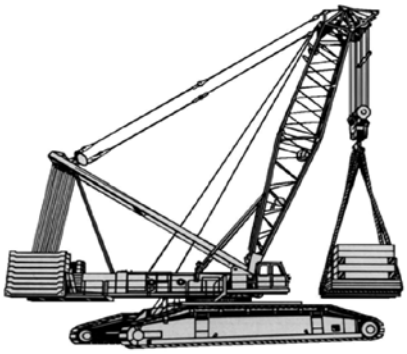
CODE C37
Lattice Boom Mobile Truck Crane up to 50 000 kg capacity



CODE C38
Lattice Boom Mobile Crawler Crane up to 50 000 kg capacity

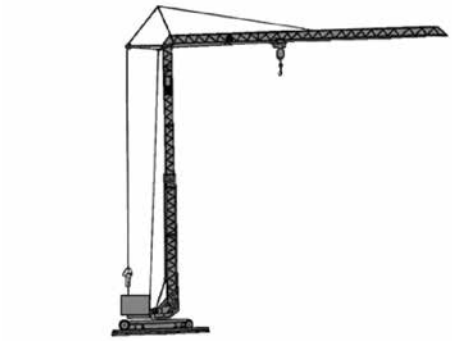


CODE C39
Lattice Boom Mobile Truck Crane above 50 000 kg capacity as stated on the certificate

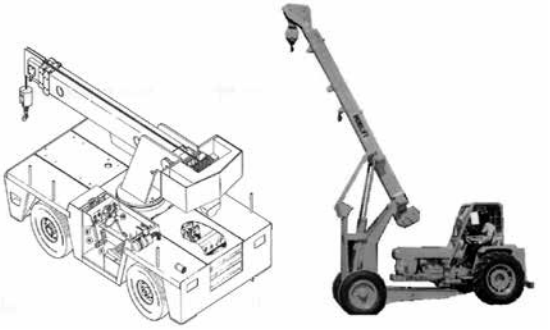


CODE C40
Lattice Boom Mobile Crawler Crane above 50 000 kg capacity as stated on the certificate

CODE C41
Tower Crane : Top Slewing

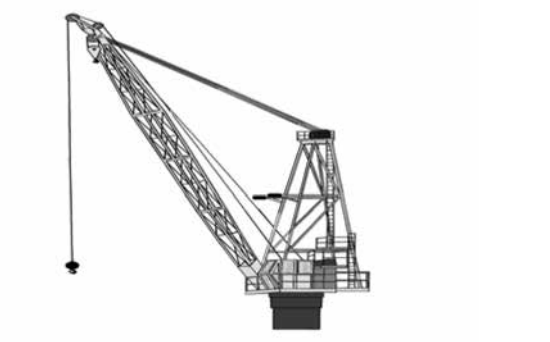


CODE C42
Tower Crane : Bottom Slewing



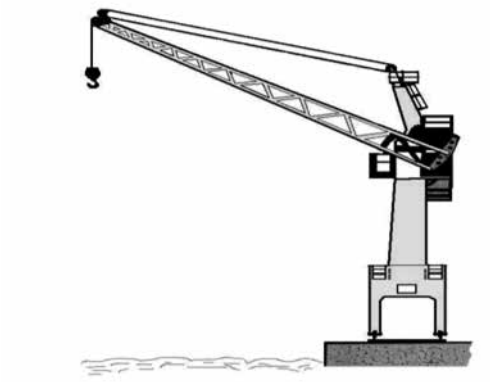
CODE C43
Mobile Hydraulic Crane up to 15000kg Capacity

CODE C44
Sugar Cane Crane



CODE C45
Ships Crane

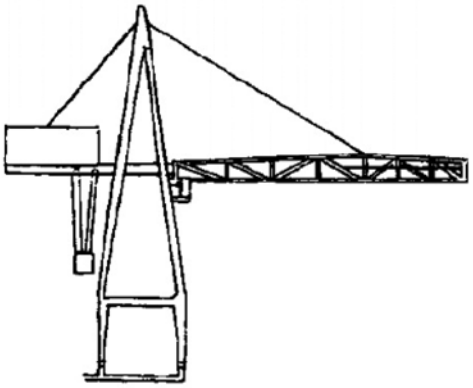
CODE C46
Telescopic Boom Handler



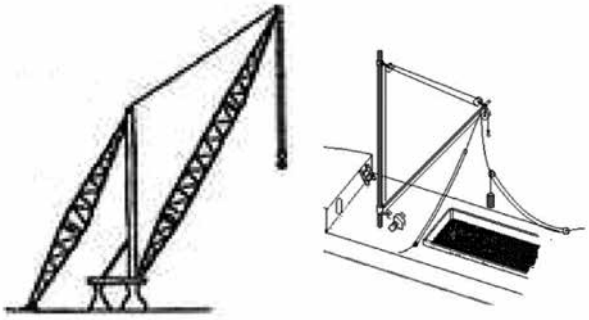
CODE C47
Wharf Side Crane : (Railmounted)

CODE C48
Reach Stacker

CODE C49
Straddle Carrier

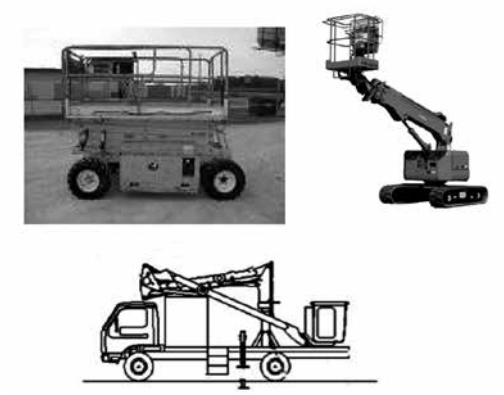


CODE C50
Cantilever Container Crane

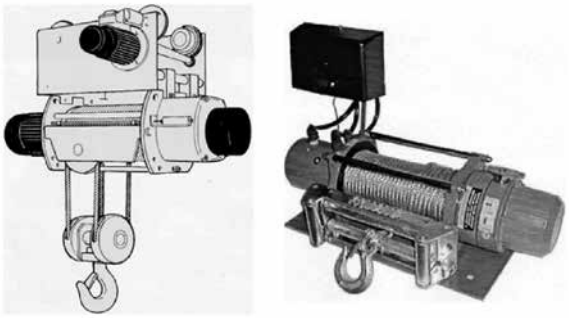


CODE C51
Scotch Derrick Crane (Ship mounted)

CODE C52
Rail Mounted Gantry Crane

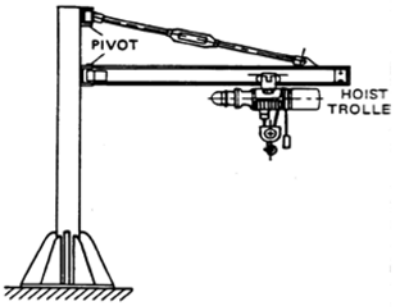


CODE C53
Mobile Elevated Work Platforms

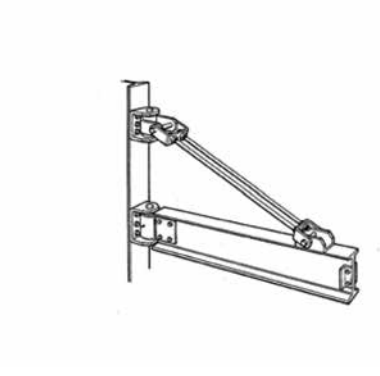


CODE C54
Hoist, & Winches

CODE C55
Rubber Tyred Gantry Crane



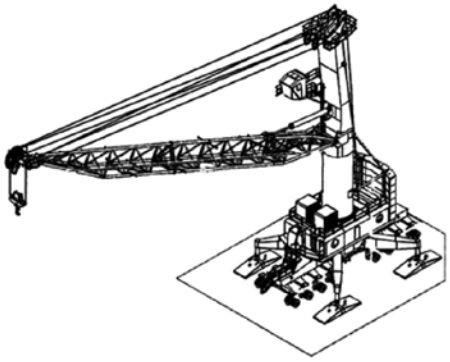
CODE C54
Pillar Mounted Jib Crane



CODE C58
Wall Mounted Jib Crane

CODE C56
Side Loader Container

CODE C57
Floating Crane

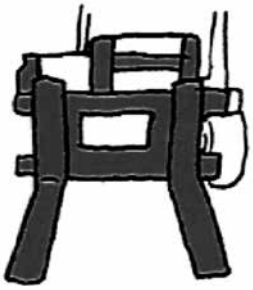


CODE C59
Wharfside Jib Crane (Rubber Tyred)

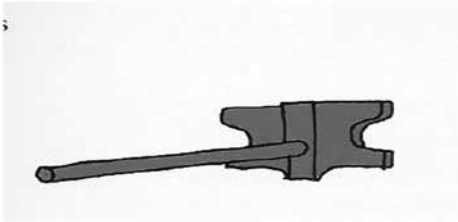
CODE C60
Side Boom Crane

(Editorial Note: Images as per original Government Gazette.)

LIFT TRUCK ATTACHMENTS

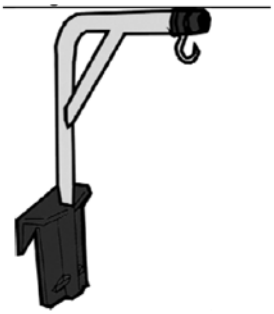


A Side- Shift

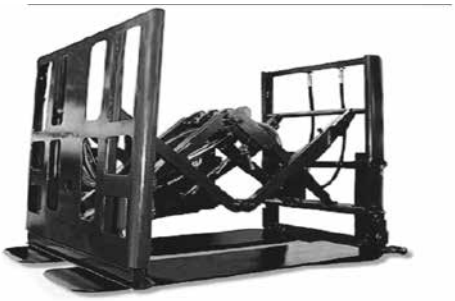


B Single POLE

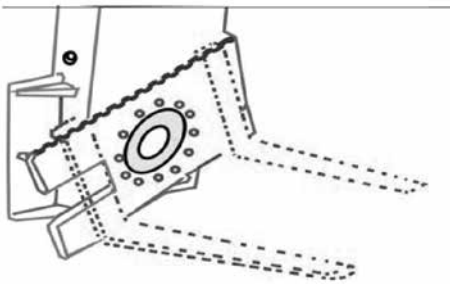
C Carton or Paper Roll Clamp



D Crane Hook

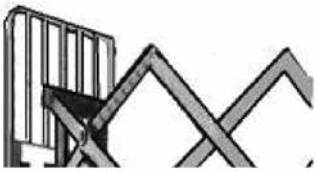


E Push Pull Slipsheet Equipment

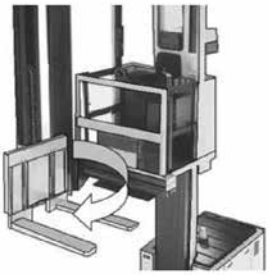


F Load Rotator

G Wire Guidance System



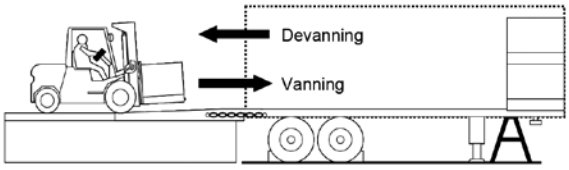
H Load Extender Pantograph



I Rotating Mast

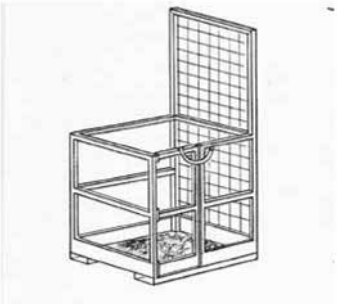
J Tilting Bucket

K Tandem Forks

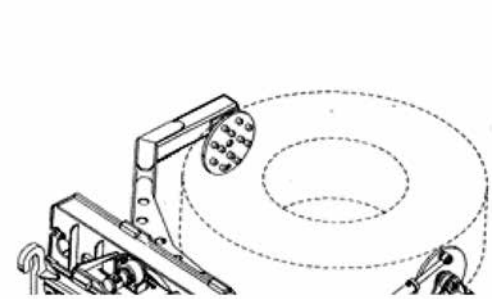


L Container Vanning and Devanning

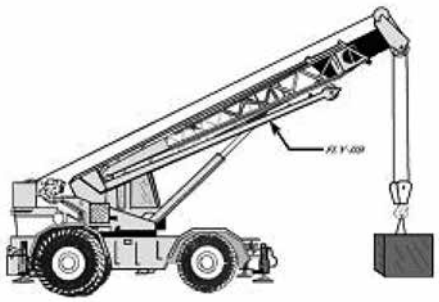
L Container Handling



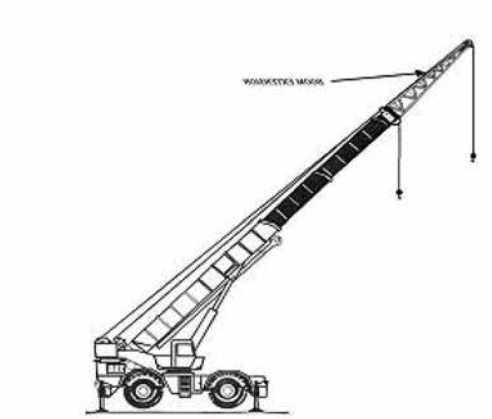
M Lifting Cradle (Personnel Cage)



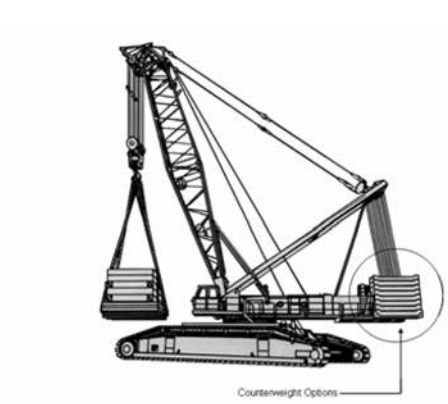
N Earthmoving Tyre Handling



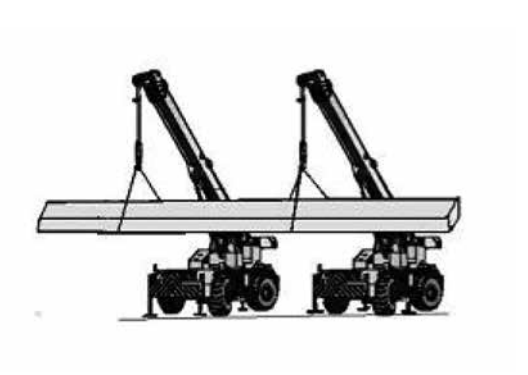
O Fly-jib (Lattice)



P Boom Extension (Hydraulic)

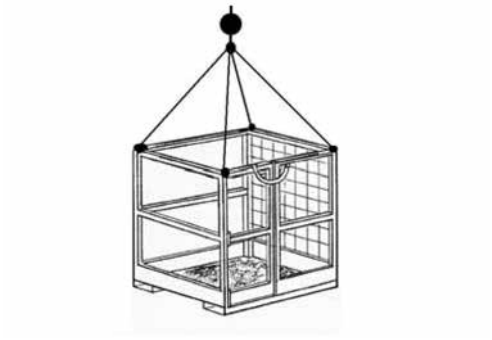


Q Counterweight Options



R Tandem Lifts

S Special Categories



T Lifting Craddle (Personnel Cage)

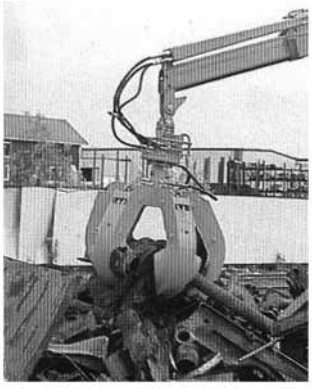
U Rail Mounted Crane

V Steam Driven Crane

W Container Spreader

X Grable / grapple

X Grable / grapple



R.288 of 2017
(G.G. 40734 of 31/03/2017)

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, ACT 85 of 1993

GUIDELINES FOR DRIVEN MACHINERY REGULATIONS , 2015

Rev 0

FOREWORD

This document consists of explanatory notes on the implications and application of the more important regulations concerning Driven Machinery Regulations . The notes are meant to help and guide suppliers, contractors, service providers, competent persons and users of driven machinery.

INTRODUCTION

The Driven Machinery Regulations were published on 24 June 2015 in Government Gazette No. 38905 with the aim of protecting employees against the dangers associated with the use of Driven Machinery.

The aim of these guidance notes is to explain in simple language the provisions of the Driven Machinery Regulations and to stress the principle of self-regulation.

1. Definitions

In these Regulations, "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and, unless the context otherwise indicates -

"bench saw" means a circular saw working in a bench (including a rack-bench) for the purpose of ripping, deep cutting or cross cutting, but does not include a swing-saw or other saw that is moved towards the wood;

Notes:

(a) None

"block and tackle" means a lifting device consisting of one or more pulley blocks reeved with fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally, but does not include chain blocks, lever hoists or steel- wire rope pullers;

Notes:

(a) It should be there for clarity to identify the difference between block and tackle , chain hoist and lever hoist because chain blocks and lever hoist were regarded as block and tackle in the old regulation.

"calender rolls" means a series of counter-rotating rollers at the end of a rolling process;

Notes:

(a) These rolls are used in steel paper mills, printing industry as well as food industry.

"capstan-type hoist" means a rotating machine used to control or to apply force to move or raise loads by traction on a rope or cable;

Notes:

(a) This machine is used generally in fishing industry, harbours as well as pull rolling stock (railway vehicles).

"competent person" means a person who has the knowledge, training, experience and qualifications specific to the work performed: provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995, those qualifications and that training shall be deemed to be the required qualifications and training;

Notes:

(a) None

"hand-powered lifting device" means a lifting device consisting of one or more sheave components reeved with chains, steel rope or fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally and includes chain blocks, lever hoists, hand chain hoists, steel-wire rope pullers and winches, but does not include hand-powered hydraulic lifting devices;

Notes:

(a) This definition was introduced to differentiate between lifting machine and hand powered lifting device.

(b) Hand powered hydraulic lifting devices are amongst others hydraulic jacks.

"lifting machine" means a power-driven machine that is designed and constructed for the purpose of raising or lowering a load or moving it in suspension, but does not include an elevator, escalator or hand-powered lifting device;

Notes:

(a) The definition listed the exclusions. Power-driven machine means that a machine is powered by any energy source excluding manpower.

"lift truck" means a mobile lifting machine, but does not include -

(a) a vehicle designed solely for the purpose of lifting or towing another vehicle;

(b) a mobile earth-moving machine; or

(c) a vehicle designed solely for the removal of a waste bin;

Notes:

(a) This machine is generally known as forklift.

"lifting machinery entity" means a legal entity approved and registered by the chief inspector in terms of regulation 19;

Notes:

(a) These are commonly known as LME

"lifting machinery inspector" means a person who is employed by a Lifting Machinery Entity and who is registered by the Engineering Council of South Africa in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

Notes:

(a) These are commonly known as LMI and are registered at ECSA on behalf of Department of Labour.

"lifting tackle" means chain slings, wire rope slings, woven webbing slings, master links, hooks, shackles and swivels, eye bolts, lifting or spreader beams, tongs, ladles, coil lifters, plate lifting clamps and drum lifting clamps used to attach a load to a lifting machine;

Notes:

(a) Coil lifters is found at steel industry for lifting hot rolled steel products.

"load path" means all the parts of the lifting machine under stress during the lifting operation;

Notes:

(a) None

"man-cage" means a platform enclosed on all sides, whether closed or open at the top, designed for the purpose of raising and lowering persons by means of a lifting machine , but does not include mobile elevated work platforms and suspended access platforms;

Notes:

(a) None

"point of operation" means that place in a machine where material is positioned and where the actual work is performed;

Notes:

(a) None

"press" means a driven machine that shears, punches, forms or assembles metal or other material by means of cutting, shaping or combination dies attached to slides having a controlled reciprocating motion, but does not include bending brake presses, hot bending or hot metal presses, forging hammers and riveting machines or similar types of fastener applicators;

Notes:

(a) None

"safe working load" means the mass load applicable to a piece of equipment or system as determined by a competent person taking into account the environment and operating conditions;

Notes:

(a) The rigger must determine the Safe working load based on the condition at the time of lifting.

"thorough examination" means examination or inspection to determine whether the equipment is safe to use;

Notes:

(a) None

"training provider" means a training provider for lifting machinery operators approved and registered by the chief inspector in terms of regulation 20;

Notes:

(a) None

"transportation plant" means apparatus used for the transportation of material by means of an elevated conveyance suspended from and travelling along a catenary rope or chain where persons may pass or work below the path of the conveyance, or any such apparatus used for the transportation of persons.

Notes:

(a) None

2 Scope of Application

These Regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection, testing and commissioning of driven machinery.

Notes:

(a) The aim of this regulation is to ensure the safety of operators, maintenance providers as well as inspection and testing providers operate safely.

(b) The aim is to ensure that all driven machineries are safe for use.

3 Revolving Machinery

Unless moving or revolving components of machinery are in such a position or of such construction that they are as safe as they would be if they were securely fenced or guarded, the user shall cause -

(a) every shaft, pulley, wheel, gear, sprocket, coupling, collar, clutch, friction drum or similar object to be securely fenced or guarded;

(b) every set screw, key or bolt on revolving shafts, couplings, collars, friction drums, clutches, wheels, pulleys, gears and the like to be countersunk, enclosed or otherwise guarded;

(c) every square projecting shaft or spindle end and every other shaft or spindle end that projects for more than a quarter of its diameter to be guarded by a cap or shroud;

(d) every driving belt, rope or chain to be guarded; and

(e) the underside of every overhead driving belt, rope or chain above passages or workplaces to be so guarded as to prevent a broken belt, rope or chain from falling and so injuring persons: provided that the provisions of this paragraph shall not apply where, in the opinion of an inspector, no danger exists in the case of light belts owing to the nature thereof and the speed of operation.

Notes:

(a) None

4 Circular Saws

(1) No user may require or permit any person to operate a power-driven circular saw -

(a) at a speed in excess of the manufacturer's rated maximum speed for the saw blade; or

(b) the saw blade of which is damaged in any way or that is dull or not regular or not correctly sharpened and set.

(2) The user of a power-driven bench saw shall cause -

(a) the saw blade to be effectively guarded below the table; and

(b) the part of the saw blade above the table to be covered by a substantial guard that shall cover the saw at all times to at least the depth of the teeth and that shall automatically adjust itself to the thickness of and remain in contact with the material being cut: provided that where such a guard is

impracticable, the top of the saw shall be covered by a strong manually-adjustable guard that shall be adjusted to extend downwards to a point as near as practicable to the cutting point of the saw: provided further that in the case of a breakdown saw, the guard shall effectively cover the top of the saw blade.

(3) The user shall cause every power-driven circular saw that is used for ripping wood to be provided with a riving knife, which shall -
   (a) be placed as close as practicable to the saw blade, but not more than 12 mm behind it, and in a direct line with the saw teeth at the level of the bench table;
   (b) have the edge nearest the saw in the form of an arc of a circle that shall have a radius not exceeding the radius of the largest saw blade that can be used on the bench by more than 3 mm;
   (c) extend to a height above the table to within 5 mm of the top of the saw blade; and
   (d) have a smooth surface and be strong, rigid and easily adjustable.

(4) The user shall cause every tilting saw or tilting table saw to be so arranged that the adjustment of the riving knife and the guard remains effective with any position of the saw or table.

(5) The user shall -
   (a) cause a suitable push stick to be kept available at every bench saw that is fed by hand, to enable work to be carried out without danger to persons;
   (b) provide suitable mechanical means for holding rough timber that is to be slabbed on a bench saw; and
   (c) provide an effective guard for the automatic feed rollers of every bench saw equipped with such rollers.

(6) The user shall cause every swing or radial saw that is moved towards the material -
   (a) to be guarded so that only the cutting portion of the saw blade is exposed;
   (b) to be arranged in such a manner that the saw will automatically move away from the cutting position when it is released; and
   (c) to be fitted with a device that will oppose the thrust or tendency of the saw to pick up the timber or to throw the timber back at the operator when such saw is used for ripping timber.

(7) The user of a portable power-driven circular saw shall provide -
   (a) a fixed guard above the slide or shoe, which shall cover the saw blade to at least the depth of the teeth; and
   (b) a guard that shall automatically cover the portion of the saw blade below the slide or shoe while sawing is not actually being done.

Notes:

(a) None

5 Band Saws and Band Knives

The user shall -

(a) cause all moving parts, except the working portion of the blade at the point of operation , of every band saw or band knife to be effectively guarded; and

(b) ensure that the machine is operated by a person trained for that particular machine.

Notes:

(a) None

6 Wood-planing Machines

(1) The user shall cause every wood-planing machine that is used for overhand planing and that is not mechanically fed, to be fitted with a cylindrical cutter block.

(2) The user shall cause every planing machine used for overhand planing to be provided with a bridge guard that is capable of covering the full length and breadth of the cutting slot in the table and that can be adjusted easily in a vertical and horizontal direction.

(3) No user may require or permit any planing machine that is not mechanically fed to be used for the overhand planing of any piece of wood that is less than 300 mm long, unless a safe holder is used for such a piece of wood: provided that this subregulation shall not apply to the planing of the edges of flat pieces of wood.

(4) The user shall provide an effective guard for the feed-roller of every planing machine used for thicknessing, except in the case of a combined machine for overhand planing and thicknessing.

Notes:

(a) None

7 Wood-moulding and Mortising Machines

(1) Having regard to the nature of the work that is performed, the user shall cause the cutter or chain of every wood-moulding or mortising machine to be effectively guarded.

(2) If work cannot be performed when the cutter of a moulding machine is guarded, the user shall cause the wood being moulded to be held in a jig or holder that is so constructed that it will ensure safe working of the machine: provided that where a jig or holder cannot be used, the user shall provide a suitable spike or push stick and shall require persons who operate the machine to use such spike or push stick when necessary.

Notes:

(a) None

8 Sanding Machines

The user shall cause every -

(a) drum sanding-machine to be provided with effective guards so arranged as to completely enclose the revolving drum except such portion as is necessary for the performance of the work;

(b) disc sanding-machine to be provided with suitable guards that shall completely enclose the periphery and back of the sanding disc and that portion of the working face of the disc under the table; and

(c) belt sanding-machine to be provided with guards at the trap points where the sanding belt runs onto its pulleys and cause any section of the belt not used for sanding to be effectively enclosed.

Notes:

(a) None

9 Grinding Machines

(1) The user of a power-driven grinding machine shall cause such machine to be marked in a conspicuous place with the manufacturer's rated speed or speeds of the spindle in revolutions per minute.

(2) No user may require or permit a grinding wheel of a power-driven grinding machine to be operated at a speed exceeding that stipulated by the manufacturer of such wheel: provided that a grinding wheel larger than 100 mm in diameter shall only be used if the recommended operating speeds therefor are distinctly marked on such machine.

(3) The user shall cause every grinding wheel of a power-driven grinding machine to be mounted concentrically on the spindle by means of robust metal flanges with annular peripheral bearing surfaces of adequate breadth, which shall bear upon the wheel, and a layer of suitable compressible material to be fitted between the flanges and the wheel: provided that grinding wheels for specialized application that cannot be fixed by flanges shall be so secured that displacement or rupture of the wheel in motion is eliminated as far as possible.

(4) Having regard to the nature of the work that is performed, the user shall cause every power-driven grinding machine to be provided with a substantial guard. which shall enclose the grinding wheel as far as practicable and shall be of sufficient strength to withstand the force of impact of a rupturing wheel.

(5) Having regard to the nature of the work that is performed, the user shall cause a power-driven grinding machine where the work piece is applied to the wheel by hand, to be provided with a substantial adjustable work rest, which shall be securely fixed in position and adjusted to within 3 mm from the grinding face of the wheel.

(6) The user shall cause every power-driven grinding machine to be provided with a strong transparent shield, which shall be kept adjusted so as to protect the operator's eyes: provided that such shield may be omitted if every operator of the machine is personally issued with suitable eye protection and is obliged to wear it.

(7) The user shall cause a notice to be posted in a conspicuous place at every power-driven grinding machine prohibiting persons from carrying out, inspecting or observing grinding work without using suitable eye protection.

(8) The user shall ensure that the operators of machinery used for the purpose of grinding, cutting, fettling, polishing or similar applications are specifically trained for that particular machinery.

Notes:

(a) This regulation does not apply to portable electrical grinders.

(b) In house training for operators of grinding machines is acceptable provided that there is proof thereof.

10 Shears, Guillotines and Presses

(1) Where the opening at the point of operation of shears, a guillotine or a press is greater than 10 mm, the user shall cause such machine to be provided with -
   (a) a fixed guard that prevents hands or fingers reaching through, over, under or around the guard into the point of operation;
   (b) a self-adjusting guard that automatically adjusts itself to the thickness of the material being worked and that prevents hands or fingers reaching through, over, under or around the guard into the point of operation;
   (c) a manually or automatically operated moving guard that completely encloses the point of operation of such machine, is so arranged that the working stroke cannot be commenced unless the guard is closed, and cannot be opened unless the ram or blade is stationary;
   (d) an automatic sweep-away or push-away that pushes any part of the operator's body out of the danger zone when the working stroke commences; or
   (e) an electronic presence-sensing device that prevents or arrests a working stroke if it senses that any part of a person's body or any other foreign object is in the danger zone: provided that any guarding provided in terms of this subregulation shall not in itself create any threat to the safety of persons.

(2) The user may use or permit the use of shears, a guillotine or a press without the guarding referred to in subregulation (1) if the operating controls to set it in motion require the simultaneous engagement of both hands of all the operators involved in the operation of the machine, and those operating controls -
   (a) are situated at such distance from the point of operation that none of the operators has enough time to reach the danger zone with any part of their body before the working stroke is complet-

ed; or

(b) are so designed that the working stroke will be arrested if any one of the operators removes one of their hands from the controls: provided that the operating controls shall be so arranged that they cannot be bypassed.

(3) A user shall cause any full-revolution clutch shear, guillotine or press that is fed by hand to be provided with an anti-repeat device that incorporates a control system designed to limit the press to a single stroke every time even if the control that is actuating the press is held in the operating position, and that requires the actuating controls to be returned to the neutral position before another stroke can be initiated.

Notes:

(a) None

11 Slitting Machines

(1) Having regard to the nature of the work that is performed, the user of a slitting machine shall cause -

(a) the cutting edge of the disc cutter to be effectively guarded;

(b) fixed guarding or enclosures to prevent access to a slitting machine; and

(c) access points to be controlled by an interlocked safety device, which must prevent or arrest the motion of the machine when activated by unauthorised entry.

Notes:

(a) None

12 Mixing, Agitating and Similar Machines

(1) The user shall cause all dangerous moving parts of a mixing, agitating or similar machine to be placed beyond the reach of persons by means of doors, covers, guards or any other means.

(2) The user shall, wherever practicable, cause every mixing, agitating or similar machine to be so arranged that it cannot be set in motion unless the doors, covers, guards or other means referred to in subregulation (1) are in position and that the machine will come to a stop if any one of them is opened, unlocked or removed, or if the dangerous moving parts of the machine are exposed for any reason whatsoever: provided that the provisions of this subregulation shall not apply to doors, covers or guards that are bolted in position or to an inspection hatch that is provided for controlling a process while the machine is in operation.

Notes:

(a) None

13 Rolls and Calender Rolls

The user shall, where practicable, cause every power-driven machine consisting of calender rolls or incorporating two or more rolls rotating in opposite directions that are less than 75 mm apart and where the in-running side or nip of the rolls is within the reach of persons, to be guarded for the full length of such nip with -

(a) a fixed guard; or

(b) a trip bar, a cable or an electronic sensing device not more than 300 mm from the nip that will stop or reverse the rotation of the rolls if the bar or cable is touched or if the danger area is invaded by any foreign object:

provided that where it is not practicable to install any of the specified devices an inspector may require or permit any other means of protection at the intake of the rolls.

Notes:

(a) Rotating rolls could cause serious injury to hands and or arms and in some instances death. The objective of the tripping devices consisting of tension cables or wires tripping rods and bars as well as micro switch and optical beams protecting devices installed in closed proximity to these pinch points to prevent injuries to the persons operating these machines.

(b) To avoid injuries persons who are not trained should be made aware of the dangers and are not allowed to operate or use this machinery.

(c) Tripping device means a device designed to stop the machine when a foreign object comes in close proximity with a pinch point.

(d) Nip/Pinch point is that part of the machine which can cause injury if a person comes into contact.

14 Washing Machines, Centrifugal Extractors, etc.

The user shall, wherever practicable, cause every power-driven washing machine, centrifugal extractor or similar machine of double cylinder construction in which the inner cylinder, drum or basket rotates, to be provided with a door or lid on the outer cylinder, so interlocked that -

(a) the inner cylinder cannot be put into motion unless the door or lid is closed; and

(b) the door or lid cannot be opened unless the inner cylinder is stationary.

Notes:

(a) This includes all industrial machines however domestic machines are also protected by a door interlocks.

15 Air Compressors

The user of a positive displacement-type air compressor that is not provided with automatic means for limiting the operating temperature to a safe level shall provide a fusible plug fitted close to the outlet valves or discharge ports of every stage of compression: provided that the provisions of this regulation shall not apply to air compressors with a free air delivery of less than 8,5 cubic metres per minute or in which compression does not take place in the presence of lubricating oil.

Notes:

(a) Piston type air compressor are used in industry.

16 Refrigeration and Air-conditioning Installations

No user may use or permit the use of a refrigeration or an air -conditioning installation unless it complies with a safety standard with respect to its construction, installation, operation and inspection incorporated for this purpose into these Regulations under section 44 of the Act.

Notes:

(a) None

17 Transportation Plants

(1) No user may use or permit the use of a transportation plant unless -

(a) it complies with a safety standard with respect to the design , construction, installation, operation and inspection thereof incorporated for this purpose into these Regulations under section 44 of the Act; and

(b) the user is in possession of written authorization for the use thereof from an inspector.

(2) Any person who wishes to use a transportation plant shall apply in writing to the head of the relevant provincial office of the Department of Labour for permission for such use and shall, together with such application, submit -

(a) a complete set of design calculations and drawings of the proposed installation; and

(b) a certificate issued by a registered professional engineer certifying that they have checked the design of the installation and that such design will ensure the safe operation of the installation under all permitted loadings.

(3) An inspector may, if they are satisfied that the provisions of this subregulation have been complied with and that the transportation plant may be safely used, grant permission in writing for the use thereof, subject to the conditions that they may determine.

Notes:

(a) Anybody who wants to install a transportation plant must be in possession of a letter authorising him or her to install and operate the plant.

(b) Applications for permission to install and operate a transportation plant must be submitted to a DoL office in a province where a plant is installed.

(4) An inspector may withdraw the permission granted in terms of subregulation (3) if they deem it necessary in the interests of safety.

(5) The user shall cause the entire installation and all working parts of a transportation plant to be subjected to a thorough examination and a performance test, as prescribed by the standard to which the transportation plant was manufactured, by a person who has knowledge and experience of the erection and maintenance of transportation plants or similar machinery and who shall determine the serviceability of the structures, ropes, machinery and safety devices before they are put into use and every time after they are erected, and thereafter at intervals not exceeding 12 months: provided that in the absence of such prescribed performance test the entire installation of the transportation plant shall be subjected to a load of 120% of the rated mass load, applied over the complete operation range of such plant and in such a manner that every part of the installation is stressed accordingly.

(6) Notwithstanding the provisions of subregulation (5), the user shall cause every hoisting rope and every hook or other load-attaching device that forms part of the transportation plant to be thoroughly examined by a person referred to in subregulation (5) at intervals not exceeding six months.

(7) The user shall cause the results of the examinations and tests prescribed by subregulations (5) and (6) to be entered and signed by the person carrying out such examinations and tests, in a record book that shall be kept on the premises at all times.

18 Lifting Machines, Hand-powered Lifting Devices and Lifting Tackle

(1) No user may use or permit the use of a lifting machine or hand- powered lifting device unless -

(a) it has been designed and constructed in accordance with a generally accepted technical standard;

(b) it is conspicuously and clearly marked with the safe working load : provided that when such safe working load varies with the conditions of use of the manufacturer, a table showing the safe working load with regard to every variable condition shall be posted by the user in a conspicuous place easily visible to the operator;

Notes:

(a) WLL is an international marking that is attached to the machine when it is purchased from the manufacturer (OEM).

(b) WLL is part of the design specification.

(c) The end user must determine the safe working load (SWL) as per the prevailing conditions. The operator should be able to see the plate as the intention of the subregulation is for the operator to see.

(c) the manufacturer's identification plate displaying the name of the manufacturer, the design standard, the serial or reference number and the country of origin is affixed to such machine; and

Notes:

(a) These requirements do not apply to machines that were in use prior to the publication of these regulations.

(b) it has at all times at least three full turns of rope on the drum of each winch that forms part of such a machine when such winch has been run to its lowest limit, and that is controlled by an automatic cut-out device:

provided that paragraphs (b) and (d) above shall not apply to capstan-type hoists.

Notes:

(a) An automatic cut out device is a built-in safety device.

(2) The user shall ensure that every power-driven lifting machine is fitted with a brake or other device capable of holding the safe working load should -

(a) the power supply or lifting effort fail;

(b) the load attachment point of the power-driven lifting machine reach its highest and lowest safe position; or

(c) the load condition be greater than the rated load condition of that machine.

Notes:

(a) This requirement only applies to power driven lifting machines.

(3) The user shall cause every chain or rope that forms part of the load path of a lifting machine or hand-powered lifting device to have the factor of safety prescribed by the standard to which that machine was manufactured: provided that in the absence of such prescribed factor of safety, chains, steel-wire ropes and fibre ropes shall have a factor of safety of at least four, five and 10, respectively, with regard to the safe working load of that machine.

Notes:

(a) The objective is to maintain the integrity of the load bearing capacity of the machine.

(b) When replacing the ropes and you know the safe working load of the machine then the factor of safety mentioned above must apply.

(4) The user shall cause every hook or any other load-attaching device that forms part of the load path of a lifting machine or hand-powered lifting device to be so designed or proportioned that accidental disconnection of the load under working conditions cannot take place.

Notes:

(a) We must not look at the hook only but consider the load path . It is about preventing disconnection. The use of disconnecting hooks or latches is not prescribed where the design is of such a nature that accidental disconnection cannot take place. It is the user s responsibility to ensure he or she states clearly what the purpose of the machine will be when purchasing the machine.

(5)

(a) The user shall cause the entire installation and all working parts of every lifting machine or hand-powered lifting device, as well as ancillary lifting equipment used with the machine or device, excluding lifting tackle, to be subjected to a thorough examination and a performance test, as prescribed by the standard to which the lifting machine was manufactured, by a lifting machinery inspector of a lifting machinery entity , which shall determine the serviceability of the structures, ropes, machinery and safety devices before they are put into use and every time they are dismantled and re-erected, and thereafter at intervals not exceeding 12 months: provided that, in the absence of a manufacturing standard or a standard incorporated under section 44(1) of the Act, the whole installation of the lifting machine shall be tested with 110% of the safe working load applied over the complete lifting range of such machine and in such a manner that every part of the installation is stressed accordingly.

(b) The lifting machinery inspector of the lifting machinery entity referred to in paragraph (a) must have knowledge of the erection, load-testing and maintenance of the type of lifting machine or similar machinery involved.

(c) Notwithstanding paragraph (a), mobile cranes, self-erecting cranes and mobile elevated work platforms shall be excluded from the performance test after each re-deployment within the 12-month period referred to in that paragraph.

Notes:

(a) The lifting machinery inspector must do inspection and test on behalf of the Lifting machinery Entity.

(b) Hand powered lifting devices do not have to be tested every time they are attached to an overhead structure.

(c) Self erecting cranes includes self-erecting tower cranes.

(6) Notwithstanding subregulation (5), the user shall cause all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine or hand-powered lifting device to be subjected to a thorough examination by a competent person at intervals not exceeding six months.

Notes:

(a) The user of a block and tackle must ensure that it is examined prior to use.

(b) The user is free to use an in house competent person or an LME for six monthly thorough examination of a lifting machine or hand powered lifting device.

(7)

(a) Every user of a lifting machine or hand-powered lifting device shall at all times keep on their premises a register in which the user shall record or cause to be recorded full particulars of any performance test and examination referred to in subregulations (5) and (6) and any modification or repair to such lifting machine or hand-powered lifting device , and shall ensure that the register is available on request for inspection by an inspector.

(b) Every user of a leased lifting machine or hand-powered lifting device shall at all times keep on their premises a register in which the user shall have the latest applicable performance test and service records not older than 12 months.

Notes:

(a) A user of a leased lifting machine or hand powered lifting device is a lessee of that machine.

(b) The owner and the lessor of leased equipment shall keep and maintain full service history records on their premises for at least 10 years.

(8) No user shall require or permit any person to be moved or supported by means of a lifting machine unless that machine is fitted with a man-cage designed and manufactured according to an approved SANS standard approved for that purpose by an inspector and after a risk assessment has been done.

Notes:

(a) Man-cage was known as a cradle or suspended basket. The aim of this regulation is ensure that persons are lifted safely and work is done safely. The intention is to limit the use of a man-cage as far as possible. The employer must firstly consider lifting persons with machine/equipment specially designed to lift person (i.e. cherry picker). In the event that a lifting machine other than the one designed to lift person i.e. forklift, crane can be used to lift person inside the Man-cages/cradles or suspended basket.

(b) This use of an associated forklift or a crane with a man-cage must be also be approved for a specific site to lift person must be approved by an inspector.

(c) The scope of such approval shall, as a minimum, include design and safe operation.

(d) The use of cradles should in the first instance be avoided by the use of purpose made machinery.

(e) In exceptional instances where the use of cradles cannot be avoided (occasionally) the user must apply for approval from Department of Labour.

(f) Safe working procedure for these activities must be implemented and strictly enforced.

(9) No user shall use or permit any person to use any power-driven lifting machine unless it is provided with -

(a) in the case of a power-driven lifting machine with a lifting capacity of greater than 5000 kg, a load indicator capable of indicating to the operator of the machine the mass of the load being lifted: provided that such device shall not require manual adjustment, from the application of the load to the power-driven lifting machine until the release of that load, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting; and/or

(b) a load-limiting device that will automatically arrest the driving effort whenever the load being lifted is greater than the safe working load of the power-driven lifting machine at that particular radius, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting: provided that such device shall not arrest the driving effort when the power-driven lifting machine is being operated into a safer position:

provided that power-driven lifting machines manufactured or refurbished prior to the commencement of these Regulations shall be deemed to comply with these Regulations.

Notes:

(a) This requirement only applies to a power-driven lifting machine with a capacity of 5000kg and greater.

(b) The intent is that a Load limiting device is compulsory for all power-driven lifting machine.

(c) This requirement only applies to power driven lifting machines manufactured or refurbished after the 30 September 2015.

(10) No user may use or allow the use of any lifting tackle unless -

(a) every item of lifting tackle is well constructed of sound material, is strong enough, is free from defects and is constructed in accordance with a generally accepted technical standard;

(b) every lifting assembly consisting of different items of lifting tackle is conspicuously and clearly marked with traceable identification particulars and the safe working load that it is designed to lift with safety;

(c) the ropes, chains or woven webbing have a factor of safety with respect to the safe working load they are designed to lift; the safety factor being -

(i) 10 for natural-fibre ropes;

(ii) seven for man-made fibre ropes or woven webbing;
(iii) six for steel-wire ropes, except for double-part spliced endless sling legs and double-part endless grommet sling legs made from steel-wire rope, in which case the factor of safety shall be at least eight;
(iv) five for steel chains; and
(v) four for high-tensile or alloy steel chains:

provided that when the load is equally shared by two or more ropes or chains the factor of safety may be calculated in accordance with the sum of the breaking strengths taking into consideration the angle of loading;

(d) all lifting tackle is inspected and discarded if such items show any sign of damage, defect, wear or distortion that would make them unsafe for use, as per manufacturer's specification; and

(e) such lifting tackle is examined at intervals not exceeding three months by a competent person , appointed by the user in writing for this purpose, who shall record and sign results of such examination.

Notes:

(a) Lifting tackles marked with a Working Load limit are also acceptable to be complying with requirements of this subregulation.

(b) In practice it is not always possible to ensure equal load sharing and persons performing this work must take into consideration the possible unequal loading in determining the capacity of the lifting tackle.

(11) The user shall ensure that every lifting machine is operated by an operator specifically trained for that particular type of lifting machine : provided that in the case of a lifting machine listed in the National Code of Practice for Training Providers of Lifting Machine Operators, the user shall not require or permit any person to operate such a lifting machine unless the operator is in possession of a certificate of training, issued by a training provider accredited by the Transport Seta approved for the purpose by the chief inspector.

Notes:

(a) Certificate of training here refers to certificate of competence. Training providers in possession of a valid approval certificate signed by Chief Inspector are allowed to train operators of lifting machines listed on the National Code of Practice for Training Providers of Lifting Machine Operators.

19 Approval and Registration of Lifting Machinery Entity

(1) The chief inspector may approve any legal entity that has the competency and operational ability and that is involved in the examination and performance-testing of lifting machines, hand-powered lifting devices and ancillary lifting equipment used with the machine or devices.

(2) An application for approval and registration as a lifting machinery entity shall be made to the chief inspector in the form of Annexure A.

(3) The chief inspector shall furnish an approved lifting machinery entity with the appropriate certificate of registration and shall enter such registration into the national database.

(4) An approved lifting machinery entity shall on request produce a certificate of registration to an inspector or to any person to whom it intends to render an examination or performance test.

(5) An approved lifting machinery entity shall inform the chief inspector of any change affecting its approval and registration under these Regulations within 14 days of such change.

Notes:

(a) None

20 Approval and Registration of Training Providers

(1) The chief inspector may approve and register any training provider that has been accredited by the Transport Education and Training Authority as an approved training provider.

(2) An application for approval and registration as a training provider must be made to the chief inspector in writing and must be accompanied by -
(a) a certified copy of the accreditation letter issued by the Transport Education and Training Authority; and
(b) a cancelled company letterhead.

(3) The chief inspector shall furnish an approved training provider with the appropriate certificate of registration and enter such registration into the national database.

(4) An approved training provider shall inform the chief inspector of any change affecting its approval and registration under these Regulations within 14 days of such change.

Notes:

(a) None

21 Withdrawal of Approval and Registration of Lifting Machinery Entity or Training Provider

(1) Subject to subregulation (2), the approval and registration of a lifting machinery entity or training provider may be withdrawn if -
(a) a lifting machinery entity no longer has the necessary competency or operational ability;
(b) a training provider is no longer accredited by the Transport Education and Training Authority; or
(c) they are convicted of an offence referred to in regulation 22.

(2) The chief inspector may not withdraw an approval and registration unless -
(a) the holder of such approval and registration has been informed of the intended withdrawal and of the grounds upon which it is based; and
(b) such holder has been afforded a reasonable opportunity to make representations.

(3) The chief inspector shall inform the holder concerned in writing of the reasons for the decision.

(4) Any holder adversely affected by a decision of the chief inspector may appeal in writing to the Director-General: Labour against such decision.

(5) An appeal referred to in subregulation (4) shall -
(a) be lodged within 60 days from the date on which the decision was made known; and
(b) set out the grounds for appeal.

(6) After considering the grounds for appeal and the chief inspector's reasons for their decision, the Director-General: Labour shall confirm, set aside or amend the decision as soon as practicable.

Notes:

(a) Appeals must be lodged to Labour Court.

22 Offences and Penalties

Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17(1), 17(2), 17(5), 17(6), 17(7), 18, 19(4), 19(5), 20(4) and 20(5) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in case of a continuous offence, to an additional fine not exceeding R200,00 or to additional imprisonment of one day for each day on which the offence continues: provided that the period of such additional imprisonment shall not exceed 90 days.

23 Repeal of Regulations and Transitional Provisions

(1) The Driven Machinery Regulations , 1988, and subsequent amendments are hereby repealed.

(2) A user of a goods hoist as provided for in regulation 17 of the Regulations referred to in subregulation (1) above shall within five years of the publication of these Driven Machinery Regulations comply with the provisions of the Lift, Escalator and Passenger Conveyor Regulations , 2010, in which "Access Goods only Lift" is defined.

24 Short Title and Commencement

These Regulations shall be called the Driven Machinery Regulations, 2015, and shall come into effect on 30 September 2015.

GENERAL MACHINERY REGULATIONS

GNR.1521 of 5 August 1988

The Minister of Manpower has, under section 35 of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983), made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations any word or expression to which a meaning has been assigned in the Act, shall have the meaning so assigned and, unless the context otherwise indicates-

"building work" means building work as defined in the General Administrative Regulations, published under Government Notice R.2206 of 5 October 1984;

"certificated engineer" means any person to whom a certificate of competency referred to in regulation E1 (1) of the Regulations, published under Government Notice R.929 of 28 June 1963, has been granted and includes any person who is the holder of a certificate of competency in mechanical or electrotechnical engineering issued before 1 January 1966 under the Mines and Works Act, 1956 (Act 27 of 1956);

"competent person" in relation to machinery, means any person who-

(*a*) has served an apprenticeship in an engineering trade which included the operationvand maintenance of machinery, or has had at least five years' practical experience in the operation and maintenance of machinery, and who during or subsequent to such apprenticeship or period of practical experience, as the case may be, has had not less than one year's experience in the operation and maintenance appropriate to the class of machinery he is required to supervise;

(*b*) has obtained an engineering diploma in either the mechanical or electrotechnical (heavy current) fields with an academic qualification of at least T3 or N5, or of an equivalent level, and who subsequent to achieving such qualification has had not less than two years' practical experience in the operation and maintenance appropriate to the class of machinery he is required to supervise;

(*c*) is a graduate engineer and has had not less than two years' post-graduate practical experience in the operation and maintenance appropriate to the class of machinery he is required to supervise and who has passed the examination on the Act and the regulations made thereunder, held by the Commission of Examiners in terms of regulations E5 (2) of the regulations published under Government Notice R.929 of 28 June 1963; or

(*d*) is a certificated engineer;

"divisional inspector" means the divisional inspector referred to in regulation 1 of the General Administrative Regulations, published under Government Notice R.2206 of 5 October 1984;

"electrical installation" means any electrical installation as defined in regulation 1 of the Electrical Installation Regulations, published under Government Notice R.2270 of 11 October 1985;

"elevator" means any lift, hoist or other appliance used for the conveyance of persons and goods by means of a car, cage, cradle or other receptacle in a hatchway on fixed guides, but does not include a builder's hoist or a hoist worked by hand power;

"escalator" means any power-driven inclined continuous stairway with moving steps and hand rails which is intended for the conveyance of persons from one level to another;

"goods elevator" means any elevator used solely for the conveyance of goods and such attendants and operators as are necessary and authorised to travel therein, but does not include a hoist worked by hand power;

"graduate engineer" means any person who has obtained a degree in mechanical or electrotechnical engineering at a South African university, or a degree recognised by the Department of National Education as equivalent to any such degree;

"live" or **"alive"** means electrically charged;

"shiftsman" means any person employed to supervise the use of machinery and who has the necessary knowledge and experience to ensure the safe use of such machinery;

"the Act" means the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983).

2. Supervision of Machinery.-(1) In order to ensure that the provisions of the Act and these Regulations in relation to machinery are complied with, an employer or user of machinery shall, subject to this regulation, in writing designate a person in a full-time capacity in respect of every premises on or in which machinery is being used.

(2) The chief inspector may, subject to such conditions as he may impose, permit an employer or user of machinery to designate more than one person in terms of subregulation (1).

(3) Subject to the provisions of this regulation, an employee designated in terms of subregulation (1) shall be a competent person.

(4) (*a*) If-

(i) the sum of the power generated by machinery on or in the premises in question and the power derived from other sources, including the generation of steam for process purposes, exceeds 1200kW, but is less than 3000 kW, the person designated in terms of subregulation (1) shall be a person as referred to in paragraph (*b*), (*c*) or (*d*) of the definition of "competent person";

(ii) any such sum is 3000kW or more, the person so designated shall be a person as referred to in paragraph (*c*) or (*d*) of the said definition.

(*b*) For the purpose of paragraph (*a*), the power derived from the generation of steam by any par ticular boiler shall be calculated in kW by dividing the manufacturer's rated evaporative capacity (in kg of water per hour at 100°C) by 21 or, in the absence of any such rated evaporative capacity, by multiplying the heating surface of that boiler (in m2) by 0,8.

(5) If, in the case where machinery on or in the premises in question is used solely for the distribution of electricity-

(*a*) the maximum demand over any continuous period of 30 minutes is 3000kVA or less, the person designated in terms of sub-regulation (1) shall be a person as referred to in paragraph (*a*) of the definition of "competent person" and registered as an installation electrician in terms of regulation 11 (1) of the Electrical Installation Regulations, promulgated under Government Notice R.2270 of 11 October 1985;

(*b*) any such demand exceeds 3000kVA, but is less than 10 000 kVA the employee so designated shall be a person as referred to in paragraph (*b*), (*c*) or (*d*) of the said definition;

(*c*) any such demand is 10 000kVA or more, the employee so designated shall be a person as referred to in paragraph (*c*) or (*d*) of the said definition.

(6) Notwithstanding the provisions of subregulations (3), (4) and (5), the chief inspector may, subject to such conditions as he may impose, permit an employer or user of machinery to designate a person who holds any qualification other than that of a competent person in terms of subregulation (1).

(7) (*a*) An employer or user of machinery may designate one or more competent persons to assist a person designated in terms of subregulation (1).

(*b*) The chief inspector may by written notice direct any employer or user of machinery to designate within the period specified in the notice the number of persons so specified holding the qualifications so specified to assist a person designated in terms of subregulation (1).

(8) Except with the approval of an inspector, no person designated in terms of subregulations (1) or (7) shall supervise machinery on or in any premises other than the premises in respect of which he had been designated.

(9) When an employer or user of machinery designates a person referred to in subregulations (4) (*a*), (5) (*b*) or (*c*), he shall forthwith forward to the divisional inspector a copy of the letter of appointment of that person.

(10) (*a*) Notwithstanding the provisions of subregulation (1), no employer or user of machinery needs to designate a person in terms of that subregulation in respect of any elevator, goods elevator, escalator or electrical installation in any shop or office or on, or in, any domestic premises, any domestic appliance used as such, any machinery used in connection with building work, any vehicle or earth moving plant or any refrigeration, cooling, air-conditioning or freezing plant inspected and maintained by a duly qualified person in pursuance of an agreement entered into by

any such employer or user of machinery.

(*b*) The chief inspector may by written notice direct any employer or user of machinery referred to in paragraph (*a*) to designate within the period specified in the notice a person holding the qualifications so specified in terms of subregulation (1).

(11) Any employer or user of machinery who applies for exemption from the provisions of this regulation under section 32 of the Act shall furnish the Minister with the following particulars, namely-

(*a*) the grounds for the application;
(*b*) the number of employees employed on or in the premises in question;
(*c*) the nature of the work performed on or in the premises in question;
(*d*) the number and type of incidents reported in terms of section 17 (1) of the Act during the preceding three years;
(*e*) the safety management system in force in respect of the premises in question; and
(*f*) such other particulars as the chief inspector may require.

(12) Notwithstanding the provisions of this regulation, machinery required to be supervised by a person referred to in paragraph (*b*), (*c*) or (*d*) of the definition of "competent person" may be used in the absence of any such person for a period not exceeding one month in any continuous period of six months, if it is due to circumstances beyond the control of the employer or user of machinery concerned or in the opinion of an inspector, impracticable to comply with the provisions of this regulation: Provided that a person referred to in paragraph (*a*) of the said definition shall in writing be designated to supervise the machinery in question during such absence.

3. Safeguarding of Machinery.-(1) Every employer or user of machinery shall-

(*a*) ensure that all machinery used by him, is suitable for the purpose for which it is used, and that it is installed, operated and maintained in such a manner as to prevent the exposure of persons to hazardous or potentially hazardous conditions or circumstances;
(*b*) in particular cause every exposed and dangerous part of machinery which is within the normal reach of a person to be effectively safeguarded by means of insulation, fencing, screening or guarding, except where an inspector has granted written permission for the omission of such safeguarding;
(*c*) ensure that all safety equipment is kept in a good working condition and is properly used; and
(*d*) ensure that the quality of material used in, and the construction, of the machinery or safety equipment is suitable for the purpose for which it was intended.

(2) Where machinery constitutes a danger to persons, the employer or user of machinery concerned shall cause the premises in question to be enclosed, and where such premises are unattended the designated entrances to such premises shall be kept closed and locked.

(3) Unless he has been authorised thereto by the employer or user of machinery, no person shall remove any safety equipment which relates to the machinery in question.

4. Operation of Machinery.-(1) An employer or user of machinery shall ensure that every person authorised to operate machinery is fully aware of the dangers attached thereto and is conversant with the precautionary measures to be taken or observed to obviate such dangers.

(2) If a person operates any machinery which requires constant attention in order to avoid accidents, he shall under no circumstances leave his post while such machinery is in operation, unless he is relieved by a person who is authorised and competent to operate such machinery.

(3) An employer or user of machinery shall ensure that any machinery which requires constant attention in order to avoid accidents is under the supervision of a shiftsman, who shall at all times be present on the premises while such machinery is in operation, and no person shall attend to or operate such machinery, except under the general supervision of a shiftsman.

(4) No person supervising machinery and no person operating machinery shall, without the permission of his superior, authorise any other person to do his work.

(5) If machinery threatens or is likely to threaten the safety of persons when it is unexpectedly set in motion or made electrically alive, the employer or user of machinery concerned shall take all reasonable precautionary measures in order to ensure that such machinery cannot be so set in motion or made electrically alive, and any person intending to set such machinery in motion or make it electrically alive shall take all reasonable precautionary measures in order to ensure that the safety of a person is not threatened or likely to be threatened.

(6) If machinery in operation threatens or is likely to threaten the safety of persons, the person supervising or operating such machinery or the employer or user of machinery concerned shall stop such machinery or cause it to be stopped.

5. Working on Moving or Electrically Alive Machinery.-(1) No employer or user of machinery shall permit or require any person other than a competent person or a person who has been trained to the satisfaction of an inspector to do any work on or near moving or electrically alive machinery if such work may endanger him: Provided that this subregulation shall not apply in respect of the operation of machinery under the general supervision of a shiftsman.

(2) An employer or user of machinery shall in respect of work performed on or near machinery which is in motion or is electrically alive including the operation of such machinery, take all reasonable precautionary measures in order to ensure that persons who perform such work are not injured: Provided that an inspector may at any time require of the employer or user of machinery to take such further precautionary measures as that inspector may deem necessary in the interest of safety.

(3) No person working in close proximity to moving machinery shall wear, or be permitted by the employer or user of machinery concerned to wear any loosely fitting outer clothing, any jewellery or ornament; any watch or key-chain, any long loosehanging hair or anything which may be caught up in the moving parts of such machinery.

6. Devices to Start and Stop Machinery.-(1) An employer or user of machinery shall provide devices to start and stop machinery, and these devices shall-

(*a*) be in a position where they can readily and conveniently be reached by the person who operates such machinery; and
(*b*) be so constructed and arranged as to prevent the accidental starting of such machinery.

(2) An employer or user of machinery shall provide positive means for rendering the controls of machinery driven by an electric motor inoperative while repairs or adjustments are being made, and such means shall not only be the mere tripping of a switch.

(3) If machinery is simultaneously operated by two or more persons, the employer or user of machinery concerned shall provide such machinery-

(*a*) at every operation point with a stopping device which locks out when it is used and requiring manual resetting before such machinery can be restarted; and
(*b*) with an audible warning device to be sounded before the machinery is set in motion: Provided that an inspector may grant written permission for alternative precautionary measures whereby the safety of those persons is ensured.

7. Reporting of Incidents in Connection with Machinery.-Each incident in which-

(*a*) the fracture or failure of any part of machinery resulted in a falling or flying object;
(*b*) machinery ran out of control as a result of the failure of a control or safety equipment and could have caused an injury to a person who had been conveyed on or in such machinery or had been in the vicinity thereof; or
(*c*) the fracture or failure of any part of machinery in which gas is under pressure resulted in the sudden release of such gas,

shall be reported forthwith to an inspector by the employer or user of machinery concerned.

8. Notifiable Substances.-(1) An employer or user of machinery who has any substance set out in column 1 of Schedule A of these Regulations or any mixture thereof, in a quantity which at any time is equal to or in excess of the quantity specified opposite that substance in column 2 on his premises in a single fixed storage vessel, shall forthwith notify the divisional inspector thereof on the form set out in Schedule B of these Regulations.

(2) When the use of any substance referred to in subregulation (1) is discontinued, the employer or user of machinery shall forthwith notify the divisional inspector thereof in writing.

9. Information Regarding Regulations.-(1) An employer or user of machinery shall furnish each person designated in terms of regulation 2 (1), free of charge, with a copy of the Act and the regulations made thereunder.

(2) Any employer or user of machinery shall affix-

(*a*) in respect of a boiler, a notice in the form set out in Schedule C to these Regulations; or
(*b*) in respect of any machinery other than a boiler, a notice in the form set out in Schedule D to these Regulations,

in both official languages and in legible form in a conspicuous place on or in the premises in question.

(3) Any employer or user of machinery shall cause any notice referred to in subregulation (2) to be explained to all employees who are not conversant with an official language.

10. Offences and Penalties.-Any person who contravenes or fails to comply with a provision of regulation 2 (1), (4), (5), (8), (9) or (12), 3, 4, 5, 6, 7, 8 or 9 or contravenes a notice under regulation 2 (7) (*b*) or (10) (*b*) or (12) shall be guilty of an offence and liable on conviction to a fine not exceeding R1000 or to imprisonment for a period not exceeding six months, and, in the case of a continuous offence, with an additional fine of R5 of additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

11. Repeal of Regulations.-(*a*) Regulations C1, C4, C8, C9, including Annexure F11 and F13, C, 19, C21,C22, C23, C24, C25, C26, C27, C28, C51, C53 and C54 of these Regulations, promulgated under Government Notice R.929 of 28 June 1963, are hereby repealed.

(*b*) Regulation D2 of the Regulations, promulgated under Government Notice R.1934 of 13 December 1963, is hereby repealed.

12. Short Title.-These Regulations shall be called the General Machinery Regulations, 1988.

Schedule A:

NOTIFIABLE SUBSTANCES [REGULATION 8]

1086United Nations Organisation Identification Number	Column 1 Substance	Column 2 Quantity in Tonnage
1001	Acetylene (dissolved)	2
1005	Ammonia (anhydrous, liquified and solutions containing over 50% ammonia)	20
1010	Butadiene	25
1031	Carbon disulphide	20
1017	Chlorine	10
1154	Diethylamine	20
1155	Diethyl Ether	20
1033	Dimethyl Ether	20
1032	Dimethylamine (anhydrous)	20
1160	Dimethylamine (solution)	20
1035	Ethane (compressed)	15
1961	Ethane (refrigerated liquid)	15
1962	Ethylene (compressed)	15
1038	Ethylene (refrigerated liquid)	15
1036	Ethylamine	25
1040	Ethylene oxide	5
1050	Hydrogen Chloride (anhydrous)	10
1051	Hydrogen Cyanide (anhydrous)	10
1052	Hydrogen Fluoride (anhydrous)	10
1969	ISO-Butane	25
1055	ISO-Butylene (Isobutene)	25
1075	L.P.G. (Liquid Petroleum Gas)	25
1971	Methane (compressed)	15
1011	n-Butane	25
1012	n-Butylene (Butene)	25
1076	Phosgene	2
1978	Propane	25
1077	Propylene	25
1079	Sulphur Dioxide (liquified)	15
1829	Sulphur Trioxide (liquified)	15
1083	Trimethylamine (anhydrous)	25
1086	Vinyl Chloride	25

Schedule B:
NOTICE REGARDING NOTIFIABLE SUBSTANCES [REGULATION 8]

1. Name of employer or user of machinery .....
2. Address of premises where substance is held .....
3. Name and UNO No. of substance .....

Date ....
Signature of employer or user of machinery

Schedule C:
NOTICE IN RESPECT OF BOILERS UNDER REGULATION 9 (2)

1. Every employer or user of machinery is required by law to provide safety equipment in connection with machinery, and it is an offence for any person to fail to use such properly or to interfere with them.
2. No boiler shall be worked at a higher pressure than the authorised working pressure.
3. Unless steam is drawn for the operation of the boiler's auxiliary apparatus, no person shall draw steam from the boiler otherwise than through the main steam stop valve.
4. No person shall enter a boiler or its flues, unless it is safe and the steam-stop valve, feed valve, blow-off valve and all other valves or cocks are blanked off.
5. Portable electric lights used during the cleaning, repair or inspection of a boiler shall not exceed 50V.
6. No person shall cause water to come into contact with hot flue dust or ashes if it threatens or is likely to threaten the safety of employees.
7. Any accident or other incident which threatens or is likely to threaten the safety of employees shall be reported immediately to the employer or user of machinery.

Schedule D:
NOTICE IN RESPECT OF MACHINERY OTHER THAN A BOILER UNDER REGULATION 9(2)

1. Every employer or user of machinery is required by law to provide safety equipment in connection with machinery, and it is an offence for any person to fail to use such equipment properly or to interfere with them.
2. No person working in close proximity to moving machinery shall wear any loosely fitting outer clothing, any jewellery or ornament, any watch or key chain, and long loose-hanging hair or anything which may be caught up in the moving parts of such machinery.
3. Unless an apparatus approved by an inspector is used, no driving belt shall be shipped or unshipped whilst machinery is in motion, except in the case of a light belt which may be shipped on the coned pulley of a machine tool in order to alter the working speed of such tool.
4. Machinery in motion shall not be cleaned, repaired, adjusted or oiled, unless such machinery is cleaned, repaired, adjusted or oiled by a competent person when it is impracticable to stop such machinery.
5. No person other than a competent person shall enter the safeguarded area of machinery in motion, and then only if it is impracticable to stop such machinery.
6. No person under the influence of alcohol or drugs shall enter any premises where machinery is used.
7. Any accident or other incident which threatens or is likely to threaten the safety of employees shall be reported immediately to the employer, or user of machinery.
8. No person supervising machinery and no person operating machinery shall, without the permission of his superior, authorise any other person to do his work.
9. Any person intending to start a machine shall before doing so satisfy himself that no other person is endangered.

LIFT, ESCALATOR AND PASSENGER CONVEYOR REGULATIONS

GNR.828 of 17 September 2010

[These regulations were first published in GNR.797 of 29 April 1994, amended by GNR.934 of 13 May 1994 and by GNR.1053 of 10 June 1994 and replaced by GNR.828 of 17 September 2010.]

The Minister of Labour has under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. **Definitions.-**In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates-

"access goods only lift" means a lift in which persons are never transported or allowed by the user to be transported and where the conveyance is accessed by persons only for the purposes of loading and unloading at landings or for maintenance purposes, but does not include a temporarily installed material hoist;

"accredited authority" means the South African National Accreditation System established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006);

"competent lift mechanic" means a person who-

(*a*) has completed a learnership or an apprenticeship in the trade of lift mechanic;

(*b*) has completed an electrical or mechanical trade qualification and has had at least one year post qualification general practical experience on lifts; or

(*c*) has obtained a minimum of a NQF level five electrical or mechanical engineering qualification and has had at least one year post qualification general practical experience on lifts;

"competent operator" means a person who has obtained a minimum of a NQF level 2 in the maintenance or installation of lift, escalators and passenger conveyor;

"competent lift service provider" means a person that employs competent lift mechanics and a competent operator, or a competent lift mechanic who is self-employed and who undertakes to contract with the user of a lift, escalator, passenger conveyor to perform maintenance, examinations and tests in terms of regulation 7;

"comprehensive report" means a certificate as contemplated in the relevant health and safety standard incorporated into these Regulations;

"escalator" means a power-driven inclined stairway with moving steps and handrails, which is intended for the transportation of persons from one level to another;

"failure" means the malfunctioning of any part of a lift, escalator or passenger conveyor, whereby the safety of a person has been or may have been endangered;

"inspection service provider" means a person that employs a registered lift inspector who undertakes to contract with the user of a lift, escalator or passenger conveyor to perform inspections and is accredited by the accredited authority;

"landing" means any floor or platform that is designed to give access to a lift or escalator or passenger conveyor;

"lift" means any permanent or temporary lifting installation used for the conveyance of persons or of persons and goods, or as an access goods only lift, that operates by means of a conveyance or platform running on a fixed guide or guides and serving landings, but does not include a hoist worked by hand pcwer or a material hoist;

"machine compartment" means the room, well or pit where tile main driving machinery or controls of the lift, escalator or passenger conveyor are situated;

"main landing" means a landing situated at the same level as the main entrance of a building;

"material hoist" means a hoist used to lower or raise material and equipment, and includes cantilevered platform hoists, mobile hoists, friction drive hoists, scaffold hoists, rack and pinion hoists and combination hoists;

"modification" means any alteration to a lift, escalator or passenger conveyor affecting the control, load, travel or safety thereof;

"National Building Regulations" means the regulations published under the National Building Regulations and Building Standards Act, 1977 (Act No.103 of 1977), and promulgated by Government Notice No. R.2378 of 12 October 1990 as amended by Government Notices No. R. 432 of 8 March 1991, No. R.919 of 30 July 1999 and No. R.547 of 30 May 2008;

"official number" means the number allocated by the provincial executive manager, which is unique to a specific lift, escalator or passenger conveyor on specific premises;

"passenger conveyor" means a power-driven installation with a continuous moving walkway, incorporating a moving belt or pallets and handrails, intended for the conveyance of persons either on the same level or between different levels;

"provincial director" means the provincial director as defined in regulation 1 of the General Administration Regulations promulgated by Government Notice No. R.929 of 25 June 2003;

"registered lift inspector" means a person registered with the Engineering Council of South Africa in terms of the Engineering Profession of South Africa Act, 2000 (Act No. 46 of 2000);

"**the Act**" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"well" means any vertical or inclined way in which a lift is operated.

2. Scope of application.-(1) These Regulations shall apply to employers or self employed persons who carry out work on lifts, escalators or passenger conveyors.

(2) These Regulations shall apply to persons who have on their premises either permanently lifts, escalators or passenger conveyors.

3. Permission to install and use.-(1) No person shall install or permit the installation of a new or used lift, escalator or passenger conveyor unless-

(*a*) that person has submitted a completed form in the form of Annexure 1 to the relevant provincial director who shall allocate an official number to the lift, escalator or passenger conveyor;

(*b*) that person has been allocated an official number contemplated in paragraph (*a*); and

(*c*) such installation meets the requirements of these Regulations and complies with the relevant standards and specifications incorporated into these Regulations under section 44 of the Act.

(2) No person shall put into use or require or permit the use of a lift, escalator or passenger conveyor unless that person is in possession of a valid comprehensive report issued in terms of regulation 6 (4): Provided that such report shall be completed by an inspection service provider.

(3) The user of a lift that does not operate automatically shall appoint the operator of such a lift in writing and instruct that operator as to the dangers of its operation.

4. Design and construction.-(1) Subject to regulation 3 (2), no person shall use, install or modify, or permit the use, installation or modification, of any lift, escalator or passenger conveyor unless-

(*a*) such lift, escalator or passenger conveyor has been designed and constructed or modified in accordance with the relevant standard incorporated for this purpose into these Regulations under section 44 of the Act;and

(*b*) the requirements of the National Building Regulations, if applicable, have been complied with.

(2) The user shall ensure that all the electrical components of a lift, escalator or passenger conveyor which is installed in a location where there is a danger of fire or explosion due to the presence, occurrence or development of explosive or flammable atmospheres or where explosive articles are manufactured, handled or stored, comply with regulation 8 of the Electrical Machinery Regulations, 1988, promulgated by Government Notice No. R.1593 of 12 August 1988, as well as the Explosives Regulations, promulgated by Government Notice No. R.109 of 17 January 2003.

5. Particulars of lifts, escalators and passenger conveyors.-(1) The user shall ensure that every lift, escalator and passenger conveyor is marked, in the machine compartment, in a conspicuous place, within a holder, with the following particulars:

(*a*) The name of the manufacturer;

(*b*) the year of installation;

(*e*) the year of modification;
(*d*) the official number contemplated in regulation 3 (1) (*a*);
(*e*) the rated speed in metres per second; and
(*f*) the rated load in kilograms.

(2) Where the machinery of more than one lift, escalator or passenger conveyor is installed in a compartment, the user shall ensure that all the machinery and switch-gear of each unit are distinctly and permanently marked with the same distinguishing mark, which shall differ from the distinguishing mark of the machinery and switch-gear of any other unit in that compartment.

(3) The user shall keep an up-to-date, legible and schematic electrical wiring diagram in respect of every lift, escalator or passenger conveyor in a safe place in the machine compartment, as the case may be.

(4) The user shall affix or cause to be affixed in a conspicuous place at the main landing of every group of lifts and in each car and at every group of escalators and passenger conveyors, the name and telephone number of the competent lift service provider designated in terms of regulation 7 (1).

6. Inspections and tests.-(1) The user shall ensure that every lift, escalator or passenger conveyor is inspected and tested in accordance with the relevant health and safety standards incorporated into these Regulations under section 44 of the Act-

(*a*) before such lift, escalator or passenger conveyor is put into use for the first time; or
(*b*) after any modification has been effected; or
(*c*) after any failure has occurred; or
(*d*) whenever there has been a change in the competent lift service provider; and
(*e*) at intervals not exceeding 24 months thereafter, or at shorter intervals according to in-house risk assessment, by an inspection service provider who shall complete a comprehensive report separately for each lift, escalator or passenger conveyor so inspected and tested, and such inspection service provider shall date and sign such report and submit it within 30 days to the user, who shall keep the report in a safe place and a copy of the report in the machine compartment.

(2) If an inspection or test carried out by an inspection service provider on a lift, escalator or passenger conveyor shows that any defect or weakness exists whereby persons are endangered, the inspection service provider shall report such defect or weakness forthwith to the user, the competent lift service provider and the provincial director, and no person shall be conveyed or allowed to be conveyed in or on such lift, escalator or passenger conveyor until such defect has been rectified to the satisfaction of the inspection service provider.

(3) If a comprehensive report in accordance with a health and safety standard incorporated into these Regulations under section 44 of the Act shows a defect or weakness not considered under subregulation (2) the user shall rectify such defect or weakness.

(4) A comprehensive report for a lift, escalator or passenger conveyor shall be completed when-

(*a*) the lift, escalator or conveyor is put into use for the first time;
(*b*) any modification to the lift, escalator or conveyor has been effected;
(*c*) a reportable incident in terms of section 24 of the Act occurs;
(*d*) there is a change in the designated competent lift service provider; and
(*e*) at intervals not exceeding 24 months thereafter.

(5) When an inspection or a test is conducted by an inspection service provider the inspection service provider shall ensure that all the documents and records required in terms of regulation 8 are kept in good order and are up to date.

(6) An inspector may at any reasonable time inspect any lift, escalator or passenger conveyor, and the user shall place, free of charge, at the disposal of the inspector any workmen and equipment that may be reasonably required by the inspector for the purpose of carrying out such inspection.

(7) An inspection service provider who wishes to avail himself or herself of designation as such by the user of a lift, escalator or passenger conveyor in order to carry out an inspection in terms of this regulation shall register with the accreditation authority.

7. Maintenance.-(1)The user shall designate a competent lift service provider to examine and maintain a lift, escalator or passenger conveyor at least once a month or at such longer intervals as may be prescribed by the manufacturer of such lift, escalator or passenger conveyor: Provided that an inspector may prescribe such examining intervals as he or she may deem necessary.

(2) At an examination contemplated in subregulation (1), the competent lift service provider shall examine the parts of a lift, escalator or passenger conveyor as prescribed by the relevant manufacturer or by an inspector: Provided that in the case of a lift, he or she shall test all the gates and door locks at each examination: Provided further that the suspension ropes of a lift shall be examined at six-monthly intervals and that the lift safety gear, over speed governor and buffers shall be tested at intervals not exceeding 12 months.

(3) If maintenance or an examination carried out in terms of subregulation (1) or a test carried out in terms of subregulation (2) shows that a weakness or defect exists whereby persons are endangered, the competent lift service provider shall report the weakness or defect immediately to the user and the provincial director, and no person shall be conveyed in or allowed to be conveyed in or on such lift, escalator or passenger conveyor or to enter such access goods only lift until such defect has been rectified to the satisfaction of an inspection service provider.

(4) The user of a lift, escalator or passenger conveyor shall immediately take steps to stop the working thereof and to prevent the starting thereof if its use is or is likely to be dangerous to persons.

(5) The user of a lift, escalator or passenger conveyor and the competent lift service provider responsible for the examinations contemplated in subregulation (1) or test contemplated in subregulation (2) shall immediately notify the provincial director in writing of the name and address of the competent lift service provider carrying out such examinations or tests.

(6) The competent lift service provider shall notify the provincial director and the user immediately in writing if a lift, escalator or passenger conveyor is found to be in operation without a valid comprehensive report issued in terms of regulation 6 that is kept in the machine compartment in terms of regulation 8.

8. Record keeping.-(1) The user of a lift, escalator or passenger conveyor shall keep in a safe place in the machine compartment of every such lift, escalator or passenger conveyor a record in which he or she shall enter or cause to be entered-

(*a*) his or her name, address and telephone number
(*b*) the name, address and telephone number of the competent lift service provider designated by him or her to carry out the maintenance and examinations contemplated in regulation 7 (1) and the tests contemplated in regulation 7 (2);
(*c*) a report on the results of every examination contemplated in regulation 7 (1), and the test contemplated in regulation 7 (2) including any modifications, repairs, adjustments and tests carried out;
(*d*) a copy of the latest comprehensive report contemplated in regulation 6 (4);
(*e*) a copy of all suspension rope certificates and the results of the examination contemplated in regulation 7 (2) on the condition of the suspension ropes;
(*f*) the registers or files and the technical dossiers required in terms of the relevant SANS specifications;
(*g*) the commissioning acceptance report or copy thereof required in terms of the relevant SANS specification; and
(*h*) a copy of each comprehensive report made in respect of incidents in terms of section 24 (1) (*c*) (iii) and (iv) of the Act.

(2) The user shall keep the records contemplated in subregulation (1) in the relevant machine compartment for a period of at least 10 years.

9. Approved inspection authority.-(1) An inspection service provider who wishes to avail himself or herself of designation as such by the user of a lift, escalator or passenger conveyor in order to carry out an inspection in terms of regulation 6, shall register with the accreditation authority.

(2) The Chief Inspector may at any time withdraw any approval of an approved inspection authority, subject to section 35 of the Act.

10. Offences and penalties.-Any person who contravenes or fElils to comply with any provision of regulation 3 (1), 3 (2), 3 (3),4 (1),4 (2), 5 (1), 5 (2), 5 (3), 5 (4), 6 (1), 6 (2), 6 (3), 6 (4), 6 (5), 6 (6), 6 (7), 7 (1), 7 (2), 7 (3),7 (4), 7 (5), 7 (6), 8 (1), 8 (2) or 9 (1) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

11. Repeal of regulations and savings.-(1) The Lift, Escalator and Passenger Conveyor Regulations promulgated by Government Notice No. R.797 of 29 April 1994 are hereby repealed.

(2) Lifts installed or modified prior to 1 May 1994 shall be considered to comply with regulation 4 (1)

12. Short title and commencement.-These regulations shall be called the Lift, Escalator and Passenger Conveyor Regulations, 2010, and shall come into effect on 30 November 2010. Provided that regulation6 (7) shall come into effect on 1 December 2012.

ANNEXURE 1
LIFT, ESCALATOR AND PASSENGER CONVEYOR REGULATIONS
NOTICE OF INSTALLATION OF A LIFT/ESCALATOR/PASSENGER CONVEYOR

TO: The Provincial Executive Manager
Department of Labour
.....
.....

I/We .....
.....

Hereby give notice of my/our intention to install a lift/escalator/passenger conveyor (Insert the official, name and address of company or person (legal person) giving notice of the installation. Use a separate form for each installation)

1. Name of building .....
2. Address of building (physical) .....
3. Lift type .....
4. Name of manufacture .....
5. Country of origin .....
6. Design standard .....
7. Manufacture's serial number .....
8. Year of manufacture .....
9. Register person .....
10. Location of lift (machinery) .....
11. Year of installation .....
12. Inclination angle (Esc) .....
13. Balustrades width (Esc) .....
14. Flight length (Esc) .....
15. Maximum number of persons .....
16. Rated load in kg .....
17. Number of landings .....
18. Total travel distance .....
19. Rated speed .....

....
Signature of owner/User Date

(*Delete whichever is not applicable)

FOR OFFICIAL USE ONLY

Date received .....
Official number allocated ..... Date .....
Inspector ..... Office .....

GNR.829 of 17 September 2010: Incorporation Of Safety Regulations

I, M M S Mdladlana, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby, under section 44 (1) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate into the Lift, Escalator and Passenger Conveyor Regulations, 2010, the safety specifications specified in the Schedule hereto.

MMS MOLADLANA, MP
Minister of Labour
Date:

SCHEDULE

"SANS 1543": the specification for escalators and passenger conveyors, published by the South African Bureau of Standards;

"SANS 1545-1": the specification for lifts: Safety rules for the construction and installation of lifts: Part 1: Electric lifts, published by the South African Bureau of Standards;

"SANS 1545-2": the specification for lifts: Safety rules for the construction and installation of lifts: Part 2: Hydraulic lifts, published by the South African Bureau of Standards;

"SANS 1545-3": the specification for lifts: Safety rules for the construction and installation of lifts: Part 3: Lifts for persons with physical disabilities (stair-lifting platforms), published by the South African Bureau of Standards;

"SANS 1545-4": the specification for lifts: Safety rules for the construction and installation of lifts: Part 4: Lifts for persons with physical disabilities (vertical platforms), published by the South African Bureau of Standards;

"SANS 1545-5": the specification for lifts: Safety rules for the construction and installation of lifts, Part 5: Electric and hydraulic access, goods only lifts, published by the South African Bureau of
Standards;

"SANS 1545-6": the specification for lifts: Safety rules for the construction and installation of lifts: Part 6: Rack and pinion lifts, published by the South African Bureau of Standards;

"SANS 1545-9": the specification for lifts: Safety rules for the construction and installation of lifts: Part 9: Lift landing doors fire resistance testing, published by the South African Bureau of Standards;

"SANS 50280": standard for the design, safe use and maintenance of scissors lifts, published by the South African Bureau of Standards;

"SANS 53015": the standard for the maintenance and repair of electric and hydraulic powered lifts, escalators and passenger conveyors, published by the South African Bureau of Standards;

"SANS 21": the specification for escalators, safety rules for the construction and installation of escalator and passenger conveyors;

"SANS 50081-20": the specification for electric lifts, safety rules for the construction and installation of lifts, published by the South African Bureau of Standards;

"SANS 50081-50": the specification for hydraulic lifts, safety rules for the construction and installation of hydraulic lifts, published by the South African Bureau of Standards.

R.763 of 2015
(G.G. 39132 of 28/08/2015)

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT (85/1993)

GUIDELINES FOR LIFT , ESCALATOR AND PASSENGER CONVEYOR REGULATIONS, 2009

REV 0

FOREWORD

This document consists of explanatory notes on the application of the more important regulations concerning lift, escalator and passenger conveyor. The notes are meant to help and guide suppliers, contractors, maintenance providers, users, inspection service providers and inspectors.
They explain the purpose of the regulations, their meaning and suggested administration.

INTRODUCTION

The Lift, Escalator and Passenger Conveyor Regulations were published on 17 September 2010 in Government No. R.828 with the aim of protecting employees and users against the dangers associated with lifts, escalators and passenger conveyors.

AIM

The aim of these guidance notes is to explain in simple language the provisions of the Lift, Escalator and Passenger Conveyor Regulations and to stress the principle of self-regulation. The guidelines do not substitute the regulations.

REGULATION 1 - DEFINITIONS

In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates -

"access goods only lift" means a lift in which persons are never transported or allowed by the user to be transported and where the conveyance is accessed by persons only for the purposes of loading and unloading at landings or for maintenance purposes, but does not include a temporarily installed material hoist;

Notes:

(a) These were commonly known as goods hoists and were previously regulated by the Driven Machinery Regulations 17 which has now been repealed.

(b) All new installations shall comply with SANS1545-5.

"competent lift mechanic" means a person who -

(a) has completed a learnership or an apprenticeship in the trade of lift mechanic;

(b) has completed an electrical or mechanical trade qualification and has had at least one year post qualification general practical experience on lifts; or

(c) has obtained a minimum of a NQF level five electrical or mechanical engineering qualification and has had at least one year post qualification general practical experience on lifts;

Notes:

(a) None

"competent operator" means a person who has obtained a minimum of a NQF level 2 in the maintenance or installation of lift, escalators and passenger conveyor;

Notes:

(a) NQF level 2 is defined as a minimum education level of grade 9 and the relevant training and certification within the lift industry issued by MERSETA.

(b) Competent operator is also known as an operative or a category worker who can do limited work.

"competent lift service provider" means a person that employs competent lift mechanics and a competent operator, or a competent lift mechanic who is self-employed and who undertakes to contract with the user of a lift, escalator, passenger conveyor to perform maintenance, examinations and tests in terms of regulation 7;

Notes:

(a) This is commonly known as the maintenance service provider.

"comprehensive report" means a certificate as contemplated in the relevant health and safety standard incorporated into these Regulations;

Notes:

(a) It is an annexure in terms of the relevant SANS document for lift, escalator or passenger conveyor.

"escalator" means a power- driven inclined stairway with moving steps and handrails, which is intended for the transportation of persons from one level to another;

Notes:

(a) None

"**failure"** means the malfunctioning of any part of a lift, escalator or passenger conveyor, whereby the safety of a person has been or may have been endangered;

Notes:

(a) Refer to Section 24 of the Occupational Health and Safety Act.

"inspection service provider" means a person that employs a registered lift inspector who undertakes to contract with the user of a lift, escalator or passenger conveyor to perform inspections and is accredited by the accredited authority;

Notes:

(a) The inspection service provider can also be a self-employed person.

(b) South African National Accreditation System is the national body mandated to accredit inspection service providers.

"landing" means any floor or platform that is designed to give access to a lift or escalator or passenger conveyor;

Notes

(a) None

"lift" means any permanent or temporary lifting installation used for the conveyance of persons or of persons and goods, or as an access goods only lift, that operates by means of a conveyance or platform running on a fixed guide or guides and serving landings, but does not include a hoist worked by hand power or a material hoist;

Notes

(a) None

"material hoist" means a hoist used to lower or raise material and equipment, and includes cantilevered platform hoists, mobile hoists, friction drive hoists, scaffold hoists, rack and pinion hoists and combination hoists;

Notes:

(a) This definition is for information only and is defined in the Construction Regulations - Material hoist must not be confused with 'Access Goods only lifts' referred to in definition 1.

REGULATION 2 - SCOPE OF APPLICATION

(1) These Regulations shall apply to employers or self employed persons who carry out work on lifts, escalators or passenger conveyors.

(2) These Regulations shall apply to persons who have on their premises either permanently lifts, escalators or passenger conveyors.

Notes:

(a) Lifts that are installed temporarily are also covered under this regulation.

(b) This scope also applies to lifts installed in private residence.

REGULATION 3 - PERMISSION TO INSTALL AND USE

(1) No person shall install or permit the installation of a new or used lift, escalator or passenger conveyor unless -

(a) that person has submitted a completed form in the form of Annexure 1 to the relevant provincial director who shall allocate an official number to the lift, escalator or passenger conveyor;

(b) that person has been allocated an official number contemplated in paragraph (a); and

(c) such installation meets the requirements of these Regulations and complies with the relevant standards and specifications incorporated into these Regulations under section 44 of the Act.

(2) No person shall put into use or require or permit the use of a lift, escalator or passenger conveyor unless that person is in possession of a valid comprehensive report issued in terms of regulation 6(4): Provided that such report shall be completed by an inspection service provider .

(3) The user of a lift that does not operate automatically shall appoint the operator of such a lift in writing and instruct that operator as to the dangers of its operation.

Notes:

(a) Annexure 1 must be submitted to a Provincial Office situated in the Province where the lift is going to be installed.

(b) Official number is a unique number issued by the relevant Provincial Office which would be reflected on the registration certificate.

(c) A person who intends to install a lift, escalator or passenger conveyor that does not meet requirements of these Regulations must apply for an exemption to the Chief Inspector.

(d) A comprehensive report is an annexure in terms of the relevant SANS document for lift, escalator or passenger conveyor.

(e) This report is completed by an inspection service provider.

(f) A comprehensive report is issued by an inspection service provider who employs a registered lift inspector.

(g) These are normally Freight elevators and are registered to be operated with "attendants ".

(h) The car and landing doors do not operate automatically.

(i) The user is the owner of the lift, escalator or passenger conveyor.

(j) The operator must be provided with the user instruction/manual for that particular lift and he or she must clearly understand the instructions.

REGULATION 4 - DESIGN AND CONSTRUCTION

(1) Subject to regulation 3(2), no person shall use, install or modify, or permit the use, installation or modification, of any lift, escalator or passenger conveyor unless -

(a) such lift, escalator or passenger conveyor has been designed and constructed or modified in accordance with the relevant standard incorporated for this purpose into these Regulations under section 44 of the Act; and

(b) the requirements of the National Building Regulations, if applicable, have been complied with.

(2) The user shall ensure that all the electrical components of a lift, escalator or passenger conveyor which is installed in a location where there is a danger of fire or explosion due to the presence, occurrence or development of explosive or flammable atmospheres or where explosive articles are manufactured, handled or stored, comply with regulation 8 of the Electrical Machinery Regulations, 1988, promulgated by Government Notice No. R.1593 of 12 August 1988, as well as the Explosives Regulations, promulgated by Government Notice No. R.109 of 17 January 2003.

Notes:

(a) Any modification carried out on a lift , escalator or passenger conveyor must comply with the latest published standards.

(b) The installation must be designed and constructed such that it adheres to requirements stipulated in the National Building Regulations.

(c) Access goods only lifts were previously regulated by the Driven Machinery Regulations 17 which has now been repealed.

(d) All new "access goods only lift" installations shall comply with SANS1545-5.

(e) All existing installations shall be upgraded to comply with Lift , Escalator and Passenger Conveyor Regulations(LEPCR) within 5 years from the date of promulgation of Driven Machinery Regulations of 2015.

(f) A user of existing goods hoist shall register the installation with Department of Labour.

REGULATION 5 - PARTICULARS OF LIFTS, ESCALATORS AND PASSENGER CONVEYORS

(1) The user shall ensure that every lift , escalator and passenger conveyor is marked, in the machine compartment, in a conspicuous place, within a holder, with the following particulars:
   (a) The name of the manufacturer;
   (b) the year of installation;
   (c) the year of modification;
   (d) the official number contemplated in regulation 3(1)(a);
   (e) the rated speed in metres per second; and
   (f) the rated load in kilograms.

(2) Where the machinery of more than one lift, escalator or passenger conveyor is installed in a compartment, the user shall ensure that all the machinery and switch-gear of each unit are distinctly and permanently marked with the same distinguishing mark, which shall differ from the distinguishing mark of the machinery and switch-gear of any other unit in that compartment.

(3) The user shall keep an up-to-date, legible and schematic electrical wiring diagram in respect of every lift , escalator or passenger conveyor in a safe place in the machine compartment, as the case may be.

(4) The user shall affix or cause to be affixed in a conspicuous place at the main landing of every group of lifts and in each car and at every group of escalators and passenger conveyors, the name and telephone number of the competent lift service provider designated in terms of regulation 7(1).

Notes:

(a) Department of Labour generates a certificate with particulars of a lift, escalator or passenger conveyor.

(b) Information displayed on the front of the Comprehensive report is acceptable in instances where a certificate is not available. Provided, that the comprehensive report is displayed in a holder in the machine compartment.

(c) The schematic electrical wiring diagram here means principle electrical diagram showing electrical analogue/digital connections. The electrical wiring diagram is there for commissioning and troubleshooting.

(d) The notice must reflect the details of the current competent lift service provider appointed to service the lift, escalator or passenger conveyor.

REGULATION 6 - INSPECTION AND TESTS

(1) The user shall ensure that every lift, escalator or passenger conveyor is inspected and tested in accordance with the relevant health and safety standards incorporated into these Regulations under section 44 of the Act -
   (a) before such lift, escalator or passenger conveyor is put into use for the first time; or
   (b) after any modification has been effected; or
   (c) after any failure has occurred; or
   (d) whenever there has been a change in the competent lift service provider; and
   (e) at intervals not exceeding 24 months thereafter, or at shorter intervals according to in-house risk assessment, by an inspection service provider who shall complete a comprehensive report separately for each lift, escalator or passenger conveyor so inspected and tested, and such inspection service provider shall date and sign such report and submit it within 30 days to the user, who shall keep the report in a safe place and a copy of the report in the machine compartment.

(2) If an inspection or test carried out by an inspection service provider on a lift, escalator or passenger conveyor shows that any defect or weakness exists whereby persons are endangered, the inspection service provider shall report such defect or weakness forthwith to the user, the competent lift service provider and the provincial director, and no person shall be conveyed or allowed to be conveyed in or on such lift, escalator or passenger conveyor until such defect has been rectified to the satisfaction of the inspection service provider.

(3) If a comprehensive report in accordance with a health and safety standard incorporated into these Regulations under section 44 of the Act shows a defect or weakness not considered under subregulation (2) the user shall rectify such defect or weakness.

(4) A comprehensive report for a lift, escalator or passenger conveyor shall be completed when -
   (a) the lift , escalator or conveyor is put into use for the first time;
   (b) any modification to the lift, escalator or conveyor has been effected;
   (c) a reportable incident in terms of section 24 of the Act occurs;
   (d) there is a change in the designated competent lift service provider; and
   (e) at intervals not exceeding 24 months thereafter.

(5) When an inspection or a test is conducted by an inspection service provider the inspection service provider shall ensure that all the documents and records required in terms of regulation 8 are kept in good order and are up to date.

(6) An inspector may at any reasonable time inspect any lift, escalator or passenger conveyor, and the user shall place, free of charge, at the disposal of the inspector any workmen and equipment that may be reasonably required by the inspector for the purpose of carrying out such inspection.

(7) An inspection service provider who wishes to avail himself or herself of designation as such by the user of a lift, escalator or passenger conveyor in order to carry out an inspection in terms of this regulation, shall register with the accreditation authority.

Notes:

(a) Annexure formats have been developed for different types of lifts and are available in the relevant standards published by SABS.

(b) The installation must however comply with the standard which was applicable at the time of installation or modification .

(c) Refer to Section 24 of the OHS Act with regards to failures.

(d) The owner is under obligation to ensure an in-house risk assessment is conducted.

(e) The 24 month interval for the inspection and test may be reduced as a result of risk assessment conducted by the owner/user.

(f) SANS 14798:2009 can be used as a guide on how to conduct risk assessment.

(g) Use the guidance template developed for reporting of defects. This template does not replace the comprehensive report. See attached template A.

(h) The intention of the requirement of reporting of defects or weaknesses is to inform DoL that the person's life can be endangered.

(i) Provincial director is the most senior official of the department in the province and is based at the provincial office.

(j) It is the owner's obligation with regards to the safety of the equipment.

(k) Inspection service providers do not have the same power as inspectors.

(l) Inspection service providers must ensure that the equipment is switched off.

(m) Situations where customers/owners fail to attend to the non-compliances, reflected on the comprehensive report, must be reported to the relevant DoL,

Weakness or defect

Below is a list of critical (life threatening) items that must be reported to DoL,

Key components of a lift that may endanger persons: Existing lifts

a. Door locks
b. Door fastenings/hanger/slippers
c. Door detectors/door protection
d. Vision panel
e. Intercom/alarms
f. Floor levels
g. Brake linings
h. Overspeed governor/Safety gear
i. Limited headroom
j. Ropes/traction sheave
k. Machine room door
l. Illumination in the car and landing
m. Excessive thrust or gear/drive shaft wear
n. Shaft end protection
o. Water leakages

Escalators

a. Broken steps
b. Broken comb plates
c. Brake
d. Landing balustrades
e. Hand rail entry switches
f. Water leakages
g. No emergency stop

(n) Inspector means an inspector from Department of Labour.

(o) An inspector could inspect a lift as a result of a complaint reported to DoL or as part of routine inspections. An inspector can inspect a lift to ensure compliance. An inspector can also inspect a lift especially a new installation to verify that commissioning has been done and all the necessary documentations including annexure are in place.

(p) South African National Accreditation System is the national body mandated to accredit inspection service providers. This accreditation ensures that inspection service providers are competent to carry out inspections and tests on lift, escalators or passenger conveyors.

(q) This requirement became mandatory on 1 December 2012. Refer to Regulation 12.

REGULATION 7 - MAINTENANCE

(1) The user shall designate a competent lift service provider to examine and maintain a lift, escalator or passenger conveyor at least once a month or at such longer intervals as may be prescribed by the manufacturer of such lift, escalator or passenger conveyor: Provided that an inspector may prescribe such examining intervals as he or she may deem necessary.

(2) At an examination contemplated in subregulation (1), the competent lift service provider shall examine the parts of a lift, escalator or passenger conveyor as prescribed by the relevant manufacturer or by an inspector: Provided that in the case of a lift, he or she shall test all the gates and door locks at each examination: Provided further that the suspension ropes of a lift shall be examined

at six-monthly intervals and that the lift safety gear, over speed governor and buffers shall be tested at intervals not exceeding 12 months.

(3) If maintenance or an examination carried out in terms of subregulation (1) or a test carried out in terms of subregulation (2) shows that a weakness or defect exists whereby persons are endangered, the competent lift service provider shall report the weakness or defect immediately to the user and the provincial director, and no person shall be conveyed in or allowed to be conveyed in or on such lift, escalator or passenger conveyor or to enter such access goods only lift until such defect has been rectified to the satisfaction of an inspection service provider.

(4) The user of a lift, escalator or passenger conveyor shall immediately take steps to stop the working thereof and to prevent the starting thereof if its use is or is likely to be dangerous to persons.

(5) The user of a lift, escalator or passenger conveyor and the competent lift service provider responsible for the examinations contemplated in subregulation (1) or test contemplated in subregulation (2) shall immediately notify the provincial director in writing of the name and address of the competent lift service provider carrying out such examinations or tests.

(6) The competent lift service provider shall notify the provincial director and the user immediately in writing if a lift, escalator or passenger conveyor is found to be in operation without a valid comprehensive report issued in terms of regulation 6 that is kept in the machine compartment in terms of regulation 8.

Notes:

(a) Manufacturer in this case refers to the original equipment manufacturer.

(b) Maintenance requirements apply to all lifts (access goods only lifts, lifts, escalators, stair lifting platforms, etc).

(c) Inspector here refers to a DoL inspector who may override certain of the manufacturer's operating instructions under specific conditions which will be based on the latest risk assessment or inspection/examination or test.

(d) The tests and examinations referred to above must be carried out by a competent lift mechanic or a person with a higher qualification who is employed by a competent lift service provider. These tests are carried out to ensure that the lift, escalator or passenger conveyor is safe for usage.

(e) Use the guidance template developed for reporting of defects. See attached template A.

(f) Reports are submitted to enable the DoL to enforce compliance of the regulation and measure equipment performances.

(g) the user can use guidance template developed for reporting of defects. See attached template A.

(h) Use the guidance template developed for appointing a competent lift service provider. See attached template B.

REGULATION 8 - RECORD KEEPING

(1) The user of a lift, escalator or passenger conveyor shall keep in a safe place in the machine compartment of every such lift, escalator or passenger conveyor a record in which he or she shall enter or cause to be entered -

(a) his or her name, address and telephone number;

(b) the name, address and telephone number of the competent lift service provider designated by him or her to carry out the maintenance and examinations contemplated in regulation 7(1) and the tests contemplated in regulation 7(2);

(c) a report on the results of every examination contemplated in regulation 7(1), and the test contemplated in regulation 7(2) including any modifications, repairs, adjustments and tests carried out;

(d) a copy of the latest comprehensive report contemplated in regulation 6(4);

(e) a copy of all suspension rope certificates and the results of the examination contemplated in regulation 7(2) on the condition of the suspension ropes;

(f) the registers or files and the technical dossiers required in terms of the relevant SANS specifications;

(g) he commissioning acceptance report or copy thereof required in terms of the relevant SANS specification; and

(h) a copy of each comprehensive report made in respect of incidents in terms of section 24(1)(c)(iii) and (iv) of the Act.

(2) The user shall keep the records contemplated in subregulation (1) in the relevant machine compartment for a period of at least 10 years.

Notes:

None.

REGULATION 9 - APPROVED INSPECTION AUTHORITY

(1) An inspection service provider who wishes to avail himself or herself of designation as such by the user of a lift , escalator or passenger conveyor in order to carry out an inspection in terms of regulation 6, shall register with the accreditation authority.

(2) The Chief Inspector may at any time withdraw any approval of an approved inspection authority, subject to section 35 of the Act.

Notes:

(a) South African National Accreditation Authority is the national body mandated to accredit inspection service providers.

REGULATION 10 - OFFENCES AND PENALTIES

(1) Any person who contravenes or fails to comply with any provision of regulation 3(1), 3(2), 3(3), 4(1), 4(2), 5(1), 5(2), 5(3), 5(4), 6(1), 6(2), 6(3), 6(4), 6(5), 6(6), 6(7), 7(1), 7(2), 7(3), 7(4), 7(5), 7(6), 8(1), 8(2) or 9(1) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

Notes:

None.

REGULATION 11 - REPEAL OF REGULATIONS AND SAVINGS

(1) The Lift , Escalator and Passenger Conveyor Regulations promulgated by Government Notice No. R.797 of 29 April 1994 are hereby repealed.

(2) Lifts installed or modified prior to 1 May 1994 shall be considered to comply with regulation 4(1).

Notes:

(a) Repeal of the regulations means that replacing regulations published in 29 April 1994.

(b) This means that lifts installed after 30 November 2010 shall comply with LEPCR of 30 November 2010.

(c) Lifts installed prior to 30 November 2010 shall comply with standards that were applicable at the time of installation.

R.94 of 2017
(G.G. 40594 of 03/02/2017)

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993), AS AMENDED

CODE OF PRACTICE FOR EXISTING GOODS HOISTS INSTALLATIONS, LIFTS, ESCALATOR AND PASSENGER CONVEYOR REGULATIONS, 2010

I, T. Szana, appointed as the Chief Inspector in terms of Section 27(1) of the said Act, and by virtue of the powers delegated to me by the Minister of Labour in terms of 42(1) of the Act, after consultation with the Advisory Council for Occupational Health and Safety, hereby, under section 44 of the Occupational Health and Safety Act (Act No. 85 of 1993), as amended, incorporate "Code of Practice for Existing Goods Hoists Installations" (Installed prior 30 September 2015) that were previously regulated under the Driven Machinery Regulations, 2008 into Lift, Escalator and Passenger Conveyor Regulations, 2010.

T. Szana
Chief Inspector

CODE OF PRACTICE FOR EXISTING GOODS HOISTS INSTALLATIONS

FOREWORD

This Code of Practice is to provide the minimum requirements for existing good hoists (Installed prior 30 September 2015) that were previously regulated under the Driven Machinery Regulations, 2008.

In the new Driven Machinery Regulations promulgated in 2015, regulation 17 was repealed and it gave a directive that all existing good hoists shall within five years comply with the provisions of the Lift Escalator and Passenger Conveyor Regulations.

Machinery Spaces

- Machinery shall be kept in safe lockable spaces or cabinets.
- Safe accesses, free of any storage or rubbish shall be provided to the machinery spaces.
- Ladders to these spaces shall be permanently installed and shall provide safe access well into these machinery spaces.
- The working areas of the machinery spaces above the shafts shall have full floor covering.
- The clear heights of the working spaces shall not be less than 1.5 meters.
- The lighting in the machinery spaces shall be 300 Lux and the accesses to these spaces 150 Lux.
- There shall be 220 Volt socket outlets in the machinery spaces.
- Record book and certificate holders shall be kept in the machinery spaces.

Machinery

- Rotating elements shall be guarded or painted caution yellow if they pose a low risk such as smooth flywheels.
- Slack rope devices shall be installed on positive drive (drum or hydraulic) units.
- Safety gears shall be installed on units with less than two ropes - if design permits.
- Safeties shall, where possible, be installed under the cars and not on top of the crown beams.
- Sheaves for the suspension ropes shall be 25 times the diameter of the suspension ropes.
- When more than one suspension rope is used, there shall be automatic tensioning devices - compression springs.

Controls

- There shall be lockable main switches at the accesses to the machinery spaces.

- There shall be well -kept, up-to-date, durable and legible wiring diagrams.
- Controllers shall have two contactors for the main motors - mains + up or mains + down.
- Two independent contacts of the motor contactors shall be in series with the brake coil.
- Three phase installations shall be protected with reverse phase protections.
- All units shall be equipped with top and bottom final limit switches.
- Where shaft inspections or repairs require a person to ride on top of the car, inspection controls shall be installed on top of the car.
- The cars shall be provided with overload devices and signals.
- There shall be no controls inside the cars.
- Push-pull emergency stop switches shall be installed on top of the car and in the pit with stop switches on each landing if the landing doors are perforate.
- The landing door locks shall have two contacts in circuit - one to ensure the door is closed and one to ensure the lock is made.
- The car doors shall have gate switches which shall be tamper-free and out of reach of the users.
- 220 Volt light and socket outlet circuits shall be protected with earth leakage devices.

Shaft Enclosures

- The shafts shall be enclosed to a height of 2.5 meters in all areas accessible to persons. The enclosures shall have sufficient strengths - they shall withstand 300N forces.
- When the cars are travelling at speeds exceeding 0.25 meters per second, the shaft enclosure shall be imperforated.
- Shaft lights shall be installed with intensity of 100 Lux anywhere in the shafts.
- The landing doors shall be equipped with electro-mechanical locking devices. Two contacts shall be used in the control circuits.
- Triangle dis-locking devices shall be provided for all landing doors. Boxes with triangle locks to protect other types of dis-locking devices will also be acceptable.
- When the cars are travelling at speeds exceeding 0.25 meters per second, the landing doors shall be imperforated.
- When the landing doors are imperforated, there shall be indications that the cars have stopped on a landing - vision panels or indication lights.
- On each landing there shall be a durable notice which indicates the maximum allowable load and forbidding persons from riding in the car.
- In the pits without the necessary refuge space (500mm x 600mm x 1000mm) there shall be properly designed bumping poles to land the cars on when entering the pit - instruction shall be displayed to use the bumping pole.
- Car to landing sill clearances shall not exceed 35 mm.
- Safe Spaces on top of the car and in the pit shall be clearly identified.
- Bi-parting and vertical rise doors shall be counter balances with proper handles or pull straps.

Cars

- The cars shall be equipped with gates, scanners or “load shift bars” and it shall not be possible to move the cars unless these devices are closed.
- The car roofs shall cover the full car size (floor areas of the cars).
- The car roof shall have sufficient strength to carry the weight of two persons (1000N each) anywhere on the roof.
- Inside the car there shall be a durable notice which indicates the maximum allowable load and forbidding persons from riding in the car.
- There shall be in the cars electric lights of at least 100 Lux.
- Positive drive units shall have buffers on top of the cars which shall not make contact before the final limits open.
- Positive drive units with limited head rooms (not spaces of 500mm x 600mm x 800mm) and top of car inspection controls shall have extendable bumping poles with safety switches on top of the lift cars.

Registration

- All units must be registered with the Regional Office of Department of Labour.
- All Goods hoists must comply with the requirements for Lift Escalator and Passenger Conveyor Regulations.

REGULATIONS CONCERNING THE CERTIFICATE OF COMPETENCY

GNR.533 of 16 March 1990

[These regulations were first published in GNR.533 of 16 march 1990 and subsequently amended by GNR.1277 of May 1992 and by GNR.962 of 20 May 1994.]

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these regulations, "**the Act**" means the Machinery and Occupational Safety Act, 1983 (Act No.6 of 1983), and unless the context otherwise indicates any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and-

"certificate of competency" or "**certificate**" means a certificate of competency as a mechanical or an electrical engineer, as the case may be, issued in terms of regulation 2 (1);

"Commission of Examiners" or "**Commission**" means the commission established in terms of regulation 5 (1);

"Department of Education and Culture" means the Department of Education and Culture, Administration: House of Assembly.

2. Issuing of certificates.-(1) Certificates of competency shall be issued by the chief inspector in accordance with the recommendations of the Commission of Examiners.

(2) A person to whom a certificate of competency has been issued in terms of subregulation (1) shall be deemed to be a certificated engineer as contemplated in regulation 1 of the General Machinery Regulations promulgated by Government Notice R.1521 of 5 August 1988.

(3) Any person wishing to obtain a certificate of competency shall apply therefor to the Commission of Examiners.

(4) The Commission of Examiners shall not recommend the issuing of a certificate of competency unless the candidate has passed the qualifying examination or the Commission is satisfied that the candidate possesses sufficient knowledge of the design, assembly, erection, running and maintenance of machinery, apparatus and installations, and of the Act and regulations promulgated thereunder.

(5) A certificate of competency as mechanical engineer shall be in the form of Annexure 1 and a certificate of competency as electrical engineer shall be in the form of Annexure 2.

(6) Any certificate issued in terms of subregulation (1) on which anyone other than the chief inspector has made any amendment or erasure shall be rendered null and void.

3. Suspension or cancellation of certificates.-(1) If the chief inspector at any time, by virtue of information submitted to him by anyone, and after investigation, is of the opinion that the holder of a certificate of competency was guilty of gross negligence or misconduct m the execution of his duties as holder of such certificate, he may forthwith suspend or cancel such certificate or he may as he may deem fit refer the matter to the Commission of Examiners for investigation and on the recommendation of the Commission he may suspend or cancel such certificate.

(2) The chief inspector shall forthwith advise the holder of a certificate of competency of his decision in terms of subregulation (1).

(3) A suspended or cancelled certificate shall be returned by the holder thereof to the chief inspector within one month of the date upon which the chief inspector advised him of the suspension or cancellation thereof.

4. Substitution of lost, damaged or destroyed certificates.-(1) If a certificate issued in terms of regulation 2 (1) has been lost, damaged or destroyed, the person to whom the certificate had been issued may apply to the chief inspector for a duplicate certificate.

(2) Every application in terms of subregulation (1) shall be accompanied by an amount of R130 in the form of uncancelled revenue stamps affixed to the application.

[Sub-r. (2) amended by GNR.1277 of 1992 and by GNR.962 of 1994.]

(3) After proof that a certificate has been lost, damaged or destroyed has been submitted to the satisfaction of the chief inspector he shall issue a duplicate certificate.

(4) The chief inspector shall ensure that on every duplicate certificate issued in terms of subregulation (3), the words "duplicate/duplikaat" appear.

5. Commission of Examiners.-(1) The chief inspector shall after consultation with the Government Mining Engineer as defined in the Mines and Works Act, 1956 (Act No. 27 of 1956), and subject to the provisions of subregulation (4), appoint a Commission of Examiners.

(2) (*a*) A member of the Commission of Examiners shall be appointed for the period laid down by the chief inspector on his appointment and a member whose term of office has expired may be reappointed.

(*b*) The chief inspector may discharge any member of the Commission of Examiners.

(3) The functions of the Commission of Examiners are-

(*a*) to evaluate a candidate's suitability for a certificate of competency as contemplated in regulation 2 (4);

(*b*) to make recommendations to the chief inspector regarding the curricula referred to in subregulation (9) for the qualifying examinations;

(*c*) to report to the chief inspector on its activities; and

(*d*) to perform the other functions which are prescribed.

(4) The Commission of Examiners shall be constituted as follows:

(*a*) two inspectors designated in terms of section 20 of the Act;

(*b*) two officers appointed in terms of section 3 of the Mining Rights Act, 1967 (Act No. 20 of 1967);

(*c*) at least two persons holding certificates of competency as mechanical engineers issued in terms of these regulations or the regulations issued under the Mines and Works Act, 1956; and

(*d*) at least two persons holding certificates of competency as electrical engineers issued in terms of these regulations at the regulations issued under the Mines and Works Act, 1956.

(5) A meeting of the Commission of Examiners shall be held at a time and place fixed by the chief inspector, after consultation with the Government Mining Engineer.

(6) A meeting of the Commission of Examiners shall take place under the chairmanship of one of the members of the Commission appointed for that purpose by the chief Inspector after consultation with the Government Mining Engineer.

(7) (*a*) A quorum of the Commission of Examiners consists of the chairman and two members.

(*b*) In the event of a difference of opinion arising in respect of any matter regarding the acceptance or examination of a candidate, or regarding the suspension or cancellation of a certificate it shall be decided by a majority of votes of the members of the Commission present at such meeting: Provided that if there is a tie of votes, the chairman has a casting as well as an ordinary vote.

(8) An officer of the Department, designated by the chief inspector shall serve as secretary to the Commission of Examiners and keep minutes of the proceedings of the Commission.

(9) Directives for the guidance of the Commission of Examiners, rules regarding the acceptance of candidates for the qualifying examinations and the curricula for such examinations shall be drawn up and, if necessary, amended by the chief inspector in consultation with the Government Mining Engineer.

(10) (*a*) A candidate may appeal to the chief inspector against any decision of the Commission of Examiners.

(*b*) Any person who wishes to appeal to the chief inspector in terms of paragraph (*a*), shall lodge such appeal in writing with the chief inspector within 60 calendar days after the decision of the Commission of Examiners against which the appeal is being lodged.

(*c*) In an appeal in terms of paragraph (*a*) the grounds of appeal shall be set out clearly and in full, together with any representations which the appellant wishes to lodge as to why the chief inspector should set aside or amend the decision of the Commission of Examiners.

(*d*) The chief inspector shall confirm, set aside or amend the decision, or substitute for it such other decision as the Commission of Examiners, in the opinion of the chief inspector should have made.

(**e**)The decision of the chief inspector in such an appeal is final.

6. Qualifying examination.-(1) The qualifying examination shall be conducted by the Department of Education and Culture at the times and places determined by that Department.

(2) The rules for the conducting of qualifying examinations shall be determined by the Department of Education and Culture.

(3) The qualifying examination shall be conducted in respect of the following two subjects:

(*a*) plant engineering; and
(*b*) the Act and regulations issued thereunder or deemed to have been issued thereunder.

Provided that the Commission of Examiners may, as it may deem fit, grant exemption to candidates from examination in any of these subjects.

(4) No person may lodge with the Department of Education and Culture an application to be examined in the qualifying subjects unless he has been accepted as a candidate by the Commission of Examiners.

(5) Any person who wishes to enter for the qualifying examination shall do so through the Department of Education and Culture to which the examination fees, as fixed by that Department from time to time, shall be paid.

7. Acceptance as candidate.-(1) A person who applies in terms of regulation 2 (3) to be accepted as a candidate for the qualifying examination shall not be accepted as a candidate unless he has provided satisfactory proof to the Commission of Examiners-

(*a*) that he is at least 23 years of age; and
(*b*) that he has the required practical experience, as provided for in the rules drafted under regulation 5 (9).

(2) Every application for acceptance as a candidate in terms of regulation 2 (3) shall be accompanied by an amount of R130 in the form of uncancelled revenue stamps affixed to the application form.

[Sub-r. (2) amended by GNR.1277 of 1992 and by GNR.962 of 1994.]

8. Withdrawal of regulations.-The following regulations and Annexures are hereby withdrawn: Regulations E1, E2, E3, E4, E5, E6, E7, E8 and E9 and Annexures F26, F26 (*a*), F27 and F27 (*a*) of the regulations published by Government Notice No. R.929 of 28 June 1963.

9. Short title.-These regulations shall be called the Regulations concerning the Certificate of Competency, 1990.

ANNEXURE 1:
MECHANICAL ENGINEER'S CERTIFICATE OF COMPETENCY

REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF MANPOWER

MECHANICAL ENGINEER'S CERTIFICATE OF COMPETENCY

(Issued in accordance with the provisions of the Machinery and Occupational Safety Act, 1983, and the Regulations framed thereunder)

This is to certify that……having passed the prescribed examination and having been recommended by the Commission of Examiners, is qualified in accordance with the Regulations framed under the above Act, as a Certificated Engineer.

.....
Chief Inspector

PRETORIA ……..19……

ANNEXURE 2
ELECTRICAL ENGINEER'S CERTIFICATE OF COMPETENCY

REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF MANPOWER

ELECTRICAL ENGINEER'S CERTIFICATE OF COMPETENCY

(Issued in accordance with the provisions of the Machinery and Occupational Safety Act, 1983, and the Regulations framed thereunder)

This is to certify that ……having passed the prescribed examination and having been recommended by the Commission of Examiners, is qualified in accordance with the Regulations framed under the above Act, as a Certificated Engineer.

.....
Chief Inspector

PRETORIA ……..19……

PRESSURE EQUIPMENT REGULATIONS

GNR.734 of 15 July 2009

[These regulations were published in GNR. 734 of 15 July2009.]

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety and the Minister of Finance, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates —

"accreditation authority" means the South African National Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006);

"appliance" means an appliance as defined in SANS 1539;

"ASME" means the American Society of Mechanical Engineers;

"authorised person" means a person who is registered as competent within the scope of work for which an organisation approved by the chief inspector has registered that person;

"certificate" means a written declaration of conformance to these Regulations;

"construction" includes materials, design, fabrication, modification, repair, installation, examination, inspection, testing and certification;

"dangerous substance" means a substance defined and classified as such in terms of SANS 10228;

"design pressure" means the gauge pressure used in the design formulae to determine the dimensions of the component parts of the pressure equipment;

"design temperature" means the temperature used in the design formulae to determine the dimensions of the component parts of the pressure equipment;

"design verification" means verification that the pressure equipment complies with the applied design of the relevant health and safety standard and the requirements of these Regulations;

"fire extinguisher" means a rechargeable container which has a fire extinguishing substance that is expelled by the action of internal pressure for the purpose of extinguishing a fire;

"fluid" means gases, liquids, vapours in pure phase and mixtures thereof and may contain solids in suspension;

"gas" means gases, liquefied gases, gases dissolved under pressure, vapours, and those liquids whose vapour pressure at the design temperature is greater than 50kPa above normal atmospheric pressure;

"gas system" means an assembly of tubes, pipes or similar ducts, fittings and valves for the reticulation, circulation and conveyance of a gas, excluding a pressure vessel or transportable gas container connected to the system;

"latent defect" means a fault inherent in pressure equipment, resulting from deficiencies in the design or manufacturing process that may cause a health and safety risk;

"manufacturer" means any person who has overall control and is responsible for the construction of the pressure equipment;

"modification" means any change to the original design conditions of pressure equipment, including re-rating, or the addition or removal of elements that could affect the integrity of the pressure equipment, and "**modify**" has a corresponding meaning;

"non-metallic" means glass, thermoplastic or thermosetting polymeric reinforced and un-reinforced materials or combinations thereof;

"pipeline" means piping or a system of piping designed for the transport and distribution of any fluid from an installation that is onshore or offshore, starting from and including the last isolation device located within the confines of the installation, including all the auxiliary equipment designed specifically for that pipeline;

"piping" means pipes, tubes or flexible pressure hose elements intended for the transport or distribution of any fluid at a pressure of 50 kPa or above when connected together for integration into a system, including heat exchangers consisting of pipes for the purpose of cooling or heating air;

"pressure accessory" means devices with an operational function having pressure-bearing housing;

"pressure equipment" means a steam generator, pressure vessel, piping, pressure accessory and safety accessory, transportable gas container, and fire extinguisher and includes, but is not limited to, an accumulator, a hot-water geyser, and hyperbaric chambers;

"pressure vessel" means a housing designed and manufactured to contain a fluid under a design pressure equal to or greater than 50 kPa;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations promulgated by Government Notice No. R.1449 of 6 September 1996;

"re-certification" means activities undertaken to determine appropriate design parameters for pressure equipment where such data is unknown or unavailable;

"repair" means restoration to original standard by the application of heat or welding to any pressure equipment, or the replacement of expanded tubes, and in the case of non-metallic equipment it means the application of heat, welding, solvent cement, laminate or curing of thermo-set;

"re-rating" means any change in the design parameters of pressure equipment which affects the certification;

"reticulation" means the conveyance of gas by pipeline with a general operating pressure of no more that 200kPa to the ultimate points of consumption;

"risk-based inspection" means an inspection scope based on the results of a formal risk assessment, including inspection and test intervals;

"safety accessory" means a device designed to protect pressure equipment;

"SANS 151" means the Standard Specification for fixed electric storage water heaters, SANS 151, published by the South African Bureau of Standards;

"SANS 347" means the Standard Specification for categorisation and conformity assessment criteria for all pressure equipment, SANS 347, published by the South African Bureau of Standards;

"SANS 10227" means the Standard Specification for the criteria for the operation of inspection authorities performing inspection in terms of the Pressure Equipment Regulations, SANS 10227, published by the South African Bureau of Standards;

"SANS 10228" means the Standard Specification for the identification and classification of dangerous goods for transport, SANS 10228, published by the South African Bureau of Standards;

"SANS 10254" means the Standard Specification for the installation, maintenance, replacement and repair of fixed electric storage water heating systems, SANS 10254, published by the South African Bureau of Standards;

"SANS/ISO 17020" means the Standard Specification for general criteria for the operation of various types of bodies performing inspection, SANS 17020, published by the South African Bureau of Standards;

"steam generator" means any apparatus to convert water continuously into steam at a pressure higher than that due to the atmosphere and where the heat is derived from a source other than steam, and includes any super heater or economiser which is an integral part of a steam generator or is separately fired there from, fired steam and hot-water boilers, waste-heat boilers, waste-incineration boilers, and electrode or immersion-type electrically heated boilers;

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

"transportable gas container" means any refillable vessel for the storage and conveyance of liquefied, dissolved or compressed gases, of water capacity from 0,5 litres to 3 000 litres;

"unique mark" means the mark and accreditation reference number of the approved inspection authority.

2. Scope of application.-(1) These Regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection and testing of pressure equipment with a design pressure equal to or greater than 50 kPa, in terms of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) Regulations 3, 4, 5, 9 (1), 9 (2) and 9 (3) shall not apply to pressure equipment in use or on order prior to the publication of these Regulations, which equipment shall be designed and constructed according to the requirements applicable at the time of order.

(3) The following pressure equipment shall be excluded from these Regulations-

(*a*) Piping for the supply, distribution and discharge of water below its boiling point at atmospheric pressure and associated pressure equipment and headraces such as penstocks, pressure tunnels, pressure shafts for hydro-electric installations and their related specific pressure accessories;

(*b*) aerosol dispensers;

(*c*) pressure equipment intended for the functioning of road and rail vehicles, excluding a fuel gas system;

(*d*) pressure equipment comprising casings or machinery where the dimensioning, choice of material and manufacturing rules are based primarily on requirements for sufficient strength, rigidity and stability to meet the static and dynamic operational effects or other operational characteristics and for which pressure is not a significant design factor, and such pressure equipment may include —

(i) engines, including turbines and internal combustion engines;

(ii) reciprocating steam engines, gas turbines, steam turbines, turbo-generators, compressor engines, pumps and actuating devices;

(*e*) open metal-making pots and blast furnaces

(*f*) housing for electrical machinery such as switchgear, control gear, transformers and rotating machines;

(*g*) tyres and flexible pressurised casings used for recreational purposes;

(*h*) fixed electrical hot-water storage container of water capacity from 15 litres to 450 litres operating at a maximum pressure of 600 kPa manufactured to the requirements of SANS 151, which shall be installed in accordance with the requirements of SANS 10254.

3. General requirements.-(1)Any person who manufactures, imports, sells, offers or supplies any pressure equipment described in these Regulations for use in the Republic shall ensure that such equipment complies with these Regulations.

(2) Any person who erects or installs any pressure equipment for use in the Republic shall ensure, as far as is reasonably practicable, that it is erected or installed in a safe manner and without risk to health and safety when properly used.

(3) All pressure equipment for use in the Republic shall be categorized and submitted to the applicable conformance assessments of SANS 347 in addition to the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

4. Duties of manufacturers.-(1) The manufacturer shall have an obligation to ensure that all equipment designed and manufactured for use in the Republic shall be conformity assessed and subjected to the requirements set out in SANS 347.

(2) Subject to the requirements set out in the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, the manufacturer shall ensure that the pressure equipment as manufactured, modified, inspected, tested or repaired is safe and without risks to health when properly used.

(3) Subject to the requirements of this regulation a manufacturer shall issue a certificate of manufacture for all pressure equipment supplied, with a verification signature by an approved inspection authority when so required.

(4) Subject to the requirements of this regulation a manufacturer shall comply with any other duty assigned to the manufacturer in these Regulations.

(5) A manufacturer who determines that pressure equipment in use has a latent defect shall advise the chief inspector in writing forthwith thereof and of measures being taken to correct the defect.

5. Duties of importers and suppliers.-(1) Importers and suppliers shall ensure that pressure equipment sold complies with the requirements of these Regulations.

(2) The importer shall assume the liability of the manufacturer in terms of these Regulations.

(3) Any pressure equipment that requires a permit to be issued by an organisation approved by the chief inspector shall ensure that such approval is obtained by the importer or manufacturer before the pressure equipment is placed in the market: Provided that such equipment shall comply with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

6. Duties of users.-(1) The user shall ensure that the pressure equipment is operated and maintained within its design and operating parameters.

(2) The user shall, subject to the relevant health and safety standard incorporated into these Regulations under section 44 of the Act–

(*a*) provide the manufacturer, repairer or modifier with comprehensive information of the operating or intended operating conditions of the pressure equipment, including the characteristics of the fluid and operating parameters of other connected pressure equipment, where reasonably practicable;

(*b*) ensure pressure equipment has a certificate, issued by the manufacturer, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been designed and manufactured in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;

(*c*) ensure pressure equipment has a certificate issued by the repairer or modifier, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been modified or repaired in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;

(*d*) ensure that pressure equipment has a certificate issued by an approved inspection authority before commissioning, where applicable; and

(*e*) ensure that a gas system has a valid certificate issued by an authorised person.

7. Approval and duties of approved inspection authority.-(1) Only an organisation holding an approval certificate from the chief inspector shall perform the duties of an approved inspection authority within the scope of accreditation.

(2) An application for approval in terms of subregulation (1) shall include the applicant's proof of accreditation prescribed by paragraph (*a*) or (*b*) of subregulation (3), including full contact details and address.

(3) The chief inspector's approval –

(*a*) of inspection bodies operating in the Republic shall be subject to the submission of an accreditation certificate issued by the accreditation authority in accordance with the requirements of SANS/ISO 17020 and SANS 10227: Provided that the chief inspector may set additional requirements before granting approval; or

(*b*) of foreign inspection bodies shall be subject to the submission of an accreditation certificate issued by an International Laboratory Accreditation Cooperation (ILAC) or an International Accreditation Forum (IAF), Mutual Recognition Arrangement signatory in accordance with the requirements of ISO/IEC 17020: Provided that–

(i) the foreign inspection body shall ensure compliance with all the duties assigned to an approved domestic inspection authority in terms of these Regulations and within their scope of accreditation together with the applicable health and safety standards; and

(ii) the chief inspector may set additional requirements before granting approval.

(4) Imported pressure equipment stamped by an ASME authorised manufacturer in compliance with the full ASME Code of Construction shall be deemed to meet the requirements of these Regulations.

(5) In the event of a dispute of a technical or safety issue, which could not be reasonably resolved between an approved inspection authority and any interested party, including the user, modifier, repairer or manufacturer, an interested party may refer the case to the chief inspector in writing for arbitration, setting out the full details of the dispute.

(6) Upon receiving such a dispute in terms of subregulation (5), the chief inspector may appoint an arbitrator mutually agreed upon between the parties.

(7) A case referred to the chief inspector in terms of subregulation (5) shall be investigated and arbitrated within a maximum of 90 days.

(8) An approved inspection authority shall ensure compliance with all the duties assigned to an approved inspection authority in these Regulations within its scope of accreditation and the relevant health and safety standard.

8. Registration of a steam generator.-(1) No user may use a steam generator unless such user is in possession of a certificate of registration issued in terms of subregulation (3) for that steam generator.

(2) Application for registration to use a steam generator shall be made prior to use to the provincial director in the form of Annexure 2, including copies of a certificate from the manufacturer and from the approved inspection authority after installation prior to commissioning: Provided that this subregulation shall not apply in respect of the re-erection of a steam generator on the same premises.

(3) On receipt of an application for registration in terms of subregulation (1), the provincial director shall forward that application to an inspector who may issue a certificate of registration in the form of Part C of Annexure 2 in respect of that steam generator, subject to the conditions that may be specified on the certificate.

(4) Any user of a steam generator for which a certificate of registration has been issued shall cause the certificate of registration to be made available on request to an inspector or an approved inspection authority.

(5) A user shall, within seven days after discovering that the certificate of registration has been lost, defaced or destroyed, apply to the provincial director in the form of Part A of Annexure 2 for the issue of a duplicate certificate, and affix the fee of R100,00 in the form of uncancelled revenue stamps to such an application.

(6) On receipt of an application in terms of subregulation (5), the provincial director shall issue the duplicate certificate if he or she is satisfied that the original certificate has been lost, defaced or destroyed.

(7) A user of a steam generator shall immediately notify the provincial director in writing when–

(*a*) such steam generator is no longer in use;

(*b*) the right of control over the use of the steam generator is transferred by the user to any other user; or
(*c*) the user moves the steam generator to premises other than the premises reflected on its certificate of registration.

(8) A certificate of registration issued in terms of subregulation (3) shall lapse –
(*a*) upon the transfer of the right of control over the use of the steam generator to another user; or
(*b*) when a steam generator is removed from the premises reflected on its certificate of registration.

9. Pressure equipment marking.-(1)Every manufacturer of pressure equipment shall cause the pressure equipment to be marked in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) Every manufacturer shall cause a data plate to be permanently fixed in a conspicuous place to any steam generator or pressure vessel with the following minimum particulars:
(*a*) name of manufacturer;
(*b*) country of origin;
(*c*) year of manufacture;
(*d*) manufacturer's serial number;
(*e*) reference number, date and edition of the health and safety standard;
(*f*) design pressure in units of Pascal;
(*g*) design temperature for both minimum and maximum in degrees Celsius;
(*h*) capacity in cubic metres;
(*i*) unique mark of an approved inspection authority as applicable; and
(*j*) the hazard category in accordance with the requirements of SANS 347.

(3) In the case of composite pressure equipment the following information shall be included in addition to that referred to in subregulation (2):
(*a*) the resin system of the corrosion barrier/lining;
(*b*) the resin system of the structural wall; and
(*c*) the name and specific gravity of the medium for which the vessel was designed.

(4) No person may remove a marking or data plate referred to in this regulation or wilfully damage or alter the particulars marked thereon, except as provided in this regulation.

(5) A user shall ensure that any modification that changes the original design conditions is identified by affixing an additional data plate.

(6) A user shall ensure that a data plate is affixed to any steam generator or pressure vessel that has been re-certified: Provided that where the manufacturer is unknown, the user responsible for the re-certification shall be deemed to be the manufacturer.

10. Pressure and safety accessories.-(1) No user may require or permit pressure equipment to be used unless it is provided with all the pressure and safety accessories required by the relevant health and safety standard which is incorporated into these Regulations under section 44 of the Act and used in the design, construction and manufacture of such pressure equipment: Provided that alternative safety accessories other than those required by the standard may be fitted with the written approval of an approved inspection authority.

(2) In the absence of a requirement referred to in subregulation (1) in the relevant health and safety standard which is incorporated into these Regulations under section 44 of the Act and used in the design, construction and manufacture of such pressure equipment, safety accessories shall be provided by the user as required by the approved inspection authority and those safety accessories shall be so selected, arranged and installed as to be safe for the particular purpose for which the pressure equipment is to be used.

(3) Every user of a steam generator or pressure vessel shall ensure that the steam generator or pressure vessel in use is fitted with at least one pressure measuring device.

(4) Every user of a steam generator or pressure vessel shall ensure that the steam generator or pressure vessel in use is fitted with at least one safety valve and that safety valve is kept locked, sealed or otherwise rendered inaccessible to any unauthorised person.

(5) The number and capacity of the safety valve referred to in subregulation (4) shall comply with the requirements of the design standard for the steam generator or pressure vessel or as required in terms of subregulation (2).

(6) Every user shall ensure that the automatic controls and indicators of a steam generator, pressure vessel or piping are arranged, installed, maintained and operated in accordance with the relevant health and safety standard which is incorporated into these Regulations under section 44 of the Act and used in the design and manufacture of the steam generator, pressure vessel or pressurized system: Provided that in the absence of such provisions, where automatic controls and indicators are installed, they shall be selected, arranged and installed subject to the written approval of an approved inspection authority.

11. Inspection and test.-(1) Subject to the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, the user shall cause–
(*a*) steam generators or pressure vessels, including pressure and safety accessories, after they are installed or re-installed and before they are commissioned, to be subjected to a witnessed internal and external inspection of a hydraulic pressure test to 1,25 times the design pressure by an approved inspection authority: Provided that Category I equipment as categorised in terms of SANS 347 may be inspected, tested and witnessed by the user: Provided further that the user may, subject to the written approval of an approved inspection authority, dispense with the internal inspection and hydraulic pressure test where it could have an adverse effect on the operation or integrity of the pressure equipment;
(*b*) piping to be inspected and tested by the manufacturer after manufacture, installation, modification or repair and before commissioning in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, and, where applicable, to be witnessed by an approved inspection authority: Provided that Category I equipment as categorised in terms of SANS 347 may be inspected, tested and witnessed by the user;
(*c*) every fire-tube steam generator to be subjected to an external inspection every 12 months and a witnessed hydraulic test and crack detection of critical welds every 36 months, by an approved inspection authority for in-service inspection appointed by the user in writing;
(*d*) every pressure vessel and steam generator, excluding those referred to in subregulation (3), to be subjected to an internal and external inspection and a hydraulic test to a pressure of 1,25 times the design pressure by an approved inspection authority for in-service inspection appointed by the user in writing, at intervals not exceeding 36 months: Provided that Category I equipment as categorised in terms of SANS 347 may be inspected and tested by the user: Provided further that where the pressure equipment is not subject to deterioration processes, the user may dispense with the internal inspection and hydraulic pressure test, subject to a maximum period of nine years for that pressure vessel or steam generator and written approval by an approved inspection authority: Provided further that the chief inspector may require a specific steam generator or pressure vessel to be inspected or tested more frequently; and
(*e*) all piping and pipelines to be inspected and tested in accordance with the relevant in-service health and safety standard: Provided that where the health and safety standard does not prescribe in-service inspections and test intervals, such intervals shall be determined by a risk-based inspection applying sound engineering practice: Provided further that such inspection and test for Category II equipment and higher as categorized in terms of SANS 347 shall be performed by a competent person referred to in regulation 1 of the General Machinery Regulations, 1988.

(2) Where it is impracticable to use a liquid for the hydraulic pressure test referred to in subregulation (1) (*d*) or (*e*), the test may, subject to the prior written approval of an approved inspection authority, be carried out with an inert gas to a pressure of 1,1 times the design pressure: Provided that, where reasonably practicable, the test shall be preceded by an internal inspection and any conditions and precautionary measures determined by the user and approved by the approved inspection authority.

(3) Where an inspection or test carried out in terms of subregulation (1) (*c*), (*d*) and (*e*) reveals any weakness or defect whereby the safety of persons may be endangered, the weakness or defect shall be reported forthwith to the user by the person carrying out the inspection or test and the user shall forthwith cease the use of the pressure equipment until such weakness or defect has been rectified to the satisfaction of the person who carried out the inspection and the approved inspection authority concerned in cases of modifications or repairs, as the case may be, or the steam generator, pressure vessel or storage vessel has been re-rated to the satisfaction of the approved inspection authority.

12. Risk-based inspection.-(1) The user may, as an alternative to the in-service inspection and testing interval requirements referred to in regulation 11(1)(d), implement a risk-based inspection management system in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) A risk-based inspection process and implementation shall be verified by a certification body accredited by the accreditation authority in terms of ISO 17021 specifically for risk-based inspections and approved by the chief inspector.

13. Repairs and modifications.-(1) Subject to the requirement of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act -
(*a*) any person who intends to modify or repair any pressure equipment shall cause such modification or repair to be carried out in accordance with the relevant health and safety standard, and in accordance with the assessment procedure, as specified by the relevant hazard category as determined by SANS 347;
(*b*) any modifier or repairer carrying out any modification or repair, referred to in paragraph (*a*), shall issue a certificate in which the extent of the modification or repair is described and certify that such work is in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act: Provided that such certificate shall be countersigned by the approved inspection authority, where applicable, as evidence that the design of

such modification has been verified and that it has been modified or repaired and tested under its supervision in accordance with the original health and safety standard where reasonably practicable;

(*c*) any user requiring re-certification of any pressure equipment shall ensure that the re-certification is performed under the supervision of an approved inspection authority, as applicable; and

(*d*) whenever it appears from any inspection or test that pressure equipment cannot be used safely in accordance with its design criteria and the user chooses not to have the necessary repairs effected immediately, the user shall, subject to approval by an approved inspection authority, ensure that the pressure equipment is re-rated, the amended data plate added and the pressure equipment operated within the re-rated criteria: Provided that, in the case of a steam generator, the registration certificate, together with a copy of the approved inspection authority's design verification report, shall be forwarded to the provincial director for updating of the steam generator registration.

14. Records.-(1) Every user of pressure equipment shall keep a record, which shall be open for inspection by an inspector, in which the certificate of manufacture, and the results, after manufacturing, of all inspections, tests, modifications and repairs shall be recorded.

(2) When pressure equipment is sold, the manufacturer shall ensure that it is accompanied, where relevant, with instructions for the user, containing all the necessary safety information relating to -

(*a*) mounting, including the assembling of different pieces of pressure equipment;

(*b*) putting into service; and

(*c*) maintenance, including checks by the user: Provided that those instructions shall cover information affixed to the pressure equipment in accordance with these Regulations and the relevant health and safety standard incorporated into these Regulations by section 44 of the Act, with the exception of serial identification, and be accompanied, where appropriate, by technical documents, drawings and diagrams that are necessary for a full understanding of the instructions: Provided further that, if appropriate, the instructions shall also refer to hazards arising from misuse of the pressure equipment.

(3) The manufacturer shall keep the original manufacturing records of the pressure equipment for a minimum period of 12 years.

15. Access.-The user shall cause pressure equipment to be erected and maintained in such a manner that access to and exit from any chamber, flue, manhole, inspection opening, control or accessory is safe and unobstructed.

16. Door interlocks.-(1) Any user of pressure equipment shall cause such pressure equipment which for operational purposes is equipped with a quick-actuating opening, to be provided with an interlock or other effective means for preventing –

(*a*) a rise of pressure inside the pressure equipment before the quick-actuating openings are in the fully closed and locked position; and

(*b*) the release of the quick-actuating opening from the locked and closed position before the pressure inside the pressure equipment has been reduced to atmospheric pressure or the pressure across the openings has been equalised.

17. Gas reticulation equipment and systems.-(1) No person shall –

(*a*) handle, store or distribute any gas in any manner, which includes the filling of a container, other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;

(*b*) install or remove an appliance, pressure equipment or system for gas in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;

(*c*) install or remove a gas appliance, or a gas system or a gas reticulation system, unless such person is an authorised person; or

(*d*) use pressure equipment or systems for gas in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act.

(2) After installation or re-installation, and before commissioning a gas system, the user shall ensure that an external inspection and a leak test are performed by an authorised person or an approved inspection authority as applicable in terms of subregulation (1) (*c*).

(3) An authorised person or an approved inspection authority shall issue a certificate of conformity after completion of a gas installation, modification, alteration or change of user or ownership in the form of Annexure 1.

18. Transportable gas containers.-(1) No user shall use, require or permit a transportable gas container to be used, and no user shall fill, place in service, handle, modify, repair, inspect or test any transportable gas container, other than in compliance with the relevant standards incorporated into these Regulations under section 44 of the Act.

(2) The inspection and test referred to in subregulation (1) shall be carried out by an approved testing station.

(3) Applications for approval of a testing station shall include proof of accreditation as prescribed in subregulation (4), and shall include full contact details and address information.

(4) The chief inspector's approval is subject to a valid accreditation certificate issued by the accreditation authority: Provided that the chief inspector may set additional requirements before granting approval.

19. Fire extinguishers.-(1) No user shall use, require or permit the use of a fire extinguisher unless designed, constructed, filled, recharged, reconditioned, modified, repaired, inspected or tested in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act.

(2) No person shall fill, recharge, recondition, modify, repair, inspect or test any fire extinguisher unless such person is an authorised person employed by a permit holder: Provided that a permit is issued by an organisation approved by the chief inspector.

(3) Applications for approval shall include proof of accreditation as prescribed in subregulation (4), and shall include full contact details and address information.

(4) The chief inspector's approval shall be subject to a valid accreditation certificate issued by the accreditation authority: Provided that the chief inspector may set additional requirements before granting approval.

20. Offences and penalties.-(1) Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7 (1), 7 (2), 8 (1), 8 (2), 8 (3), 8 (4), 8 (5), 8 (7), 9, 10, 11 (1), 11 (3), 12 (2), 13, 14, 15, 16, 17, 18 (1), 18 (2), 19 (1) and 19 (2) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

21. Repeal of regulations and annexures.-The Vessels under Pressure Regulation, 1996, published under Government Notice No. R.1591, dated 4 October 1996, is hereby repealed.

22. Short title.-These Regulations shall be called the Pressure Equipment Regulations, 2009, and shall come into effect on 1 October 2009: Provided that approved inspection authority for in-service inspections shall come into effect on 1 April 2011 on condition that the inspection shall be carried out by an authorised person.

Annexure 1

CERTIFICATE OF CONFORMITY FOR GAS INSTALLATIONS

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

Regulation 17 (3) of the Pressure Equipment Regulations, 2009

Certificate of conformity by an authorised person

I, _____, declare that I am an authorised person for gas installations with registration number _____ and ID number _____

Address _____

_____

_____

Telephone number (_____) _____

I further declare that I inspected and tested the installation at -

Street _____
Stand number _____
Name of building _____
Name of farm _____
Number of farm _____
Township/Municipality/District _____
Name of gas supplier _____
Type of gas _____
Amount of gas stored on premises _____kg

and that, in terms of regulation 17 (3), the installation complies with the provisions of 17 (2) and that the installation is safe.

I am aware that I am liable to prosecution in the case of a false declaration.

_____ _____
Signature Date

Annexure 2
REGISTRATION OF A STEAM GENERATOR
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
Regulation 8 (2) of the Pressure Equipment Regulations, 2009

Registration of a steam generator

A. APPLICATION FOR REGISTRATION OF A STEAM GENERATOR/DUPLICATE CERTIFICATE

To: Provincial Director
Department of Labour
_____
_____
_____

From: (Postal Address)
_____
_____
_____
Tel. _____
Fax _____

I (user) (legal persona) _____ hereby apply for a registration/ duplicate registration certificate of a steam generator, particulars of which are reflected in Part B below.

_____ _____
Signature of applicant Date

_____ _____
Name of applicant (in block letters) Designation of applicant

B. PARTICULARS OF STEAM GENERATOR

1. Physical address of installation_____
2. Type of steam generator_____
3. Name of manufacturer_____
4. Country of origin_____
5. Year of manufacture_____
6. Manufacturer's serial number_____
7. Name, number and date of the standard of design_____
8. Design gauge pressure in Pascal_____
9. Maximum permissible operating pressure in Pascal_____
10. Operating temperature_____
11. Source of energy (oil, coal, gas, electricity or nuclear)_____
12. Steaming capacity of steam generator _____kg of steam per hour from and at 100 degrees Celsius
13. Name of approved inspection authority (during manufacture)_____
14. Copy of certificate from manufacturer attached _____
15. Copy of approved inspection authority's commissioning report attached_____

FOR OFFICIAL USE ONLY

C. STEAM GENERATOR REGISTRATION CERTIFICATE

The steam generator, the particulars of which appear in Part B, has this day _____
been registered with the official number _____
Permission is hereby granted to use the boiler at a maximum permissible pressure of _____kPa.

Signature

Official stamp

Issue of duplicate steam generator registration certificate

Revenue stamps for duplicate certificate

Date

GNR.735 of 15 July 2009: Incorporation of Health and Safety Standards into the Pressure Equipment Regulations, 2009

DEPARTMENT OF LABOUR

I, MMS Mdladlana, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby, under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate into the Pressure Equipment Regulations, 2009, the health and safety standards specified in the Schedule.

MMS MDLADLANA
Minister of Labour

SCHEDULE

SANS 347: Categorisation and conformity assessment criteria for all pressure equipment
SANS 10227: Criteria for the operation of inspection authorities performing inspections in terms of the Pressure Equipment Regulations
SANS 10019: Transportable metal containers for compressed gas – Basic design, manufacture, use and maintenance
SANS 1475 – 1: The production of reconditioned fire-fighting equipment – Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers
SANS 10087: The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial and industrial installations-
Part 1: Liquefied petroleum gas installations involving gas storage containers of individual water capacity not exceeding 500 ℓ and a combined water capacity not exceeding 3 000 ℓ per installation
Part 2: Installation in mobile units and small non-permanent buildings
Part 3: Liquefied petroleum gas installations involving storage vessels of individual water capacity exceeding 500 ℓ
Part 4: Transportation of LPG in bulk by road
Part 6: The application of liquefied petroleum and compressed natural gases as engine fuels for internal combustion engines
Part 7: Storage and filling sites for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9 kg
Part 8: The fuelling of fork-lift trucks and other LP gas operated vehicles
Part 10: Mobile filling stations for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9 kg.

SANS 10147: Refrigeration systems including plants associated with air-conditioning systems
SANS 1539: Appliances operating on liquefied petroleum gas ─ Portable and mobile appliances ─ Safety aspects
SANS 1237: Single-stage low-pressure regulators for liquefied petroleum gas (LPG)
SANS 329: Industrial thermal processing equipment – Safety requirements for combustion and fuel-handling systems
SANS 10105 – 1: The use and control of fire-fighting equipment – Part 1: Portable and wheeled (mobile) fire extinguishers
SANS 1910: Portable refillable fire extinguishers
SANS 1567: Portable rechargeable fire extinguishers – CO_2 type extinguishers

GNR.79 of 3 February 2012: Incorporation of Health and Safety Standards into the Pressure Equipment Regulations, 2009

[Editorial Note: Please beware that the safety standards listed in this notice, are exactly the same as in GNR.735 of July 2009. The reason for republishing the incorporation of these standards is unclear. However, it is Lexis-Nexis' policy to treat every notice published in the Government Gazette as required by legislation, unless otherwise stated within that notice.]

DEPARTMENT OF LABOUR

I, MN Oliphant, Minister of Labour, after the consultation with the Advisory Council of Occupational Health and Safety, hereby, under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate into the Pressure Equipment Regulations, 2009, the health and safety standards specified in the Schedule.

M N OLIPHANT
Minister of Labour

SCHEDULE

SANS 347: Categorisation and conformity assessment criteria for all pressure equipment
SANS 10227: Criteria for the operation of inspection authorities performing inspections in terms of the Pressure Equipment Regulations
SANS 10019: Transportable metal containers for compressed gas – Basic design, manufacture, use and maintenance
SANS 1475: - 1: The production of reconditioned fire-fighting equipment – Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers
SANS 10087: The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial and industrial installations:
Part 1: Liquefied petroleum gas installations involving gas storage containers of individual water capacity not exceeding 500l and a combined water capacity not exceeding 3 000l per installation
Part 2: Installation in mobile units and small non-permanent buildings
Part 3: Liquefied petroleum gas installations involving storage vessels of individual water capacity not exceeding 500l
Part 4: Transportation of LPG in bulk by road
Part 6: The application of liquefied petroleum and compressed natural gases as engine fuels for internal combustion engines
Part 7: Storage and filling sites for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9kg
Part 8: The fuelling of fork-lifts trucks and other LP gas operated vehicles
Part 10: Mobile filling stations for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9kg.

SANS 10147: Refrigeration systems including plants associated with air-conditioning systems
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SANS 1237: Single-stage low-pressure regulations for liquefied petroleum gas (LPG)
SANS 329: Industrial thermal processing equipment – Safety requirements for combustion and fuel handling systems
SANS 10105 - 1: The use and control of fire extinguishing equipment – Part 1: Portable and wheeled (mobile) fire extinguishers
SANS 1910: Portable refillable fire extinguishers
SANS 1567: Portable rechargeable fire extinguishers – CO2 type extinguishers

Guidance Notes for the Pressure Equipment Regulations, July 2009
Department of Labour
Occupational Health and Safety Act, 1993 Revision 0

Foreword
The notes are meant to help and guide users, manufacturers, importers and approved inspection authorities in the application of the Pressure Equipment Regulations.

INTRODUCTION

PURPOSE
These guidance notes are intended to help users, manufactures, approve inspection authorities and importers of Pressure Equipment to understand the content, as well as to assist with the interpretation and implementation of the Pressure Equipment Regulations, but cannot substitute the Regulations.

REGULATION 1 – DEFINITIONS
In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context indicates-

"accreditation authority" means the South African National Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practise Act, 2006 Act No.19 of 2006);

Notes:
None

"appliance" means any appliance as defined an SANS 1539

Notes:
(*a*) Definition out of SANS 1539: complete operating unit that uses LPG and Natural Gas as operational fuel
(*b*) Refer also to the definition of gas system and reticulation

"ASME" means the American Society of Mechanical Engineers;

Notes:
None

"authorised person" means a person who is registered as competent within the scope of work for which an organisation approved by the chief inspector has registered that person;

Notes:
SAQCC (CP) competent persons for in service inspection
SAQCC (IPE) inspector of pressurised equipment
SAQCC (Gas) registered gas practitioner in the applicable field
SAQCC (Fire) registered fire technician

"certificate" means a written declaration of conformance to these Regulations;

Notes:
(a) For Regulation 17 a Certificate of Conformance (CoC) is issued by a Gas Practitioner that certifies that the gas installation and pressure equipment conforms to the PER. Where the gas practitioner is also the manufacturer only one certificate is required.
(b) certificate of manufacture means written declaration of conformance by the manufacturer or authorised person to the relevant health and safety standard(s) and to the relevant national legislation.

"construction" includes materials, design, fabrication, modification, repair, installation, examination, inspection, testing and certification;

Notes:
None

"dangerous substance" means a substance defined and classified as such in terms of SANS 10228;

"design pressure" means the gauge pressure used in the design formulae to determine the dimensions of the component parts of the pressure equipment;

Notes:
(*a*) When the equipment is subjected primarily to static head and the applied pressure above the liquid level of the equipment is less than 50Kpa, then such equipment is excluded from the PER
(*b*) PER does not regulate external pressure (vacuum)

"design temperature" means the temperature used in the design formulae to determine the dimensions of the component parts of the pressure equipment;

Notes:
None

"design verification" means verification that the pressure equipment complies with the applied design of the relevant health and safety standard and the requirements of these Regulations;

Notes:
(*a*) Independent process to run separate calculations to confirm correctness of the original design. Refer to SANS 10227

"fire extinguisher" means a rechargeable container which has a fire extinguishing substance that is expelled by the action of internal pressure for the purpose of extinguishing a fire;

Notes:
None

"fluid" means gases, liquids, vapours in pure phase and mixtures thereof and may contain solids in suspension;

Notes:
None

"gas" means gases, liquefied gases, gases dissolved under pressure, vapour and those liquids whose vapour pressure at the design temperature is greater than 50kPa above normal atmospheric pressure;

Notes:
(*a*) For example: Liquid water at 300degrees C at elevated pressure is defined as a gas.
(*b*) When containment is lost and the fluid changes from liquid to gas (flashes), then the fluid is defined as a gas.

"gas systems" means an assembly of tubes, pipes or similar ducts, fittings and valves for the reticulation, circulation and conveyance of gas, excluding a pressure vessel or transportable gas container connected to the system;

Notes:
a) Refer also to the Definition of Reticulation
(b) General process piping in processing plants is not deemed to be gas systems but shall comply with the requirements of SANS 347.
(c) This includes fixed gaseous fire suppression systems.
(d) gas system means reticulation and/or recirculation including all related piping, pressure and safety accessories.
(e) recirculation means a refrigeration system referring to the movement of refrigerant gas via piping and heat exchangers through the process of condensation and evaporation;

"latent defect" means a fault inherent in pressure equipment, resulting from deficiencies in the design or manufacturing process that may cause a health and safety risk;

Notes:
(a) means a defect in a component that could not be discovered by a reasonable inspection or test method which could include design error but does not include patent defect which should have been easily discovered by a reasonable inspection or test method.

"manufacturer" means any person who has overall control and is responsible for the construction of pressure equipment;

Notes:
Where the design, material supply, part construction and the installation are done by different parties, a contractual agreement may be required to define who the manufacturer is. The intent is that the party that is in overall control of the abovementioned actions will take this responsibility and liability. This party is then responsible for issuing the Certificate of Manufacture. This can be for example the engineering contractor, the user, etc.

"modification" means any change to the original design conditions of pressure equipment, including re-rating, or the addition or removal of elements that could affect the integrity of the pressure equipment, and

Notes:
(a) Component replacement with different material types is deemed a modification
(b) Component replacement with different material grades or the replacement of obsolete materials can be deemed as a modification, depending on the rules and requirements of the applicable health and safety standard or in-service health and safety standards.

"modify" has a corresponding meaning;

Notes:
None

"non-metallic" means glass, thermoplastic or thermosetting polymeric reinforced and the un-reinforced materials and combinations thereof;

Notes:
None

"pipeline" means piping or a system of piping designed for the transport and distribution of any fluid from an installation that is onshore or offshore, starting from and including the last isolation device located within the confines of the installation, including all the auxiliary equipment designed specifically for that pipeline;

Notes:
None

"piping" means pipes, tubes or flexible pressure hose elements intended for the transport or distribution of any liquid at a pressure of 50kPa or above when connected together for integration into a system, including heat exchangers consisting of pipes for the purpose of cooling or heating air;

Notes:
(*a*) Instrument tubing is included in the PER.

"pressure accessory" means devices with an operational function having pressure-bearing housing;

Notes:
(*a*) Some examples include but are not limited to: pressure gauges, bladder and piston type accumulators, level gauges, valves, strainers, bellows, flow meter, magnetic level indicators and instruments.

"pressure equipment" means a steam generator, pressure vessel, piping, pressure accessory and safety accessory, transportable gas container, and fire extinguisher and includes, but is not limited to an accumulator, a hot-water geyser and hyperbaric chambers;

Notes:
None

"pressure vessel" means a housing designed and manufactured to contain fluid under a design pressure equal to or greater than 50kPa;

Notes:
(*a*) Includes but is not limited to storage vessels, beer kegs, plate heat exchangers, mobile pressure vessels, road tankers, rail tankers, intermediate bulk containers (ICB's), ISO containers, accumulators other than bladder or piston type, multi element gas containers, fired heaters, hermetic compressors, etc. but excludes transportable gas containers and fire extinguishers which have their own definitions.

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations promulgated by Government Notice No.1449 of 6 September 1996;

Notes:
None

"re-certification" means activities undertaken to determine appropriate design parameters for pressure equipment where such date is unknown or unavailable;

Notes:
(a) See PER 9 Note (c).
(b) Equipment that was not previously certified cannot be re-certified. The intent is that it only applies to equipment where traceability or identification is lost (Use proposed future Annex to SANS 347 as a guide).

"repair" means restoration to original standard by the application of heat or welding to any pressure equipment, or the replacement of expanded tubes, and in the case of non-metallic equipment it means the application of heat, welding, solvent cement, laminate or curing of thermo-set;

Notes:
(a) Component replacement with different material grades or the replacement of obsolete materials can be deemed as a repair where no changes to the original design are affected. The repair shall be in accordance with the rules and requirements of the applicable health and safety standard or in-service health and safety standards.

"re-rating" means any change in the design parameters of pressure equipment which affects the certification;

Notes:
(*a*) Re-rating includes up-rating and down-rating
(*b*) See PER 9 note (d).

"reticulation" means the conveyance of gas by pipeline with with a general operating pressure of no more than 200kPa to the ultimate points of consumption;

Notes:
(*a*) (This does not include transmission or distribution systems.
(b) General process piping in processing plants is not deemed to be reticulation, distribution or transmission systems.
(c) Refrigeration and air conditioning systems are closed recirculation systems and are not deemed to be a gas reticulation systems.
(d) The design pressure may be more than 200kPa.
(e) reticulation means the conveyance of gas by piping from or within a property boundary up to and including the ultimate points of consumption;

"risk-based inspection" means an inspection scope based on the results of a formal risk assessment, including inspection and test intervals;

Notes:
None

"safety accessory" means a device designed to protect pressure equipment;
Notes:
(*a*) For example pressure relief valves or bursting disks
(*b*) This excludes non-pressurised safety accessories.

"SANS 151" means the Standard Specification for fixed electric storage water heaters, SANS 151, published by the South African Bureau of Standards;

Notes:
None

"SANS 347" means the Standard Specification for categorisation and conformity assessment criteria for all the pressure equipment, SANS 347, published by the South African Bureau of Standards;

Notes:
None

"SANS 10227" means the Standard Specification for the criteria for the operation of inspection authorities performing inspection in terms of the Pressure Equipment Regulations, SANS 10227, published by the South African Bureau of Standards;

Notes:
None

"SANS 10228" means the Standard Specification for the identification and classification of dangerous goods for transport, SANS 10228, published by the South African Bureau of Standards;

Notes:
None

"SANS 10254" means the Standard Specification for the installation, maintenance, replacement and repair of fixed electric storage water heating systems, SANS 10254, published in the South African Bureau of Standards;

Notes:
None

"SANS/ISO 17020" means the Standard Specification for general criteria for the operation of various types of bodies performing inspection, SANS 17020, published by the South African Bureau of Standards;

Notes:
None

"steam generator" means any apparatus to convert water continuously into steam at a pressure higher than that due to the atmosphere and where the heat is derived from a source other than steam, and includes any super heater or economiser which is an integral part of a steam generator or is separately fired there from, fired steam and hot-water boilers, waste-heat boilers, waste-incineration boilers, and electrode and immersion-type electrically heated boilers;

Notes:
(*a*) Note that only steam generators with a design pressure equal to or greater than 50kPa are included in the PER.
(b) Autoclaves that generate steam shall be classified as steam generators. All others remain as pressure vessels.

"the Act" means the Occupational health and Safety Act, 1993 (Act No.85 of 1993);

Notes:
None

"transportable gas containers" means any refillable vessel for the storage and conveyance of liquefied, dissolved or compressed gases, of water capacity from 0.5 litres to 3 000 litres;

Notes:
(*a*) Transportable gas containers has the same meaning as the term "pressure receptacle" as defined in SANS 10019.
(*b*) Transportable gas containers smaller than 0.5 litres are not regulated but shall be manufactured to a relevant health and safety standard when available.
(*c*) Non-refillable refrigerant, LP gas, butane and propane pressure receptacles compliant to SANS 10019 are deemed to be included in this definition.
(*d*) Where LP gas, butane or propane is used as propellants only, within non-refillable pressure receptacles these are excluded from the PER.
(e) Mobile air compressors or transportable pressure vessels containing air are deemed not to be transportable gas containers but pressure vessels.

"unique mark" means the mark and accreditation reference number of the approved inspection authority.

Notes:
(*a*) Accreditation reference number is the PER number (approval number) issued by the department of Labour.

REGULATION 2 – SCOPE OF APPLICATION

1. These Regulations shall apply to the design, manufacture, operation, repair, modification, maintenance, inspection and testing of pressure equipment with a design pressure equal to or greater than 50kPa, in terms of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.
2. Regulations 3, 4, 5, 9 (1), 9 (2) and 9 (3) shall not apply to pressure equipment in use or on order prior to the publication of these Regulations, which equipment shall be designed and constructed according to the requirements applicable at the time of order.
3. The following pressure equipment shall be excluded from these Regulations-
   (*a*) Piping for the supply, distribution and discharge of water below its boiling point at atmospheric pressure and associated pressure equipment and headraces such as penstocks, pressure tunnels, pressure shafts for hydro-electric installations and their related specific pressure accessories;
   (*b*) aerosol dispensers;
   (*c*) pressure equipment intended for the functioning of road and rail vehicles, excluding a fuel gas system;
   (*d*) pressure equipment comprising casings and machinery where the dimensioning, choice of material and manufacturing rules are based primarily on requirements for sufficient strength, rigidity and stability to meet the static and dynamic operational effects or other operational characteristics and for which pressure is not a significant design factor, and such pressure equipment may include
      (i) engines, including turbines and internal combustion engines;
      (ii) reciprocating steam engines, gas turbines, steam turbines, turbo-generators, compressor engines, pumps and actuating devices;
   (*e*) open metal-making pots and blast furnaces;
   (*i*) housing for electrical machinery such as switch gear, control gear, transformers and rotating machines;
   (*j*) tyres and flexible pressurised casings used for recreational purposes;
   (*k*) fixed electrical hot-water storage container of water capacity from 15 litres to 450 litres operating at a maximum pressure of 600 kPa manufactured to the requirements of SANS 151, which shall be installed in accordance with the requirements of SANS 10254.

Notes:
(*a*) order placement means the date that the contract is placed by the user for basic engineering design.
(*b*) Any health and safety standard in SANS 347 may be used as if it was incorporated in previous Regulations. Equipment that was manufactured and certified to a Health and safety standard under previous acts/regulations prior to implementation of PER are deemed to be certified.
(*c*) The intention of PER 2(3)(a) was to exclude piping and pipelines used for the transport of water.
(*d*) The intention was to exclude only piping and pipe lines used for the transport of water, but not to exclude gas filled accumulators used for the regulation of pressure surge
(*e*) Locomotives (steam generators on rail or road) are not intended to be excluded
(*f*) Existing pressure equipment that was manufactured prior to PER that requires to be replaced must follow the rules of the PER. Pressure Equipment that was regulated under previous regulations may be repaired and modified with full AIA involvement and does not need to be categorised.
(*g*) An existing pressure vessel that was not regulated under previous regulations but could now fall within the scope of the PER does not need to comply to PER provided that any modification to be done will not cause the pressure vessel to have been regulated by the previous regulations in force at the time of construction . If the pressure vessel after the modification falls within previous regulations, the pressure vessel now needs to comply to the PER requirements.
(*h*) Equipment categorized as SEP as per the relevant SANS 347 graphs are regulated but need not meet any other regulatory requirements, but shall be manufactured to SEP rules as required in SANS 347.
(*i*) PER does not regulate external pressure (vacuum).")
(*j*) PER only regulates pressure equipment with a design pressure equal to or greater than 50kPa irrespective of any contradictory definition given in the PER.
(*k*) Pressurised road tankers, rail tankers, inter-

mediate bulk containers (IBC's), ISO container and multi element gas containers are regulated by the PER.

(*l*) Equipment manufactured prior to 23 October 1992 and which was designed, constructed and manufactured in accordance with regulations in force at that time do not require a certificate of manufacture (see regulation 2 of VUP). Re-certification to the PER is not a requirement.

(*m*) Hydraulic and pneumatic cylinders, or actuators meeting the requirements of PER 2(3)(d) are not regulated.

(*n*) Refrigeration and air conditioning compressors of the semi-hermetic and open drive type are excluded.

(o) Hermetic compressors are classified as pressure vessels and for categorization purposes the free volume of the refrigerant shall be used for categorization.

(p) Plate heat exchangers shall be classified as pressure vessels and shall be categorised as per SANS 347.

(q) Imported pressure equipment with a design pressure of 50kPa that is not conformity assessed and is exempted from the PED, does not meet the requirement of the PER.

(r) All flexible hoses that fall within the scope of the PER shall be manufactured, modified or repaired in accordance with approved health and safety standards and shall meet the conformity assessment requirements of SANS 347.

(s) Internal pipe coils in atmospheric storage tanks shall be handled as piping.

(t) Beer kegs are regulated by the PER.

(u) Fuel gas vehicles are regulated by the PER.

(v) The intent of Regulation 2(2) was not to make any of the Regulations within the PER retrospective.

(w) The Water referenced in 3(a) above is raw water and potable water.

REGULATION 3 - GENERAL REQUIREMENTS

1. Any person who manufactures, imports, sells, offers or supplies any pressure equipment described in these Regulations for use in the Republic shall ensure that such equipment complies with these Regulations.
2. Any person who erects or installs any pressure equipment for use in the Republic shall ensure, as far as is reasonably practicable, that it is erected or installed in a safe manner and without risk to health and safety when properly used.
3. All pressure equipment for use in the Republic shall be categorized and submitted to the applicable conformance assessments of SANS 347 in addition to the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

Notes:

(*a*) Existing equipment which was regulated under previous regulations need not be categorized provided full AIA involvement is maintained during repairs or modifications.

(*b*) The relevant health and safety standards are not listed in section 44 of the act. They are listed in, Annex A of SANS 347 but have been updated and gazetted for incorporation in the existing schedule.

(*c*) Requests for the inclusion of additional health and safety standards into SANS 347 to be submitted to the DOL (Occupational Health and Safety Department, Private Bag X117, Pretoria, 0001) with the motivation and copy of the relevant Health and Safety Standard in English.

REGULATION 4 – DUTIES OF MANUFACTURERS

1. The manufacturer shall have an obligation to ensure that all equipment designed and manufactured for use in the Republic shall be conformity assessed and subjected to the requirements set out in SANS 347.
2. Subject to the requirements set out in the relevant health and safety standard incorporated into this Regulation under section 44 of the Act, the manufacturer shall ensure that the pressure equipment as manufactured, modified, inspected, tested or repaired is safe and without risks to health when properly used.
3. Subject to the requirements of this Regulation a manufacturer shall issue a certificate of manufacture for all pressure equipment supplied, with a verification signature by an approved inspection authority when so required.
4. Subject to the requirements of this Regulation a manufacturer shall comply with any other duty assigned to the manufacturer in these Regulations.
5. A manufacturer who determines that pressure equipment in use has a latent defect shall advise the chief inspector in writing forthwith thereof and of measures being taken to correct the defect.

Notes:

(*a*) The certificate of manufacture must declare conformance to the Pressure Equipment Regulations. The Certificate of Manufacturis equivalent to the Certificate of Conformity as stated in SANS 347.

(*b*) Categorisation may be done by another party (for example the user) provided the manufacturer formally accepts such categorisation and maintains full responsibility for compliance,

(*c*) The certificate of manufacture has the same meaning as certificate of conformity, manufacturer's data report and declaration of conformity.

(d) Manufacturers shall ensure that for refrigeration and air conditioning systems an approved health and safety standard is used.

(e) Locally manufactured pressure equipment that are ASME or CE marked for use in the Republic shall also undergo a conformity assessment review, to ensure the additional requirements of PER are met, and shall be verified by an AIA where applicable.

(f) Where it has been agreed that the user's original design is to be used on a total replacement in accordance with Regulation 6 guide note (i), a comprehensive method statement on the entire construction shall be mutually agreed to by the user, manufacturer and AIA. Cognisance of any applicable code revisions should be considered.

(g) No pressure vessel or steam generator shall be manufactured, modified or repaired to the RSA/CI/OHSA certification requirements by a Manufacturer who's Quality Management System is not accredited by an approved Certification Body in-accordance with Annex C of SANS 347 from the date of gazette of the PER Revision 2 Guide Notes.

REGULATION 5 – DUTIES OF IMPORTERS AND SUPPLIERS

1. Importers and suppliers shall ensure that pressure equipment sold complies with the requirements of this Regulation.
2. The importer shall assume the liability of the manufacturer in terms of this Regulation.
3. Any pressure equipment that requires a permit to be issued by an organisation approved by the chief inspector shall ensure that such approval is obtained by the importer or manufacturer before the pressure equipment is placed in the market: Provided that such equipment shall comply with the relevant health and safety standard incorporated into this Regulation under section 44 of the Act.

Notes:

(*a*) (The importer is the entity which imports pressure equipment for use and/or re-sale in South Africa. The importer must be a juristic person in RSA.

(*b*) The importer of pressure equipment into the RSA assumes the liability of the manufacturer and must declare conformance in writing to the PER. This conformity assessment review shall be countersigned by an AIA as applicable. The AIA shall only verify conformity assessment reviews for imported pressure vessels, steam generators and assemblies for Category II equipment and higher.

(*c*) Category I equipment and below does not require verification of the conformity assessment review by the AIA.

(*d*) Where users or their agents appoint entities to manage procurement and construction of imported pressure equipment , this entity is in overall control and is deemed the importer.

(e) The permit referenced in PER 5(3) is applicable to fire extinguishers in accordance with SANS 1475, LPG cylinders to SANS 10019 and other verification schemes as mandated by the Chief Inspector.

(f) Importer shall ensure that the foreign inspection and certification bodies meets the requirements of PER 7(3)(b) with respect to ISO 17020, 17021 or higher accreditation and scope of accreditation together with the applicable health and safety standard.

(g) Series produced pressure equipment with type test certification and a declaration of conformity by the manufacturer may be conformity assessed by the importer and verified by an AIA where applicable using a once off conformity assessment review certificate for that type provided the manufacturer and notified body and the country of origin remains the same.

(h) Imported pressure vessels, safety accessories and pressure accessories categorised under the PED need not be re-categorized in accordance with SANS 347 where the fluid group differs.

(i) Reasonable steps required from the Importer to fulfil his liability as the manufacturer are:

- *(i)* The Importer is obligated to perform a conformity assessment review in accordance with SANS 347 and issue a conformity assessment review certificate with a verification signature by the Importer appointed Approved Inspection Authority (AIA) as applicable.
- *(ii)* The Importer shall ensure that the equipment has been categorized and submitted to the applicable conformance assessments of SANS 347or Pressure Equipment Directive as applicable (see subregulation 3(3)).
- *(iii)* The Manufacturer is obliged to ensure that the pressure equipment has been constructed in full accordance with a relevant health and safety standard (see subregulation (4(1)) with the Importer only required to verify that the health and safety standard used by the Manufacturer for construction is listed in SANS 347.
- *(iv)* The pressure equipment is provided with a certificate of manufacture which reflect the verification of an approved inspection authority (AIA), Authorized Inspector (AI) or Notified Body (NB) when so required (see subregulation 4(3)).
- (v) Ensuring that the approved inspection authority (AIA), Authorized Inspector (AI) or Notified Body (NB) meets the requirements stipulated in subregulation 7 and guide note (c).

(vi) The pressure equipment marking satisfies the requirements of subregulation 9 through the addition of an additional data plate by the Importer if required. The additional data plate does not need to reference the importer.

(vii) Pressure equipment and/or assemblies are fitted with the required safety accessories as required by subregulation 10.

(viii) The Importer shall ensure that the provided documentation accompanying the imported equipment satisfies the requirements of subregulation 14. In the case of assemblies the Importer shall ensure that a global conformity assessment review certificate accompanies the assembly.

(ix) Confirming that the pressure equipment is in full compliance, but not limited to, the applicable PER requirements.

REGULATION 6 – DUTIES OF USERS

1. The user shall ensure that the pressure equipment is operated and maintained within its design and operating parameters.
2. The user shall, subject to the relevant health and safety standard incorporated into these Regulations under section 44 of the Act –
   (*a*) provide the manufacturer, repairer or modifier with comprehensive information of the operating or intended operating conditions of the pressure equipment, including the characteristics of the fluid and operating parameters of other connected pressure equipment, where reasonably practicable;
   (*b*) ensure pressure equipment has a certificate, issued by the manufacturer, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been designed and manufactured in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;
   (*c*) ensure pressure equipment has a certificate issued by the repairer or modifier, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been modified or repaired in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;
   (*d*) ensure that pressure equipment has a certificate issued by an approved inspection authority before commissioning, where applicable; and
   (*f*) ensure that a gas system has a valid certificate issued by an authorised person.

Notes:

(*a*) The user shall ensure that the prescribed information is provided to the manufacturer.

(b) The certificate required in PER 6(2)(d) above is the pre-commissioning inspection certificate as required in PER 11(1)(a).

(c) The certificate required in PER 6(2)(e) is the certificate in Annexure 1 and shall be issued by an authorised person and not by an AIA.

(d) For pressure equipment which are rented out by the owner, the duties of the user remain with the owner (i.e. certificate of manufacture remains with the owner).

(e) In respect to PER 6(2)(b), filled transportable gas containers imported from an overseas supplier, for a dedicated user with the intent to return the transportable gas container when empty to the overseas supplier, these shall be deemed compliant based on the transportable gas container having been manufactured to a listed "Health and Safety Standard" incorporated into the PER (See PER 3 Note (b)) and which meet all of the relevant transportation requirements prior to shipping. Equipment does not need to meet any of the additional PER requirements if the equipment is returned within 60 days of import.

(f) In respect to the duties of the user in relation to privately owned transportable gas containers up to and including 150 litres water capacity, the certificate of manufacture referred to in PER 6(2)(b) may be retained by the Importer or the Supplier.

(g) For transportable gas containers which are privately owned the certificate of manufacture remains with the manufacturer. The owner may request the certificate of manufacture from the manufacturer / importer.

(h) Equipment manufactured prior to 23 October 1992 and which was designed, constructed and manufactured in accordance with regulations in force at that time do not require a certificate of manufacture (see regulation 2 of VUP). Re-certification to the PER is not a requirement.

(i) Where the user requires identical total replacement of pressure vessels, steam generators or piping due to dimensional constraints or weight limitations, in accordance with the original design calculations and drawings, the user shall ensure that the design is approved and verified as applicable in accordance with these Regulations. The user shall declare that the existing design is satisfactory for the intended service conditions based on historical service records. Intellectual property rights should be considered.

REGULATION 7 – APPROVAL AND DUTIES OF APPROVED INSPECTION AUTHORITY

1. Only an organisation holding an approval certificate from the chief inspector shall perform the duties of an approved inspection authority within the scope of accreditation.
2. An application for approval in terms of sub regulation (1) shall include the applicant's proof of accreditation prescribed by paragraph (a) or (b) of sub regulation (3), including full contact details and address.
3. The chief inspector's approval –
   (*a*) of inspection bodies operating in the Republic shall be subject to the submission of an accreditation certificate issued by the accreditation authority in accordance with the requirements of SANS/ISO 17020 and SANS 10227: Provided that the chief inspector may set additional requirements before granting approval; or
   (*b*) of foreign inspection bodies shall be subject to the submission of an accreditation certificate issued by an International Laboratory Accreditation Cooperation (ILAC) or an International Accreditation Forum (IAF), Mutual Recognition Arrangement signatory in accordance with the requirements of ISO/IEC 17020: Provided that –
      (i) the foreign inspection body shall ensure compliance with all the duties assigned to an approved domestic inspection authority in terms of these Regulations and within their scope of accreditation together with the applicable health and safety standards; and
      (ii) the chief inspector may set additional requirements before granting approval.
4. Imported pressure equipment stamped by an ASME authorised manufacturer in compliance with the full ASME Code of Construction shall be deemed to meet the requirements of this Regulation.
5. In the event of a dispute of a technical or safety issue, which could not be reasonably resolved between an approved inspection authority and any interested party, including the user, modifier, repairer or manufacturer, an interested party may refer the case to the chief inspector in writing for arbitration, setting out the full details of the dispute.
6. Upon receiving such a dispute in terms of sub regulation (5), the chief inspector may appoint an arbitrator mutually agreed upon between the parties.
7. A case referred to the chief inspector in terms of sub regulation (5) shall be investigated and arbitrated within a maximum of 90 days.
8. An approved inspection authority shall ensure compliance with all the duties assigned to an approved inspection authority in this Regulation within its scope of accreditation and the relevant health and safety standard.

Notes:

(*a*) PER 7(4) states that imported pressure equipment stamped by an ASME authorized manufacturer in compliance with the full ASME code of construction shall be deemed to meet the requirements of these regulations. The intent was that such certification is deemed to be meeting the requirements of the Health and Safety Standard, however any additional requirements of the PER, e.g. Marking, shall also be complied with. This may require the application of an additional data plate meeting the PER requirements e.g. units of measure and categorisation. Equipment is to be categorised by the Importer for future repair, modification and in-service inspection requirements. Equipment that is ASME or CE marked in accordance with a Health and Safety Standard do not need to comply to the requirement in SANS 347 for approval by a Professional Engineer.

(*b*) Pressure equipment that is ASME marked by a local manufacturer meets the requirements of PER 7(4). The manufacturer shall comply with the additional requirements of PER as in Note (a) above and issue conformity assessment review certificate countersigned by an AIA for category II and higher.

(c) From 1 January 2012 all foreign inspection bodies shall be accredited to ISO 17020, ISO 17021 or higher, in accordance with the conformity assessment modules of SANS 347, as applicable. If these requirements are met no submission to DoL for approval is required. NBIC authorised agencies are approved unconditionally. The Importer shall ensure compliance to PER 5 Note (f) when conducting the conformity assessment review on imported pressure equipment. For pressure equipment where an AIA is required, the AIA shall verify compliance to the accreditation requirements of the foreign inspection bodies.

(d) In-service inspection authority scope is limited to the duties as listed in PER 11(1)(c) and (d) only. The scope of inspection determined by the RBI study conducted under PER 12 shall be conducted by the in-service inspection authority. All other duties as required by an Approved Inspection Authority shall be performed by a manufacturing AIA as stipulated in SANS 10227 5.1(c).

(*e*) ASME "UM" certification marked vessels Category II and higher shall not be accepted if not conformity assessed to an equivalent SANS 347 module G.

REGULATION 8 – REGISTRATION OF A STEAM GENERATOR

1. No user may use a steam generator unless such user is in possession of a certificate of registration issued in terms of sub regulation (3) for that steam generator.
2. Application for registration to use a steam generator shall be made prior to use to the provincial director in the form of Annexure 2, including copies of a certificate from the manufacturer and from the approved inspection authority after installation prior to commissioning: Provided that this sub regulation shall not apply in respect of the re-erection of a steam generator on the same premises.
3. On receipt of an application for registration in terms of sub regulation (1), the provincial director shall forward that application to an inspector who may issue a certificate of registration in the form of Part C of Annexure 2 in respect of that steam generator, subject to the conditions that may be specified on the certificate.
4. Any user of a steam generator for which a certificate of registration has been issued shall cause the certificate of registration to be made available on request to an inspector or an approved inspection authority.
5. A user shall, within seven days after discovering that the certificate of registration has been lost, defaced or destroyed, apply to the provincial director in the form of Part A of Annexure 2 for the issue of a duplicate certificate, and affix the fee of R100,00 in the form of uncancelled revenue stamps to such an application.
6. On receipt of an application in terms of sub regulation (5), the provincial director shall issue the duplicate certificate if he or she is satisfied that the original certificate has been lost, defaced or destroyed.
7. A user of a steam generator shall immediately notify the provincial director in writing when –
   (*a*) such steam generator is no longer in use;
   (*b*) the right of control over the use of the steam generator is transferred by the user to any other user; or
   (*c*) the user moves the steam generator to premises other than the premises reflected on its certificate of registration.
8. A certificate of registration issued in terms of sub regulation (3) shall lapse –
   (*a*) upon the transfer of the right of control over the use of the steam generator to another user; or
   (*b*) when a steam generator is removed from the premises reflected on its certificate of registration.

Notes:

(*a*) All existing registered steam generators do not need to be re-registered under the new regulations. If there are any changes to the design criteria of the steam generator, the user is responsible to get the revised certificate of registration issued by the provincial director.

(*b*) The revenue stamps are not appliance. All required payments shall be made at the relevant Provincial Labour Office.

(*c*) For the re- issuing of steam generator registration certificates, application shall be made to the relevant Provincial Labour Office.

REGULATION 9 – PRESSURE EQUIPMENT MARKING

1. Every manufacturer of pressure equipment shall cause the pressure equipment to be marked in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.
2. Every manufacturer shall cause a data plate to be permanently fixed in a conspicuous place to any steam generator or pressure vessel with the following minimum particulars:
   (*a*) Name of manufacturer;
   (*b*) country of origin;
   (*c*) year of manufacture;
   (*d*) manufacturer's serial number;
   (*e*) reference number, date and edition of the health and safety standard;
   (*f*) design pressure in units of Pascal;
   (*g*) design temperature for both minimum and maximum in degrees Celsius;
   (*h*) capacity in cubic metres;
   (*i*) unique mark of an approved inspection authority as applicable; and
   (j) the hazard category in accordance with the requirements of SANS 347.
3. In the case of composite pressure equipment the following information shall be included in addition to that referred to in sub regulation (2):
   (*a*) The resin system of the corrosion barrier/lining;
   (*b*) the resin system of the structural wall; and
   (*c*) the name and specific gravity of the medium for which the vessel was designed.
4. No person may remove a marking or data plate referred to in this regulation or wilfully damage or alter the particulars marked thereon, except as provided in this regulation.
5. A user shall ensure that any modification that changes the original design conditions is identified by affixing an additional data plate.
6. A user shall ensure that a data plate is affixed to any steam generator or pressure vessel that has been re-certified: Provided that where the manufacturer is unknown, the user responsible for the re-certification shall be deemed to be the manufacturer.

Notes:

(*a*) For imported pressure equipment not meeting the Pressure Equipment Regulations marking requirements, the importer shall affix an additional data plate containing the missing or correct information. The additional data plate does not need to reference the importer.

(*b*) The AIA shall verify compliance to the PER for Category II and higher imported pressure vessels, steam generators and assemblies. The AIA shall stamp the additional data plate required by PER to indicate that the AIA was involved with the conformity assessment review and shall countersign the conformity assessment review certificate.

(*c*) Re-certification of a steam generator and pressure vessels may only be undertaken as per the proposed Annexure A of SANS 347. Re-certification of transportable gas containers is as per SANS 10019.

(*d*) Equipment that has been re-rated to operate at different design conditions shall be re- certified by an AIA

(*e*) Pressure equipment other than steam generators and pressure vessels may be marked in Bar, only where regulated by the Health and Safety Standard.

(f) For very small pressure vessels where a normal sized data plate cannot be permanently fixed in a conspicuous place as stated in PER 9(2), a data plate may be affixed with a corrosion resistant metal wire to this pressure vessel or alternatively a durable sticker.

(g) Local manufactured equipment not fully compliant with ASME certification requirements must be in accordance with SANS 347 Annex C requirements.

(h) No changes or corrections shall be made on any nameplate, but through the addition of a new nameplate with only the corrected information.

(i) For RSA/CI/OHSA certified equipment the markings in 9(2)(e) above shall typically be:
RSA/CI/OHSA - AA - BB - CC
RSA/CI/OHSA = ASME
AA = Section (VIII Division1 = 8.1)
BB = Edition (2015 = 15)
CC = Any additional markings required by ASME

(j) For imported pressure vessels and steam generators that are CE marked which reference ASME as the design standard but are not in full compliance of ASME certification mark requirements, the additional data plate shall be stamped PED/RSA/CI/OHSA-AA-BB-CC.

(k) For repairs a repair nameplate is not required even if specified by and in-service health and safety standard.

REGULATION 10 – PRESSURE AND SAFETY ACCESSORIES

1. No user may require or permit pressure equipment to be used unless it is provided with all the pressure and safety accessories required by the relevant health and safety standard which is incorporated into these Regulations under section 44 of the Act and used in the design, construction and manufacture of such pressure equipment: Provided that alternative safety accessories other than those required by the standard may be fitted with the written approval of an approved inspection authority.
2. In the absence of a requirement referred to in sub regulation (1) in the relevant health and safety standard which is incorporated into these Regulations under section 44 of the Act and used in the design, construction and manufacture of such pressure equipment, safety accessories shall be provided by the user as required by the approved inspection authority and those safety accessories shall be so selected, arranged and installed as to be safe for the particular purpose for which the pressure equipment is to be used.
3. Every user of a steam generator or pressure vessel shall ensure that the steam generator or pressure vessel in use is fitted with at least one pressure measuring device.
4. Every user of a steam generator or pressure vessel shall ensure that the steam generator or pressure vessel in use is fitted with at least one safety valve and that safety valve is kept locked, sealed or otherwise rendered inaccessible to any unauthorised person.
5. The number and capacity of the safety valve referred to in sub regulation (4) shall comply with the requirements of the design standard for the steam generator or pressure vessel or as required in terms of sub regulation (2).
6. Every user shall ensure that the automatic controls and indicators of a steam generator, pressure vessel or piping are arranged, installed, maintained and operated in accordance with the relevant health and safety standard which is incorporated into these Regulations under section 44 of the Act and used in the design and manufacture of the steam generator, pressure vessel or pressurized system: Provided that in the absence of such provisions, where automatic controls and indicators are installed, they shall be selected, arranged and installed subject to the written approval of an approved inspection authority.

Notes:

(*a*) PER 10(1) allows the user to use system protection where the health and safety stan-

dard allows it and regulation 10(4) is superfluous.

(*b*) Pressure indicating device does not need to be located directly on the equipment but may be remotely displayed for example on distributed control systems.")

(*c*) The pressure measuring device shall be located such that it is representative of the highest pressure in the system. It shall not be possible to isolate any of the equipment with the pressure measuring device from other equipment relying on that pressure measuring device in the system while in operation. The intent is to have control over the pressure in the pressure equipment.

(*d*) Pressure and safety accessories on steam generators or pressure vessels may be installed according to the PER at the time of commissioning of the equipment. For example, pressure equipment regulated under the previous regulations can have system protection as allowed by the PER.

(e) Safety accessories for ASME pressure equipment will be certified by either ASME or a European Category IV Conformity Assessment.

(f) Safety accessories protecting non pressure equipment as excluded in PER 2(3) shall be conformity assessed in accordance with SANS 347.

(g) The user is responsible to ensure that safety and pressure accessories are installed, maintained and set as per the requirements of the applicable health and safety standard. [See also PER 11 Note (j)].

(h) Pressure accessories shall be classified independently of the pressure equipment to which it is attached.

(i) Over pressure protection by means of system design including instrumented safety systems such as high-integrity pressure protection system (HIPPS) may be used instead of pressure relief devices provided that the system is recognised by the relevant health and safety standard which is incorporated into these Regulations under Section 44 of the Act.

REGULATION 11- INSPECTION AND TEST

1. Subject to the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, the user shall cause –
   (*a*) steam generators or pressure vessels, including pressure and safety accessories, after they are installed or re-installed and before they are commissioned, to be subjected to a witnessed internal and external inspection of a hydraulic pressure test to 1,25 times the design pressure by an approved inspection authority: Provided that Category I equipment as categorized in terms of SANS 347 may be inspected, tested and witnessed by the user: Provided further that the user may, subject to the written approval of an approved inspection authority, dispense with the internal inspection and hydraulic pressure test where it could have an adverse effect on the operation or integrity of the pressure equipment;
   (*b*) piping to be inspected and tested by the manufacturer after manufacture, installation, modification or repair and before commissioning in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act, and, where applicable, to be witnessed by an approved inspection authority: Provided that Category I equipment as categorized in terms of SANS 347 may be inspected, tested and witnessed by the user;
   (*c*) every fire-tube steam generator to be subjected to an external inspection every 12 months and a witnessed hydraulic test and crack detection of critical welds every 36 months, by an approved inspection authority for in-service inspection appointed by the user in writing;
   (*d*) every pressure vessel and steam generator, excluding those referred to in sub regulation (3), to be subjected to an internal and external inspection and a hydraulic test to a pressure of 1,25 times the design pressure by an approved inspection authority for in-service inspection appointed by the user in writing, at intervals not exceeding 36 months: Provided that Category I equipment as categorized in terms of SANS 347 may be inspected and tested by the user: Provided further that where the pressure equipment is not subject to deterioration processes, the user may dispense with the internal inspection and hydraulic pressure test, subject to a maximum period of nine years for that pressure vessel or steam generator and written approval by an approved inspection authority: Provided further that the chief inspector may require a specific steam generator or pressure vessel to be inspected or tested more frequently; and
   (*e*) all piping and pipelines to be inspected and tested in accordance with the relevant in-service health and safety standard: Provided that where the health and safety standard does not prescribe in-service inspections and test intervals, such intervals shall be determined by a risk-based inspection applying sound engineering practice: Provided further that such inspection and test for Category II equipment and higher as categorized in terms of SANS 347 shall be performed by a competent person referred to in regulation 1 of the General Machinery Regulations, 1988.
2. Where it is impracticable to use a liquid for the hydraulic pressure test referred to in sub regulation (1)(*d*) or (*e*), the test may, subject to the prior written approval of an approved inspection authority, be carried out with an inert gas to a pressure of 1,1 times the design pressure: Provided that, where reasonably practicable, the test shall be preceded by an internal inspection and any conditions and precautionary measures determined by the user and approved by the approved inspection authority.
3. Where an inspection or test carried out in terms of sub regulation (1)(*c*), (*d*) and (*e*) reveals any weakness or defect whereby the safety of persons may be endangered, the weakness or defect shall be reported forthwith to the user by the person carrying out the inspection or test and the user shall forthwith cease the use of the pressure equipment until such weakness or defect has been rectified to the satisfaction of the person who carried out the inspection and the approved inspection authority concerned in cases of modifications or repairs, as the case may be, or the steam generator, pressure vessel or storage vessel has been re-rated to the satisfaction of the approved inspection authority.

Notes:

(*a*) No qualification for the user is defined in order to inspect Category I and lower equipment, but the person should have knowledge of and experience in the requirements of Pressure Equipment Regulations and the applicable health and safety standard.

(*b*) Witnessed inspections and tests, means that the person performing the inspection is present during the pressure test required by the PER and performs the internal and external inspections.

(*c*) PER 11(1)(b) requires the manufacture who does the final assembly to inspect and issue a Certificate of Manufacture, co-signed by AIA where applicable and verify that the installation meets the PER requirements. This does not require a manufacturer who manufactures and certifies a pipe section which will be installed by the user to inspect and test the pipe before commissioning. The user shall take accountability for the installation (bolt-on) and certifies that the installation meets the requirements of the PER.

(*d*) "Critical Weld - are deemed to be all tube sheets to shell welds that were not made as full penetration welds or other welds whose failure can result in a catastrophic incident and shall be surface crack and ultrasonically tested. The critical welds in fire-tube boilers are Shell - to Endplates, Furnace to Endplates, Access tube to Endplates and Ash Drop out chutes to Furnace and Shell. These welds are specified in Guidelines for the examination of Boiler Shell to End plate and Furnace to Endplate and Welded joints published by Safety Assessment Federation Limited, London, UK".

(*e*) Waste heat steam generators are not deemed to be fire tube steam generators.

(*f*) The intent of PER 11(1)(d) is to provide two routes for extension of in-service inspection intervals for Category I - IV equipment not subject to deterioration processes: For deterioration mechanisms resulting in predictable material loss only, the extension may be granted based on proven history to a maximum of 9 years (the corrosion allowance may not be consumed within 20 years); and for all other deterioration mechanisms PER 12 applies. This extension may not be granted by the in-service inspection authority.

(g) Approval for permanent dispensation from the in-service hydraulic pressure test when requested by the user, may be granted by an approved inspection authority (AIA Manufacturing), Provided that the equipment is subjected to appropriate inspections and tests based on Health and Safety Standards as listed in SANS 347 which includes as a minimum, a visual inspection, and appropriate non-destructive testing to detect the expected deterioration associated with the service condition or appropriate non-intrusive inspection of internal surfaces and representative visual external inspection.

(h) In PER 11(1)(e) the competent person , as defined in GMR 1, shall be a person competent in his field of activity. The GMR 2.1 shall appoint a person to perform these inspections and test after confirming that they have appropriate knowledge and experience.

(i) As per 11(1)(e) all existing piping and pipelines need to be inspected in accordance with relevant in-service health and safety standards inspection requirements. Risk assessment approach is required and not a full RBI as per PER 12.

(j) Pressure and safety accessories do not need to be attached during in-service inspection and tests but are required during pre-commissioning inspections. Safety accessories shall be maintained in accordance with the requirements of an appropriate Health and Safety Standard or to a maximum inspection interval equivalent to the pressure equipment it protects. The AIA is not required to witness the resetting of the pressure safety accessory .

(k) Non-flammable gas such as air may be used

in lieu of inert gas for pneumatic testing. ASME PCC-2 may be used as guidance for safety precautions during pneumatic testing.

(l) SAQCC CP steam generator and SAQCC CP Vessel inspectors have to do inspection under control of the quality control system of an AIA for in-service inspection. Free-lance inspectors are not allowed to inspect equipment as from the 1 April 2011.

(m) Equipment that was previously exempted from inspection and testing under VUP rules such as in refrigeration plants and gas installations inspections may only be dispensed with up to 9 years. Implementation of an RBI management system as stipulated in PER 12 is required to extend intervals beyond 9 years. For refrigeration systems compliance to SANS 10147 in service inspection requirements in lieu of the RBI management system is acceptable. Dispensation as stated above must be approved by an Approved Inspection Authority. Alternatively, exemptions need to be applied for by the relevant users or industry bodies from the DoL. Exemptions issued to industry bodies will only be valid for the members of the relevant body.

(n) The intent of the pre-commissioning inspection by the AIA is to verify that the user is in full compliance with the PER If the user or his representative deems the equipment to be adversely affected by the internal inspection and pressure test such as in complex equipment, assemblies, heat exchangers etc. the user may apply for approval of dispensation to the AIA. The AIA as a minimum shall verify that pressure equipment , while being transported, erected or worked on was not damaged, that no unauthorized hot work was performed without AIA verification.

(o) Existing equipment regulated prior to the PER may retain the existing inspection intervals until the first inspection after the PER came into effect. There after full compliance to the inspection interval requirements of the PER shall be adhered to including the implementation of RBI.

(p) PER 11(2) also applies to PER 11(1)(a).

(q) Where reference is made in the PER to AIA, it refers to manufacturing AIA. Reference to the In-service AIA is for the in-service inspection function only. See guide note under PER 7.

(r) Refrigeration and air conditioning systems shall be inspected and tested in accordance with PER 11.1(a) and (d).

(s) Transportable gas containers shall be inspected by a SANAS accredited and DoL approved gas test station.

(t) Bladder/piston type accumulators are also classified as pressure accessories.

(u) The intent of the 12-monthly external online visual inspection of fire tube steam generators is only to detect any visible steam leaks associated with the critical welds as mentioned in note (d) above.

(v) The user is not responsible for the inspection activities for rented pressure equipment, this responsibility remains with the owner, unless otherwise agreed by the contracting parties.

(w) Deferment requested by the user, of inspection and tests as per 11.1(d) may only be approved by an AIA in writing to a maximum period of 6 months and subjected to the provisos of the AIA.

(x) The Pre-commissioning dates allocated to pressure vessels and steam generators that form part of an integrated process unit, is the date of commissioning as per design intent of the process unit and not the individual equipment. The equipment in-service inspection and test interval commences on this date.

REGULATION 12 – RISK-BASED INSPECTION

1. The user may, as an alternative to the in-service inspection and testing interval requirements referred to in regulation 11(1) (*d*), implement a risk-based inspection management system in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.
2. A risk-based inspection process and implementation shall be verified by a certification body accredited by the accreditation authority in terms of ISO 17021 specifically for risk-based inspections and approved by the chief inspector.

Notes:

(*a*) ISO 17021 applies to certification bodies and ISO 17020 applies to inspection bodies. The functions required for Risk Base Inspection process and implementation requires the use of ISO 17021 and not ISO 17020 since criteria are different.

(b) The new inspection interval for Cat 1 and higher shall also be approved by an approved inspection authority as in PER 11(1) (d) and frequencies in excess of 9 years can be approved provided it meets the RBI management system criteria.

(c) Users who wish to implement a risk-based inspection management system need to apply to the DoL prior to implementation of such a system. Such application shall include proof that the user has applied to a Certification Body for accreditation.

(d) The following documentation shall be prepared as a minimum by the user for the application to implement RBI to the DoL:
   (i) File of the RBI management programme.
   (ii) The (Chief) RBI specialist and his/her qualifications.
   (iii) List of all your RBI Team personnel and list of their competencies and qualifications.
   (iv) Health and Safety standards to be used.
   (v) Certification Body involved.
   (vi) AIA Manufacturing involved in the approval as stated in PER Note (b).
   (vii) Letter of Recommendation from the AIA Manufacturing to implement RBI.
   (viii) Target date of certification of RBI management system.

(e) The scope of application of the RBI quality system is determined by the user on an individual equipment basis.

(f) The requirement of a typical quality management system shall at least comply to the elements as defined in Annexure SL of ISO Directive Part 1

REGULATION 13 – REPAIRS AND MODIFICATION

1. Subject to the requirement of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act -
   (*a*) any person who intends to modify or repair any pressure equipment shall cause such modification or repair to be carried out in accordance with the relevant health and safety standard, and in accordance with the assessment procedure, as specified by the relevant hazard category as determined by SANS 347;
   (*b*) any modifier or repairer carrying out any modification or repair, referred to in paragraph (a), shall issue a certificate in which the extent of the modification or repair is described and certify that such work is in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act: Provided that such certificate shall be countersigned by the approved inspection authority, where applicable, as evidence that the design of such modification has been verified and that it has been modified or repaired and tested under its supervision in accordance with the original health and safety standard where reasonably practicable;
   (*c*) any user requiring re-certification of any pressure equipment shall ensure that the re-certification is performed under the supervision of an approved inspection authority, as applicable; and
   (*d*) whenever it appears from any inspection or test that pressure equipment cannot be used safely in accordance with its design criteria and the user chooses not to have the necessary repairs effected immediately, the user shall, subject to approval by an approved inspection authority, ensure that the pressure equipment is re-rated, the amended data plate added and the pressure equipment operated within the re-rated criteria: Provided that, in the case of a steam generator, the registration certificate, together with a copy of the approved inspection authority's design verification report, shall be forwarded to the provincial director for updating of the steam generator registration.

Notes:

(*a*) Any person who intends to modify or repair any pressure equipment must comply with the relevant hazard category as determined by SANS 347 (See PER 3 Note (a)).

(b) Where a pressure test is mandated by the health and safety standard for repairs and modifications on pressure vessels, piping and steam generators the applied hydrostatic test pressure shall be a minimum of 1.25 the design pressure as an alternative to the requirement of the H&SS. The user may opt for a higher test pressure when deemed necessary. See regulation 11(2) for pneumatic pressure testing requirements.

(c) Where a dispensation of a pressure test is required after repairs in accordance with approved repair and in-service Health & Safety Standard, approval must be obtained from the AIA for category II and higher equipment.

(d) AIA to supervise, if applicable any pressure equipment requiring re- certification. See PER 9 for re-certification criteria.

(e) Pressure Equipment excluded under previous regulations is excluded from these requirements. See PER 2 Note (g) for further clarification.

(f) Pressure equipment compliant to the standards enforced at the time of manufacture, i.e data plate stamped by AIA but without documentation of construction details, may be modified after calculations and necessary verifications and tests have been performed in accordance with an appropriate health and safety standard.

(g) Pressure equipment compliant to the standards enforced at the time of manufacture, i.e data plate stamped by AIA but without documentation of construction details, may be repaired after necessary verifications and tests have been performed in accordance with an appropriate health and safety standard.

(h) Any online leak sealing device installed on Category II and higher pressure equipment shall be designed, verified, and manufactured to an appropriate and approved health and safety standard, under the supervision of the AIA. Installation remains the responsibility of the user taking into account the

structural integrity of the item to be sealed and shall be considered as temporary.

(i) Sectional or component replacements can be done either in accordance with the original health and safety standard or applicable in-service health and safety standard which includes sectional or component replacements in its scope.

(j) Where a user chooses not to have the necessary repairs affected immediately the user may as an alternative to re-rating , perform Fitness for Service calculations in accordance with a relevant health and safety standard. For Category II and above pressure equipment all Fitness for Service calculations shall be approved by an appropriately registered professional person competent in this field and verified by an AIA as applicable.

REGULATION 14 - RECORDS

1. Every user of pressure equipment shall keep a record, which shall be open for inspection by an inspector, in which the certificate of manufacture, and the results, after manufacturing, of all inspections, tests, modifications and repairs shall be recorded.
2. When pressure equipment is sold, the manufacturer shall ensure that it is accompanied, where relevant, with instructions for the user, containing all the necessary safety information relating to -
   (*a*) mounting, including the assembling of different pieces of pressure equipment;
   (*b*) putting into service; and
   (*c*) maintenance, including checks by the user:

Provided that those instructions shall cover information affixed to the pressure equipment in accordance with these Regulations and the relevant health and safety standard incorporated into these Regulations by section 44 of the Act, with the exception of serial identification, and be accompanied, where appropriate, by technical documents, drawings and diagrams that are necessary for a full understanding of the instructions: Provided further that, if appropriate, the instructions shall also refer to hazards arising from misuse of the pressure equipment.

The manufacturer shall keep the original manufacturing records of the pressure equipment for a minimum period of 12 years.

Notes:

(*a*) The user shall keep all records for the operating life of the equipment. Such records shall typically cover repairs, modifications and In-service inspection test records as well as all related documents such as deferments, pressure test dispensation, NDT reports and not just manufacturing related records. Further clarification is that the user is not necessarily the owner.

(*b*) The records of the original manufacturing of the pressure equipment shall be kept by the manufacturer for a minimum of 12 years; enabling a technical review on the construction of the equipment should a failure or a dispute arise. Typical documentation should include, but not limited to, design calculations, approved manufacturing drawings, approved fabric records, pressure test certificate, Certificate of manufacture as well as a copy of the marking (if applicable).

(*c*) The importer will provide certificate of manufacturer, global conformity assessment certificate for assemblies, any other documentation required by the applicable health and safety standard as well as other documentation contractually required by the user.

(*d*) Equipment manufactured prior to 23 October 1992 and which was designed, constructed and manufactured in accordance with regulations in force at that time do not require a certificate of manufacture. (See regulation 2 of VUP).

(e) In respect to regulation 14(1) the user is not required to keep the records for transportable gas containers when such containers are rented by the owner. The records shall be held by the owner.

(f) For all pressure equipment, excluding transportable gas containers that are not owned by the user, the user is responsible to ensure that all records are available according to the PER.

(g) Users shall ensure where used pressure equipment is sold, that all user held records are transferred to the new owner as applicable.

(h) For existing equipment post 23 October 1992 where the certificate of manufacturer has been misplaced or lost, a duplicate certificate shall be obtained from the original manufacturer or alternatively recreated from the data plate details under supervision of an AIA and recertification is not required.

REGULATION 15 - ACCESS

The user shall cause pressure equipment to be erected and maintained in such a manner that access to and exit from any chamber, flue, manhole, inspection opening, control or accessory is safe and unobstructed.

Notes:

"access" – the word "access" also mean:

For internal inspection: remote access e.g. small vessels

For external inspection: accessibility for inspection activities e.g. pressure accessories

(a) "access". - the word "access" can also mean:
   (i) for internal inspection: remote access e.g. small vessels.
   (ii) for external inspection: accessibility for inspection activities e.g. pressure accessories.

(b) The Approved Inspection Authority shall verify compliance of above requirement during the pre-commissioning inspection activity.

REGULATION 16 – DOOR INTERLOCKS

1. Any user of pressure equipment shall cause such pressure equipment which for operational purposes is equipped with a quick-actuating opening, to be provided with an interlock or other effective means for preventing –
   (*a*) a rise of pressure inside the pressure equipment before the quick-actuating openings are in the fully closed and locked position; and
   (*b*) the release of the quick-actuating opening from the locked and closed position before the pressure inside the pressure equipment has been reduced to atmospheric pressure or the pressure across the openings has been equalised.

Notes:

None

REGULATION 17 - GAS RETICULATION EQUIPMENT AND SYSTEMS

1. No person shall –
   (*a*) handle, store or distribute any gas in any manner, which includes the filling of a container, other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;
   (*b*) install or remove an appliance, pressure equipment or system for gas in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;
   (*c*) install or remove a gas appliance, or a gas system or a gas reticulation system, unless such person is an authorised person; or
   (*d*) use pressure equipment or systems for gas in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act.
2. After installation or re-installation, and before commissioning a gas system, the user shall ensure that an external inspection and a leak test are performed by an authorised person or an approved inspection authority as applicable in terms of sub regulation (1) (*c*).
3. An authorised person or an approved inspection authority shall issue a certificate of conformity after completion of a gas installation, modification, alteration or change of user or ownership in the form of Annexure 1.

Notes:

(a) The intent of PER 17 is to ensure safety in the domestic, commercial and industrial gas market applications where the competence is needed for correct material and component selection, installation and commissioning as currently fulfilled by the SAQCC - Gas Practitioners Registration Scheme. This scheme assures quality and safety of installations. For process plants, pipeline systems and gas storage facilities installation, compliance is verified by Approved Inspection Authorities to typical process piping Health and Safety standards.

(b) The definition of the gas system in the PER also treats Utility air as a non-dangerous gas installation and needs to be categorised in accordance to SANS 347 and need not to be inspected or certified by an Authorised Person for gas reticulation systems as defined in the PER. Air and Nitrogen used for process equipment and/or blanketing purposes do not have to be inspected and certified by an Authorised Person for gas reticulation systems as defined in the PER but shall comply to the requirements of SANS 347.

(c) Refrigeration systems of Category II and higher shall comply with the requirements of SANS 347. For Category I and below, certification to SANS 10147 is also required. Sound engineering practice (SEP) applies to equipment that is not subjected to conformity assessment but that shall be designed and manufactured and installed in accordance with sound engineering practice (best practice) to ensure safe operation and use. Such equipment shall be designed, manufactured and installed to take into account all the relevant factors that influence safety during its intended lifetime. The equipment shall have operating instructions for the safe use of the installation and shall bear the identification of the manufacturer. SEP equipment is not required to meet any other of the essential statutory requirements listed in the relevant national legislation (See SANS 347).

(d) As from October 2009, all new industrial thermal processing combustion and fuel-handling system installations require a COC to the requirements of SANS 329 as per Annexure 1 of the PER.

(e) When maintenance, modification or repair work is performed on gas systems it is acceptable for the gas practitioner to issue a certificate of conformity that is specific to the scope of work performed.

(f) Gas reticulation systems require a COC from a gas practitioner. When the pipe diameter of the reticulation system causes it to be in category II or higher, as defined by SANS 347, an AIA involvement is required as per SANS 347 and to countersign the Certificate

of Manufacture issued by the manufacturer or gas practitioner, as applicable.

(g) A COC shall be issued by the SAQCC Gas registered gas practitioner for the installation, repair or modification and/or maintenance of a refrigeration system in terms of the PER, SANS 347 and SANS 10147. When the refrigeration system size causes it to be in category II or higher, as defined by SANS 347 , an AIA involvement is required as per SANS 347 and to countersign the certificate of manufacture issued by the manufacturer or gas practitioner, as applicable.

(h) The intent of PER 17(3) is that only the gas practitioner and not an AIA issues a COC for activities as listed.

(i) On change of ownership of a gas system the certificate of conformity shall be transferred to the new owner except for domestic or commercial entities servicing the public where a certificate of conformity, as provided by the SAQCC Gas, shall be issued on the change of user or ownership. The seller is responsible for obtaining a Certificate of Conformity where relevant.

(j) If an existing installation commissioned before July 2009, is not designed and constructed to the requirements of SANS 329 as published at that time, the user shall determine that the equipment is designed, maintained, inspected, tested, and operating in a safe manner. Safe operation and maintenance shall be ensured by procedures, documented and enforced, to address all deviations to the requirements of SANS 329.

(k) Any modifications done on such a system as above in note (j) shall comply with the requirements of SANS 329 as published at the time of the modifications and where equipment is replaced on a system constructed before July 2009, such equipment shall be issued with a permit by an organisation approved by the chief inspector as referenced in Regulation 5(3) and a COC issued within the scope of work performed.

(l) All pressure equipment imported or locally manufactured for natural gas or LPG installations must be verified and accepted in accordance with Safe Gas Equipment Scheme and Safe Appliance Scheme as mandated by the DoL.

REGULATION 18 – TRANSPORTABLE GAS CONTAINERS

1. No user shall use, require or permit a transportable gas container to be used, and no user shall fill, place in service, handle, modify, repair, inspect or test any transportable gas container, other than in compliance with the relevant standards incorporated into these Regulations under section 44 of the Act.
2. The inspection and test referred to in sub regulation (1) shall be carried out by an approved testing station.
2. Applications for approval of a testing station shall include proof of accreditation as prescribed in sub regulation (4), and shall include full contact details and address information.
4. The chief inspector's approval is subject to a valid accreditation certificate issued by the accreditation authority: Provided that the chief inspector may set additional requirements before granting approval.

Notes:

(*a*) Transportable gas containers smaller than 0,5 litres are not regulated but shall be manufactured to a relevant health and safety standard.

REGULATION 19 – FIRE EXTINGUISHER

1. No user shall use, require or permit the use of a fire extinguisher unless designed, constructed, filled, recharged, reconditioned, modified, repaired, inspected or tested in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act.
2. No person shall fill, recharge, recondition, modify, repair, inspect or test any fire extinguisher unless such person is an authorised person employed by a permit holder: Provided that a permit is issued by an organisation approved by the chief inspector.
3. Applications for approval shall include proof of accreditation as prescribed in subregulations and shall include full contact details and address information.

[Editorial Note: Wording as per original Government Gazette.]

4. The chief inspector's approval shall be subject to a valid accreditation certificate issued by the accreditation authority: Provided that the chief inspector may set additional requirements before granting approval.

Notes:

(*a*) Only an authorised person shall fill, recharge, recondition, modify, repair, inspect or test any fire extinguisher.

(*b*) The permit must be issued by an organisation approved by the chief inspector.

(*c*) High Pressure rechargeable containers which are used as CO2 fire extinguishers shall only be re-validated by an organisation which has been accredited to SANS 1825. Fire extinguisher test stations accredited to SANS 1425 are not allowed to inspect or test high pressure re-chargeable CO2 fire extinguishers.

REGULATION 20 – OFFENCES AND PENALTIES

1. Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7 (1), 7 (2), 8 (1), 8 (2), 8 (3), 8 (4), 8 (5), 8 (7), 9, 10, 11(1), 11(3), 12 (2), 13, 14, 15, 16, 17, 18 (1), 18 (2), 19 (1) and 19 (2) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a period not exceeding 12 months and, in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

Notes:

None

REGULATION 21 – REPEAL OF REGULATIONS AND ANNEXURES

The Vessels under Pressure Regulation, 1996, published under Government Notice No. R. 1591, dated 4 October 1996, is hereby repealed.

Notes:

Exemptions granted by the DOL under the VUP Regulations are also repealed.

REGULATION 22 –SHORT TITLE

These Regulations shall be called the Pressure Equipment Regulations, 2009, and shall come into effect on 1 October 2009: Provided that approved inspection authority for in-service inspections shall come into effect on 1 April 2011 on condition that the inspection shall be carried out by an authorised person.

Notes:

(a) Applications for accreditation as an in-service AIA shall be made to SANAS (South African National Accreditation System) where after approval shall be obtained from the DoL.

(b) Applications for accreditation as an in-service AIA shall be made to SANAS. (South African National Accreditation System) where after approval shall be obtained from the DOL.

Annexure 1

CERTIFICATE OF CONFORMITY FOR GAS INSTALLATIONS

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
Regulation 17 (3) of the Pressure Equipment Regulations, 2009

Certificate of conformity by an authorised person

I, _____, declare that I am an authorised person for gas installations with registration number _____ and ID number _____

Address _____

_____

_____

Telephone number (_____) _____

I further declare that I inspected and tested the installation at -

Street _____

Stand number _____

Name of building _____
Name of farm _____
Number of farm _____
Township/Municipality/District _____
Name of gas supplier _____
Type of gas _____
Amount of gas stored on premises _____kg

and that, in terms of regulation 17 (3), the installation complies with the provisions of 17 (2) and that the installation is safe.

I am aware that I am liable to prosecution in the case of a false declaration.

_____ _____
Signature Date

Annexure 2
REGISTRATION OF A STEAM GENERATOR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
Regulation 8(2) of the Pressure Equipment Regulations, 2009

Registration of a steam generator

A. APPLICATION FOR REGISTRATION OF A STEAM GENERATOR/DUPLICATE CERTIFICATE

To: Provincial Director
Department of Labour
_____
_____
_____

From: (Postal Address)
_____
_____
_____
Tel. _____
Fax _____

I (user) (legal persona) _____ hereby apply for a registration/ duplicate registration certificate of a steam generator, particulars of which are reflected in Part B below.

_____ _____
Signature of applicant Date

_____ _____
Name of applicant (in block letters) Designation of applicant

B. PARTICULARS OF STEAM GENERATOR

1. Physical address of installation_____
2. Type of steam generator_____
3. Name of manufacturer_____
4. Country of origin_____
5. Year of manufacture_____
6. Manufacturer's serial number_____
7. Name, number and date of the standard of design_____
8. Design gauge pressure in Pascal_____
9. Maximum permissible operating pressure in Pascal_____
10. Operating temperature_____
11. Source of energy (oil, coal, gas, electricity or nuclear)_____
12. Steaming capacity of steam generator _____kg of steam per hour from and at 100 degrees Celsius
13. Name of approved inspection authority (during manufacture)_____
14. Copy of certificate from manufacturer attached _____
15. Copy of approved inspection authority's commissioning report attached_____

FOR OFFICIAL USE ONLY

C. STEAM GENERATOR REGISTRATION CERTIFICATE

The steam generator, the particulars of which appear in Part B, has this day _____
been registered with the official number _____
Permission is hereby granted to use the boiler at a maximum permissible pressure of _____kPa.

_____
Signature

Official stamp

Issue of duplicate steam generator registration certificate

Revenue stamps for duplicate certificate

Date _____

NOR . 2016

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO.85 OF 1993), AS AMENDED

1	2
	American standards
ASME Section I	Rules for construction of power boilers
ASME Section III	Rules for construction of nuclear facility components (divisions 1, 2 and 3)
ASME Section IV	Rules for construction of heating boilers
ASME Section VI	Recommended rules for the care and operation of heating boilers
ASME Section VII	Recommended guidelines for the care of power boilers
ASME Section VIII	Rules for construction of pressure vessels (divisions 1, 2 and 3)
ASME Section X	Fibre -reinforced plastic pressure vessels
ASME Section XI	Rules for in- service inspection of nuclear power plant components
ASME B31	ASME Code for pressure piping: B31.1 - Power piping B31.2 - Fuel gas piping B31.3 - Process piping B31.4 - Pipeline transportation systems for liquid hydrocarbons and other liquids B31.5 - Refrigeration piping and heat transfer components 831.8 - Gas transmission and distribution piping systems B31.8S - Managing system integrity of gas pipelines B31.9 - Building services piping 831.11 - Slurry transportation piping systems
ASME RIP -1	Reinforced thermoset plastic corrosion resistant equipment
ASME PCC -2	Repair of pressure equipment and piping
ASME PCC -3	Inspection planning using risk -based methods
ASME PVHO -1	Safety standard for pressure vessels for human occupancy
ASTM D 2774	Standard practice for underground installation of thermoplastic pressure piping
ASTM D 2996	Standard specification for filament -wound “fiberglass” pipe (glass -fibre- reinforced thermosetting resin)
ASTM D 3299	Standard specification for filament -wound glass -fiber- reinforced thermoset resin corrosion- resistant tanks
ASTM D 4097	Standard specification for contact -moulded glass -fiber- reinforced thermoset resin corrosion- resistant tanks
API	American Petroleum Institute. Standard specifications for pressure equipment (as applicable)
The Association of American Railroads Section C, Part III	Specifications for tank cars, M 1002
ANSI /ISA 84.00.01	Functional safety - Safety instrumented systems for the process industry sector
ANSI NB -23	National board inspection code
ANSI 2223.1	National fuel gas code
AWWA	American water works association. as applicable
DOT 31	Seamless steel cylinder with a minimum water capacity of 1000 pounds and a minimum service pressure of 1800 psig.
DOT 4L	Welded insulated cylinders.
TEMA rules	Tubular exchanger manufacturers association, Inc.
UL 1316	Standard for safety for glass -fiber- reinforced plastic underground storage tanks for etroleum products, alcohols and alcohol- gasoline mixtures
	Australian standards
AS 2634	Chemical plant equipment made from glass -fibre reinforced plastics (GRP) based on thermosetting resins
	British standards
BS 1113	Design and manufacture of water -tube steam generating plant (including super heaters, reheaters and steel tube economizers)
BS 4994	Specification of the design and construction of vessels and tanks in reinforced plastics
BS 5169	Fusion welded steel air receivers
BS 6464	Specification for reinforced plastics pipes, fittings and joints for process plants
BS 7159	Code of practice for design and construction of glass- reinforced plastics (GRP) piping systems for individual plants or sites
PD 5500	Specification for unfired fusion welded pressure vessels
	European standards
2010/35/EU	Council Directive 2010/35/EU 16 June 2010 on transportable pressure equipment
EN 286 -1	Simple unfired pressure vessels designed to contain air or nitrogen - Part 1: Pressure vessels for general purposes
EN 303 -1	Heating Boilers - Part 1: Heating boilers with forced draught burners -- Terminology, general requirements, testing and marking
EN 303 -2	Heating Boilers - Part 2: Heating boilers with forced draught burners - Special requirements for boilers with atomizing oil burners
EN 12493	LPG equipment and accessories - Welded steel tanks for liquefied petroleum gas (LPG) - Road tankers design and manufacture
EN 12952 (All parts)	Water -tube boilers and auxiliary installations
EN 12953 (All parts)	Shell boilers

EN 13121 (All parts)	GRP tanks and vessels for use above ground
EN 13923	Filament -wound FRP pressure vessels - Materials, design, manufacturing and testing
EN 13445	Unfired pressure vessels
EN 13458 -1	Cryogenic vessels - Static vacuum insulated vessels - Part 1: Fundamental requirements
EN 13458 -2	Cryogenic vessels - Static vacuum -insulated vessels - Part 2: Design, fabrication, inspection and testing
EN 13480 (All parts)	Piping
EN 13530 -1	Cryogenic vessels - Large transportable vacuum insulated vessels - Part 1: Fundamental requirements
EN 13530 -2	Cryogenic vessels - Large transportable vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing
EN 14398 -2	Cryogenic vessels - Large transportable non -vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing
EN 14025	Tanks for the transport of dangerous goods - Metallic pressure tanks - Design and construction
EN 14931	Pressure vessels for human occupancy (PVHO) - Multi -place pressure chambers for hyperbaric therapy - Performance, safety requirements and testing
EN 14359	Gas Loaded accumulators for fluid power applications
EN 50052	Cast aluminium alloy enclosures for gas -filled high -voltage switchgear and control gear
CWA 15740	Risk -based inspection and maintenance procedures for industry (RI MAP)
IEC 61508	Functional Safety of electricallelectronic /programmable electronic safety- related systems - General requirements
IEC 61511 (All parts)	Functional safety - Safety instrumented systems for the process industry sector
NOTE In addition to the above mentioned health and safety standards any standard which results in pressure equipment being CE or Pi marked is deemed approved.	
	French standards
RCC -M	Design and construction rules for mechanical components of PWR nuclear standards
CODAP	Code for the construction of unfired pressure vessels
	German standards
DIN 6647	Cylindrical beverage containers
Technical Rules	Technical rules for steam boilers (TRD), Dampfkv and all sections
AD -2000	Technical rules for pressure vessels (TRB), Druckbehvo and all sections
DVS 2205	Design calculations for containers and apparatus made from thermoplastics
DVS 2210 -1	Plastic piping for industrial applications
	ISO Standards
ISO 4126 (All parts)	Safety devices for protection against excessive pressure
ISO 14692 (All Parts)	Petroleum and natural gas industries - Glass- reinforced plastics (GRP) piping
ISO 23251	Petroleum, petrochemical and natural gas industries - Pressure -relieving and depressuring systems
	South African standards
SANS 347	SANS 347: Categorization and conformity assessment criteria for all pressure equipment
SANS 151	Fixed electric storage water heaters
SANS 10228	Identification and classification of dangerous goods for transport
SANS 10254	Installation , maintenance , replacement and repair of fixed electric storage water heating systems
SANS 10227	SANS 10227: Criteria for the operation of inspection authorities performing inspections in terms of the Pressure Equipment Regulations
SANS 10019	SANS 10019: Transportable metal containers for compressed gas - Basic design, manufacture, use and maintenance
SANS 1475 -1:	SANS 1475 -1: The production of reconditioned fire- fighting equipment - Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers
SANS 10087	The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial and industrial installations:
	Part 1: Liquefied petroleum gas installations involving gas storage containers of individual water capacity not exceeding 500l and a combined water capacity not exceeding 3 000l per installation
	Part 2: Installation in mobile units and small non -permanent buildings
	Part 3: Liquefied petroleum gas installations involving storage vessels of individual water capacity exceeding 500l
	Part 4: Transportation of LPG in bulk by road
	Part 6: The application of liquefied petroleum and compressed natural gases as engine fuels for internal combustion engines
	Part 7: Storage and filling sites for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9 kg
	Part 8: The fuelling of fork -lift trucks and other LP gas operated vehicles
	Part 10: Mobile filling stations for refillable liquefied petroleum gas (LPG) containers of capacity not exceeding 9 kg.
SANS 10147	Refrigeration systems including plants associated with air -conditioning systems
SANS 1539	Appliances operating on liquefied petroleum gas - Portable and mobile appliances - Safety aspects
SANS 1237	Single -stage low- pressure regulators for liquefied petroleum gas (LPG)
SANS 329	Industrial thermal processing equipment - Safety requirements for combustion and fuel -handling systems
SANS 10105 - 1	The use and control of fire-fighting equipment - Part 1: Portable and wheeled (mobile) fire extinguishers
SANS 1910	Portable refillable fire extinguishers
SANS 1567	Portable rechargeable fire extinguishers - CO2 type extinguishers
SANS 10147	Refrigeration systems including plants associated with air -conditioning systems
SANS 1539	Appliances operating on liquefied petroleum gas - Portable and mobile appliances - Safety aspects
SANS 1237	Single -stage low- pressure regulators for liquefied petroleum gas (LPG)
SANS 1518	Transport of dangerous goods - Design, construction, testing, approval and maintenance of road vehicles and portable tanks
SANS 1668	Fibre- reinforced plastics (FRP) tanks for buried (underground) storage for petroleum products
SANS 1748 (All Parts)	Glass- fibre -reinforced thermosetting plastics (GRP) pipes
SANS 7396 -1	Medical gas pipeline systems - Part 1: Pipeline systems for compressed medical gases and vacuum
SANS 10019	Transportable containers for compressed, dissolved and liquefied gases - Basic design, manufacture, use and maintenance
SANS 10252 -1	Water supply and drainage to buildings - Part 1: Water supply installations for buildings
SANS 10260 (All parts)	Industrial gas pipelines
SANS 10147	Refrigerating systems including plants associated with air -conditioning systems
SANS 10377 -1	Pressure vessels for human occupancy - Part 1: Hyperbaric chambers (therapeutic)

ELECTRICAL INSTALLATION REGULATIONS

GNR.242 of March 2009

[These Regulations were published in GNR.242 of 6 March 2009.]

DEPARTMENT OF LABOUR

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety and the Minister of Finance, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these regulations, "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act has such meaning and, unless the context otherwise indicates"

"accreditation authority" means the South African National Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006);

"certificate of compliance" means-

(*a*) a certificate with a unique number obtainable from the chief inspector, or a person appointed by the chief inspector, in the form of Annexure 1 and issued by a registered person in respect of an electrical installation or part of an electrical installation; or

(*b*) a certificate of compliance issued under the Electrical Installation Regulations, 1992;

"electrical contractor" means a person who undertakes to perform electrical installation work on behalf of any other person, but excludes an employee of such first-mentioned person;

"electrical installation" means any machinery, in or on any premises, used for the transmission of electricity from a point of control to a point of consumption anywhere on the premises, including any article forming part of such an electrical installation irrespective of whether or not it is part of the electrical circuit, but excluding

(*a*) any machinery of the supplier related to the supply of electricity on the premises;

(*b*) any machinery which transmits electrical energy in communication, control circuits, television or radio circuits

(*c*) an electrical installation on a vehicle, vessel, train or aircraft; and

(*d*) control circuits of 50 V or less between different parts of machinery or system components, forming a unit, that are separately installed and derived from an independent source or an isolating transformer;

"Electrical Installation Regulations, 1992" means the Electrical Installation Regulations, 1992, promulgated by Government Notice No. R.2920 of 23 October 1992;

"electrical tester for single phase" means a person who has been registered as an electrical tester for single phase in terms of regulation 11 (2) for the verification and certification of the construction, testing and inspection of electrical installations supplied by a single-phase electricity supply at the point of control, excluding specialised electrical installations;

"Engineering Profession Act, 2000" means the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"general control" in relation to electrical installation work that is being carried out, includes instruction, guidance and supervision in respect of that work;

"General Machinery Regulations" means the General Machinery Regulations, 1988, promulgated by Government Notice No. R.1521 of 5 August 1988;

"installation electrician" means a person who has been registered as an installation electrician in terms of regulation 11 (2) for the verification and certification of the construction, testing and inspection of any electrical installation, excluding specialised electrical installations;

"installation work" means-

(*a*) the installation, extension, modification or repair of an electrical installation;

(*b*) the connection of machinery at the supply terminals of such machinery; or

(*c*) the inspection, testing and verification of electrical installations for the purpose of issuing a certificate of compliance;

"master installation electrician" means a person who has been registered as a master installation electrician in terms of regulation 11 (2) for the verification and certification of the construction, testing and inspection of any electrical installation;

"point of consumption" means any point of outlet or the supply terminals of machinery which is not connected to a point of outlet and which converts electrical energy to another form of energy: Provided that in the case of machinery which has been installed for any specific purpose as a complete unit, the point of consumption shall be the supply terminals which have been provided on the unit of machinery for that purpose;

"point of control" means the point at which an electrical installation on or in any premises can be switched off by a user or lessor from the electricity supplied from the point of supply, or the point at which a particular part of an electrical installation on or in any premises can be switched off where different users occupy different portions of such premises;

"point of outlet" means any termination of an electrical installation which has been provided for connecting any electrical machinery without the use of tools;

"point of supply" means the point at which electricity is supplied to any premises by a supplier;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations promulgated by Government Notice No. R.929 of 25 June 2003;

"registered person" means a person registered in terms of-

(*a*) regulation 11; or

(*b*) regulation 9 of the Electrical Installation Regulations, 1992,

as an electrical tester for single phase, an installation electrician or a master installation electrician, as the case may be;

"specialised electrical installations" means electrical installations in-

(*a*) explosive atmospheres as contemplated in SANS10086-1;

(*b*) the petroleum industry as contemplated in SANS 10089-2;

(*c*) hazardous locations as contemplated in SANS 10108; or

(*d*) medical locations as contemplated in SANS1 0142-1,

published by Standards South Africa;

"supplier" in relation to a particular electrical installation, means any person who supplies or contracts or agrees to supply electricity to that electrical installation;

"supply terminals" in relation to machinery installed as a complete unit, means the terminals or connection clamps on such machinery where the external conductors supplying the machinery with electriCity are terminated or connected.

2. Responsibility for electrical installations. - (1) Subject to subregulation (3), the user or lessor of an electrical installation, as the case may be, shall be responsible for the safety, safe use and maintenance of the electrical installation he or she uses or leases.

(2) The user or lessor of an electrical installation, as the case may be, shall be responsible for the safety of the conductors on his or her premises connecting the electrical installation to the point of supply in the case where the point of supply is not the point of control.

(3) Where there is a written undertaking between a user or lessor and a lessee whereby the responsibility for an electrical installation has been transferred to the lessee, the lessee shall be responsible for that installation as if he or she were the user or lessor.

3. Approved inspection authorities for electrical installations.-(1) The chief inspector may approve any person that has been accredited by the accreditation authority as an approved inspection authority for electrical installations.

(2) An application to be an approved inspection authority shall be made to the chief inspector in the form of Annexure 2 together with-

(*a*) a certified copy of the accreditation certificate issued by the accreditation authority; and

(*b*) the fee prescribed by regulation 14.

(3) An approved inspection authority for electrical installations shall inform the chief inspector of any change affecting its approval in terms of these Regulations within 14 days after such change.

4. Functions of approved inspection authorities for electrical installations.-(1) An approved inspection authority for electrical installations may enter premises and conduct an inspection, test or investigation only when-

(*a*) contracted by the chief inspector or provincial director for a specific electrical installation; or

(*b*) requested by the user or lessor of an electrical installation to do so.

(2) An approved inspection authority for electrical installations may not operate as an electrical contractor.

5. Design and construction.-(1) No person may authorise, design, install or permit or require the installation of an electrical installation, other than in accordance with a health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) No person may use components within an electrical installation unless those components comply with the standards referred to in the relevant incorporated standard referred to in subregulation (1), and proof of compliance shall be identifiable on the components or certification shall be available from the manufacturer or supplier of the materials or components in terms of the National Regulator for Compulsory Specifications Act, 2008 (Act No.5 of 2008).

(3) Items of an electrical installation not covered by an incorporated health and safety standard, and the conductors between the point of supply and the point of control, shall be installed in accordance with the by-laws or regulations of the supplier concerned.

(4) A registered person shall exercise general control over all electrical installation work being carried out, and no person may allow such work without such control.

(5) Where the voltage exceeds 1 kV, a person deemed competent in terms of paragraphs (*b*), (*c*) or (*d*) of the definition of a competent person in regulation 1 of the General Machinery Regulations, 1988, or a person registered in a professional category in terms of the Engineering Profession Act, 2000, shall approve the design of that part of an electrical installation.

(6) Where the intention is to supply five or more users from a new point of supply, the user shall appoint an approved inspection authority for electrical installations or a person deemed competent in terms of paragraph (*b*), (*c*) or (*d*) of the definition of a competent person in regulation 1 of the General Machinery Regulations, 1988, or a person registered in a professional category in terms of the Engineering Profession Act, 2000, who shall ensure the compliance contemplated in subregulation (1) from the commencement to the commissioning of the electrical installation.

(7) No supplier may restrict the application of a health and safety standard referred to in subregulation (1) when an electrical installation is installed, except where the distribution system of the supplier may be adversely affected by the application thereof.

6. Electrical contractor.-(1) No person may do electrical installation work as an electrical contractor unless that person has been registered as an electrical contractor in terms of these Regulations.

(2) Any person who does electrical installation work as an electrical contractor shall register annually in the form of Annexure 3 with the chief inspector or a person appointed by the chief inspector.

(3) An application for registration as referred to in subregulation (2) shall be accompanied by the fee prescribed by regulation 14.

(4) The chief inspector or a person appointed by the chief inspector shall register any person referred to in subregulation (1) as an electrical contractor and enter such registration into the national database: Provided that such person-

(*a*) has a fixed address and a telephone; and

(*b*) employs a registered person in a full-time capacity, or is himself or herself a registered person.

7. Certificate of compliance.-(1) Subject to the provisions of subregulation (3), every user or lessor of an electrical installation, as the case may be, shall have a valid certificate of compliance for that installation in the form of Annexure 1, which shall be accompanied by a test report in the format approved by the chief inspector, in respect of every such electrical installation.

(2) Subject to the provisions of subregulation (3), every user or lessor of an electrical installation, as the case may be, shall on request produce the certificate of compliance for that electrical installation to an inspector, a supplier or, subject to regulation 4 (1), an approved inspection authority for electrical installations.

(3) Subregulation (1) shall not apply to an electrical installation that existed prior to 23 October 1992, and where there was no change of ownership after 1 March 1994: Provided that, if any addition or alteration is effected to such an electrical installation, the user or lessor of the electrical installation, as the case may be, shall obtain a certificate of compliance for the whole electrical installation, whereafter the provisions of subregulation (1) shall be applicable to such electrical installation.

(4) Where any addition or alteration has been effected to an electrical installation for which a certificate of compliance was previously issued, the user or lessor of such electrical installation shall obtain a certificate of compliance for at least the addition or alteration.

(5) Subject to the provisions of section 10 (4) of the Act, the user or lessor may not allow a change of ownership if the certificate of compliance is older than two years.

(6) The relevant supplier may at any reasonable time inspect or test any electrical installation: Provided that the supplier shall not charge any fee for such an inspection or test unless the inspection or test is carried out at the request of the user or lessor.

(7) If an inspector, an approved inspection authority for electrical installations or supplier has carried out an inspection or test and has detected any fault or defect in any electrical installation, that inspector, approved inspection authority for electrical installations or supplier may require the user or lessor of that electrical installation to obtain a new certificate of compliance: Provided that if such fault or defect in the opinion of the inspector, approved inspection authority for electrical installations or supplier constitutes an immediate danger to persons, that inspector, approved inspection authority for electrical installations or supplier shall forthwith take steps to have the supply to the circuit in which the fault or defect was detected, disconnected:

Provided further that where such fault or defect is of such a nature that it may indicate negligence on the part of a registered person, the inspector, approved inspection authority for electrical installations or supplier shall forthwith report those circumstances in writing to the chief inspector.

8. Commencement and permission to connect installation work.-(1) No person shall commence installation work which requires a new supply or an increase in electricity supply capacity unless the supplier has been notified thereof in the form of Annexure 4: Provided that the supplier may waive this requirement in respect of such types of work as it may specify.

(2) No person shall connect or permit the connection of any completed or partially completed electrical installation to the electricity supply unless it has been inspected and tested by a registered person and a certificate of compliance for that electrical installation has been issued: Provided that the supplier may on request connect the supply to the electrical installation for the purpose of testing and the completion of the certificate of compliance by a registered person: Provided further that this subregulation shall not apply in a case where the electricity was disconnected for the non-payment of the electricity account or where there has been a change of tenant but not of ownership.

9. Issuing of certificate of compliance.-(1) No person other than a registered person may issue a certificate of compliance.

(2) A registered person may issue a certificate of compliance accompanied by the required test report only after having satisfied himself or herself by means of an inspection and test that-

(*a*) a new electrical installation complies with the provisions of regulation 5 (1) and was carried out under his or her general control; or

(*b*) an electrical installation which existed prior to the publication of the current edition of the health and safety standard incorporated into these Regulations in terms of regulation 5 (1), complies with the general safety principles of such standard; or

(*c*) an electrical installation referred to in paragraph (*b*), to which extensions or alterations have been effected, that

(i) the existing part of the electrical installation complies with the general safety principles of such standard and is reasonably safe, and

(ii) the extensions or alterations effected comply with the provisions of regulation 5 (1) and were carried out under his or her general control.

(3) If at any time prior to the issuing of a certificate of compliance any fault or defect is detected in any part of the electrical installation, the registered person shall refuse to issue such certificate until that fault or defect has been rectified: Provided that if such fault or defect in the opinion of the registered person constitutes an immediate danger to persons in a case where electricity is already supplied, he or she shall forthwith take steps to disconnect the supply to the circuit in which the fault or defect was detected and notify the chief inspector thereof.

(4) Any person who undertakes to do electrical installation work shall ensure that a valid certificate of compliance is issued for that work.

(5) No person may amend a certificate of compliance.

10. Disputes.-(1) Should a dispute arise over the interpretation of a health and safety standard referred to in regulation 5 (1) between a user, a registered person, an electrical contractor, an approved inspection authority for electrical installations or a supplier, as the case may be, an affected person may appeal against that interpretation to the chief inspector.

(2) A person who refers a dispute referred to in subregulation (1) shall serve a notice of dispute, setting out fully the nature and grounds of the dispute, on both the chief inspector and the person whose interpretation he or she is disputing, by personally delivering the notice of dispute or sending it by registered post.

(3) The person whose interpretation is disputed shall within 14 working days of the date on which he or she received the notice of dispute, forward a notice setting out the reasons for his or her interpretation to the chief inspector.

(4) The chief inspector shall, after having considered the grounds and the cause of the dispute, confirm, set aside or vary the interpretation of the

safety standard in question or substitute it for the interpretation, which in the opinion of the chief inspector, ought to have been given.

11. Application for registration as a registered person.-(1) An application for registration as a registered person shall be made to the chief inspector in the form of Annexure 5 together with the registration fee prescribed by regulation 14.

(2) Any natural person who satisfies the chief inspector that he or she-

(*a*) has sufficient knowledge of the rules applicable to electrical installations in the category for which the application is being made; and

(*b*) has appropriate practical experience in respect of the electrical installation, verification and certification of the construction, testing and inspection of the type of electrical installation for which application is being made,

shall be registered as an electrical tester for single phase, an installation electrician, or a master installation electrician, as the case may be.

(3) The chief inspector shall furnish a registered person with the appropriate certificate of registration and enter such registration into the national database.

(4) A registered person shall on request produce his or her certificate of registration to an inspector, an approved inspection authority for electrical installations, a supplier or any person to whom he or she intends to issue a certificate of compliance.

(5) A registered person shall inform the chief inspector of any changes affecting his or her registration within 14 days after such change.

12. Withdrawal of registration and approval. -(1) Subject to the provisions of subregulation (2), the chief inspector may withdraw an approval issued to an approved inspection authority, a registration issued to an electrical contractor or a certificate of registration issued to a registered person if such person(

(*a*) no longer complies with any of the conditions referred to in regulation 3 (2) (*a*), 6 (4) or 11 (2), respectively; or

(*b*) is convicted of an offence referred to in regulation 15.

(2) The chief inspector may not withdraw a registration or an approval unless he or she has-

(*a*) informed the holder of such registration or approval of the intended withdrawal thereof and of the grounds upon which it is based; and

(*b*) afforded such holder a reasonable opportunity to state his or her case and, if the holder is a person contemplated in subregulation (1) (*a*), afforded such holder an opportunity to comply with those conditions within the period specified by the chief inspector.

(3) The chief inspector shall, in writing, inform the person concerned of the reasons for his or her decision.

(4) Any person adversely affected by a decision of the chief inspector may, in writing, appeal to the Director-General against such decision.

(5) An appeal referred to in subregulation (4) shall -

(*a*) be lodged within sixty days from the date on which the decision was made known; and

(*b*) set out the grounds of appeal.

(6) After considering the grounds of appeal and the chief inspector's reasons for his or her decision, the Director-General shall as soon as practicable confirm, set aside or amend the decision.

13. Substitution of lost, damaged or destroyed certificate.-(1) If any registration certificate issued in terms of these regulations to an electrical contractor or a registered person is lost, damaged or destroyed, the person to whom the certificate was issued may apply to the chief inspector for a duplicate certificate in the form of Annexure 6, together with the relevant registration fee prescribed by regulation 14.

(2) After proof that a certificate referred to in subregulation (1) has been lost, damaged or destroyed has been submitted to the satisfaction of the chief inspector, the chief inspector shall issue a duplicate thereof on which the word "duplicate" shall appear.

14. Fees payable.-The fees payable in respect of an application in terms of regulation 3 (2), 6 (3) and 11 (1) or a duplicate certificate of registration in terms of regulation 13 (1) shall be R120,00 and shall be payable in the form of uncancelled revenue stamps affixed to the application form when payable to the chief inspector.

15. Offences and penalties.-Any person who contravenes or fails to comply with any of the provisions of regulations 3 (3), 4, 5, 6 (1), 7, 8, 9, 11 (4) and 11 (5) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum period of 12 months and, in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

16. Repeal of regulations.-The Electrical Installation Regulations, 1992, promulgated by Government Notice R.2920 of 23 October 1992, as amended by Government Notice No. R.962 of 20 May 1994, are hereby repealed.

17. Short title and commencement.-These Regulations shall be called the Electrical Installation Regulations, 2009, and shall come into effect on 1 May 2009: Provided that regulation 5 (6) shall come into effect on 1 April 2010.

Annexure 1
DEPARTMENT OF LABOUR
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
CERTIFICATE OF COMPLIANCE

Certificate of compliance in accordance with regulation 7 (1) of the Electrical Installation Regulations, 2009.	Certificate No			
	Certificate Type (Tick appropriate block)			
	Initial Certificate		Supplementary Certificate	

Supplement No ..... to Initial Certificate No ..... as issued on: .....

Identification of the relevant electrical installation

(Address or other unique reference, where applicable)
Physical address:
.....
Name of building: .....
GPS Co-ordinates .....
Suburb/Township: .....
Pole number: .....
District/Town/City: .....
Erf/Lot No.: .....

Declaration by registered person

I _____ (ID No. _____)
a registered person, declare that I have personally carried out the inspection and testing of the electrical installation described in the attached test report as per the requirements of:

(Tick appropriate box)

(*a*) electrical installation regulations 9 (2) (*a*) (new electrical installation); or	
(*b*) electrical installation regulations (9 (2) (*b*) (existing electrical installation); or	
(*c*) electrical installation regulations 9 (2) (*c*) (new part to existing electrical installation)	

and deem the electrical installation to be reasonably safe when properly used.

I have entered the number of this certificate on the attached test report(s).

I declare that the persons responsible for the design, specification, procurement, construction, commissioning and inspection and test have completed the relevant sections of the test report.

Registered person registration number: ..... Date of registration .....

Type of registration: (Tick appropriate block)

Electrical tester for single phase	
Installation electrician	
Master installation electrician	

Signature: ..... Date: .....

Contact details of registered person:	Tel No.	
	Fax No.	
	Cell No.	
	E-mail.	
	Address	.....
		.....
		.....

NOTE: 1. This certificate is not valid unless all the sections have been completed correctly and the test report in the format approved by the chief inspector is attached.
2. This certificate will be invalid if any corrections have been made.

Declaration by electrical contractor

I _____ (ID No. _____)
declare that the electrical installation has been carried out in accordance with the requirements of the Occupational Health and Safety Act, 1993, and regulations made thereunder.

Electrical contractor registration number: ..... Date of registration .....
Signature: .....

Contact details of electrical contractor:

Name	
Address	.....
	.....
	.....
Tel.	
Fax	
Cell	
E-mail	

Recipient name: ..... Signature: ..... Date: .....

Annexure 2

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

APPLICATION FOR APPROVAL AS APPROVED INSPECTION AUTHORITY FOR ELECTRICAL INSTALLATIONS

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby apply to be approved as an approved inspection authority for electrical installations in terms of regulation 3 (2) of the Electrical Installation Regulations, 2009. I declare that the particulars given hereunder are, to the best of my knowledge and belief, correct.

1. PARTICULARS OF THE APPLICANT:

SURNAME OF APPLICANT: .....
NAME OF APPLICANT: .....
ID NO. OF APPLICANT: .....
REGISTERED NAME: .....
TRADING NAME: .....

State whether your business is: **SOLE PROPRIETOR/PARTNERSHIP/COMPANY/CLOSE CORPORATION** (delete which is not applicable).
BUSINESS REGISTRATION No.: .....
IN WHICH PROVINCE IS YOUR BUSINESS SITUATED? .....
PHYSICAL ADDRESS: .....
..... POSTAL CODE: .....
POSTAL ADDRESS: .....
..... POSTAL CODE: .....
TEL No.: ..... CELL No.:.....
FAX No.: ..... EMAIL: .....

2. SCOPE OF APPROVAL (Tick appropriate block(s)):

(*a*)	Electrical tester for single phase	
(*b*)	Installation electrician	
(*c*)	Master installation electrician	

3. IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

(*a*) Certified copy of your 10 of registered person(s);
(*b*) Certified copy of business registration no.;
(*c*) Certified copy of a registration certificate of registered persons (both sides);
(*d*) Certified copy of accreditation certificate from accreditation authority.

Signature of the applicant .... Date: .....

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... ..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

Annexure 3

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

APPLICATION FOR REGISTRATION AS ELECTRICAL CONTRACTOR

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby apply to be approved as an approved inspection authority for electrical installations in terms of regulation 6 (2) of the Electrical Installation Regulations, 2009. I declare that the particulars given hereunder are, to the best of my knowledge and belief, correct.

1. PARTICULARS OF THE APPLICANT:

SURNAME OF APPLICANT: .....
NAME OF APPLICANT: .....
ID NO. OF APPLICANT: .....
REGISTERED NAME: .....
TRADING NAME: .....
State whether your business is: **SOLE PROPRIETOR/PARTNERSHIP/COMPANY/CLOSE CORPORATION** (delete which is not applicable).
WRITE DOWN YOUR BUSINESS REGISTRATION No.: .....
IN WHICH PROVINCE IS YOUR BUSINESS SITUATED? .....
PHYSICAL ADDRESS: .....,.....
..... POSTAL CODE: .....
POSTAL ADDRESS: .....
..... POSTAL CODE: .....
TEL No.: ..... CELL No.:.....
FAX No.: ..... EMAIL: .....

2. STATE TYPE OF REGISTRATION YOU HAVE:

(*a*) ELECTRICAL TESTER FOR SINGLE PHASE **YES/NO**
ETSP No.: .....
(*b*) INSTALLATION ELECTRICIAN **YES/NO**
IE No.: .....
(*c*) MASTER INSTALLATION ELECTRICIAN **YES/NO**
MIE No.: .....

3 WHERE REGISTERED PERSON(S) IS/ARE EMPLOYED ON A FULL-TIME BASIS, COMPLETE THE FOLLOWING: (Section 3 can be filled in as many times as the number of registered person/s employed by the business). Notify the chief inspector in case of any changes.

SURNAME OF REGISTERED PERSON: .....
NAME/S OF REGISTERED PERSON: .....
ID NUMBER OF REGISTERED PERSON: .....

TYPE OF REGISTRATION: TSP/IE/MIE (delete which is not applicable)
REGISTRATION NUMBER: ..... DATE ISSUED: .....

4. IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

(*a*) Certified copy of your ID and, where applicable, certified copies of ID's of registered person(s);
(*b*) Certified copy of business registration no.
(*c*) Certified copy of the relevant registration certificate(s) (both sides).

Signature of the applicant ..... Date: .....

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
..
Signature:..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

Annexure 4

REGULATION 8 (1) OF THE ELECTRICAL INSTALLATION REGULATIONS, 2009
NOTICE OF COMMENCEMENT OF INSTALLATION WORK

Name of supplier: .....
Address of supplier: .....

.....
.....I hereby advise that electrical installation work will commence at-
ERF No.: ..... Township: .....
Street address: .....
Name of building: ..... Floor: .....
Name of tenant/occupier/agent/owner:.....
Note: Farms and agricultural holdings, full description as per title deed is required.
Description of proposed work: .....

Date of commencement of installation work: .....

New electrical installation		Extension		Modification	

Estimated capacity of electrical installation ..... kVA
Electrical Contractor/Registered person* .....
(block letters)
Fixed address: .....
Contractor's/Registered person's Registration Certificate No.* .....
Signature: ..... Office telephone No.: .....
Fax No.: .....
Cell No .....
Name of signatory: .....

Competent person/Approved Inspection Authority* .....
(block letters)
Fixed address: .....
Approved Inspection Authority Certificate No*.: .....
Signature: ..... Office telephone No.: .....
Fax No.: .....
Cell No .....
Name of signatory: .....
***Delete whichever is not applicable**

Annexure 5

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

REGULATION 11 (1) OF THE ELECTRICAL INSTALLATION REGULATIONS, 2009

APPLICATION FOR REGISTRATION AS REGISTERED PERSON

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby, in terms of regulation 11 (1) of the Electrical Installation Regulations, 2009, apply to be registered as electrical tester for single phase*/installation electrician*/master installation electrician* and hereby declare that the particulars given hereunder are, to the best of my knowledge and belief, correct. I further declare that I know of no reason why I should not be regarded as being physically able to inspect and test electrical installations.

(* Delete whichever is not applicable).

I attach two photographs of myself as required by the chief inspector.

Yours faithfully

....

Signature Date

Notes:

(i) The applicant must also sign this form in the three spaces provided for specimen signatures at the end of this form.
(ii) The chief inspector requires the submission of two clear identical photographs of 40 mm by 30 mm showing the face and shoulders of the applicant.

(The photographs required are similar to those required for a passport and can be obtained from any photographer who renders such a service.)

Surname (block letters) .....
First names (block letters} .....
Postal address ..... Code .....
Telephone No. (W)..... (H) .....
(Fax)..... (Cell) .....
Date of birth ..... Place of birth .....
Identity number (immigration permit number) .....
Details of training appropriate to installation work:

Note - Where paragraph (*a*) hereunder is applicable, applicant must submit with the application, testimonials from employers stating the duration and nature of training.

(*a*) Training other than under a contract of apprenticeship in terms the Manpower Training Act, 1981, or the Skills Development Act, 1998, in a trade appropriate to electrical installation work.

Name and address of employer	From	To

(*b*) Apprenticeship or training in terms of the Manpower Training Act, 1981, or the Skills Development Act, 1998, in a trade appropriate to installation work:

No. of contract ..... **Trade in which trained** .....

Name and address of employer	From	To

7. Details of practical experience, other than that referred to in paragraph 6 (documentary proof, such as certificates of service, to be submitted).

Name and address of employer	From	Capacity in which employed

8. Details of certificates or diplomas held. (If you have passed a qualifying trade test and subjects such as Technica-electrical, Electrical Trade Theory, Installation Rules, etc., this should be stated and proof thereof submitted):

.....
.....
.....

SPECIMEN SIGNATURE OF APPLICANT

Note -The specimen signatures should be the normal Signature of the applicant and should be carefully completed. One specimen will be affixed to each certificate of registration that may be issued.

1	2	3

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

Annexure 6

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

APPLICATION FOR DUPLICATE CERTIFICATE ISSUED IN TERMS OF THE ELECTRICAL INSTALLATION REGULATIONS, 2009

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby apply for a duplicate certificate of registration issued to me in terms of regulation 13 (2), of the Electrical Installation Regulations, 2009. I declare that the particulars given hereunder are, to the best of my knowledge and belief, correct.
(*delete which is not applicable).

1. PARTICULARS OF THE APPLICANT:

SURNAME OF APPLICANT: .....
NAME OF APPLICANT: .....
ID NO. OF APPLICANT: .....
PHYSICAL ADDRESS: .....
.....POSTAL CODE.....
POSTAL ADDRESS: .....
.....POSTAL CODE.....
TEL NO.:.....CELL NO.:.....
FAX NO.:.....E-MAIL.....

2. SCOPE OF APPROVAL:

(*a*) REGULATION 11 (2): ELECTRICAL TESTER FOR SINGLE PHASE
(*b*) REGULATION 11 (2): INSTALLATION ELECTRICIAN
(*c*) REGULATION 11 (2): MASTER INSTALLATION ELECTRICIAN

3. IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

(a) Certified copy of ID;
(b) Two clear identical photographs of 40 mm by 30 mm showing face and shoulders of applicant;
(c) Number of the lost, damaged or destroyed certificate.

Signature of the applicant .... Date: .....

4.. **AFFIDAVIT**

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

GNR.243 Of 6 March 2009: incorporation of safety standards into Electrical Installation, Regulations, 2009

(Government Gazette No. 31975)

DEPARTMENT OF LABOUR

I, MMS MDLADLANA, Minister of Labour, after consultation with the Advisory Council for Occupational Health and Safety, hereby, under section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate into the Electrical Installation Regulations, 2009, the safety standards specified in the Schedule.

MMS MDLADLANA
Minister of Labour

SHCEDULE

Standards of South Africa:

SANS 10086-1: The installation, inspection and maintenance of electrical equipment used in explosive atmospheres Part 1: Installation including surface installations on mines;

SANS 10089-2: The petroleum industry – part 2: Electrical and other installations in the distribution and marketing sector;

SANS 10108: The classification of hazardous locations and the selection of apparatus for use in such locations; and

SANS 10142-1: The wiring premises part 1: Low-voltage installations

GNR. 258 OF 26 March 2012: explanatory notes on the electrical installation regulations, 2009

(Government Gazette No.35180)

Department of Labour

Explanatory notes on the Electrical Installation Regulations, 2009
Guidance notes
Department of Labour
Occupational Health and Safety Act, 1993

Foreword

This document consists of explanatory notes on the implications and application of the more important regulations concerning Electrical installations. The notes are meant to help and guide suppliers, contractors, registered persons, users, approved inspection authority for electrical installations and inspectors. They explain the purpose of the regulations, their meaning and suggested administration as far as suppliers, registered persons and contractors are concerned.

1. Introduction

1.1 The purpose of the Act specifically the Electrical Installation Regulations, 2009, is to ensure the safety of persons in so far as electrical installations and the performance of installation work is concerned and makes provision for-

1.1.1 the compulsory use of an approved health and safety standard for electrical installation;

1.1.2 safety aspects relative to electrical installation work

1.1.3 the registered person who exercise general control over electrical installation work and those persons who have to inspect electrical installations;

1.1.4 the inspection and test of electrical installations by suppliers, persons registered with the Engineering Council of South Africa, competent person and approved inspection authority only in so far as it is necessary and practical and on the interest of safety.

1.2 These guidance notes do not replace the Electrical Installation Regulations, 2009

2. The definition and the regulations

The relevant regulations are dealt with separately, sub regulation by sub regulation, and where s regulation introduces definitions are dealt with at the same time.

2.1 Regulation 2 – Responsibility for electrical installations

2.1.1 Sub regulation 1

Subject to sub regulation (3) the user or lessor of an electrical installation, as the case may be, shall be responsible for the safety, safe use and maintenance of the electrical installation he or she uses or leases.

Definition:

"electrical installation"

means any machinery, in or on any premises, used for the transmission of electricity from a point of control to a point of consumption anywhere on the premises, including any article form part of such an electrical installation irrespective of whether or not it is part of the electrical circuit, but excluding-

(a) Any machinery of the supplier related to the supply of electricity on the premises;

(b) Any machinery which transmits electrical energy in communication, control circuit, television or radio circuits;

(c) An electrical installation on a vehicle, vessel, train or aircraft; and

(d) Control circuit of 50V or less between different parts of the machinery or system components, forming a unit, that are separately installed and derived from an independent source or an isolating transformer;

"point of control" means the point at which an electrical installation on or in any premises can be switched off by a user or lessor from the electricity supplied from the point of supply, or the point at which a particular part of an electrical installation on or in any premises can be switched off where different users occupy different portions of such premises;

"point of outlet" means any termination of an electrical installation which has been provided for connecting any electrical machinery without the use of tools;

"point of consumption" any point of outlet or the supply terminals of machinery which is not connected to a point of outlet and which converts electrical energy to another form of energy: Provided that in the case if machinery which has been installed for any specific purpose as a complete unit, the point of consumption shall be the supply terminals which have been provided on the unit of machinery for the purpose;

"point of supply" means the point at which electricity is supplied to any premises by a supplier;

"supply terminal" in relation to machinery installed as a complete unit, means the terminal or connection clamps on such machinery where the external conductors supplying the machinery with electricity are terminated or connected;

"supplier" in relation to a particular electrical installation, means any person, means any person who supplies or contracts or agrees to supply electricity to that electrical installation;

"user", in relation to plant or machinery, means the person who uses plant or machinery for his own benefit or who has the right of control over the use of plant or machinery, but does not include a lessor of, or any person employed in connection with, that plant or machinery.

Notes:

1. The lessor included into the regulations because the lessor is excluded from the definition of " user"

2. These electrical installations may be on a domestic property, commercial property, industrial property or agricultural property.

2.1.2 Sub regulation 2

The user or lessor of an electrical installation, as the case may be, shall be responsible for the safety of the conductors on his or her premises connecting the electrical installation to the point of supply in the case where the point of supply is not the point of control.

Note: Self explanatory

2.1.3 Sub regulation 3

Where there is a written undertaking between a user or lessor and lessee whereby the responsibility for an electrical installation has been transferred to the lessee, the lessee shall be responsible for that installation as if he or she were the user or lessor.

Note: Self explanatory

2.2 Regulation 3 – Approved inspection authorities for electrical installations

2.2.1 Sub regulation 1

The chief inspector may approve any person that has been accredited by the accreditation authority as an approved inspection authority for electrical installations.

"accreditation authority"

means the South African Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 19 of 2006).

Note: Self explanatory

2.2.2 Sub regulation 2

An application to an approved inspection authority shall be made to the chief inspector in the form of Annexure 2 together with-

(a) A certified copy of the accreditation certificate issued by the accreditation authority

(b) The fee prescribed in regulation 14.

Note: Self explanatory

2.2.3 Sub regulation 3

An approved inspection authority for electrical installations shall inform the chief inspector of any changes affecting its approval in terms of these Regulations within 14 days after such change.

Note: Self explanatory

2.3 Regulation 4 – Functions of approved inspection authorities for electrical installations

2.3.1 Sub regulation 1

An approved inspection authority for electrical installations may enter premises and conduct an inspection test or investigation only when-

(a) Contracted by the chief inspector or provincial director for a specific electrical installation; or

(b) Requested by the use or lessor of an electrical installation to do so.

Note:

1. Any person who has doubts that electrical installation work in not done according to these regulations and health and safety standards or has doubts over the validity of a certificate of compliance, should contact an approved inspection authority to investigate the case.

2.3.2 Sub regulation 2

An approved inspection authority for electrical installations may not op*erate as an electrical contractor.*

Definitions:

"electrical contractor" means a person who under takes to perform electrical installation work on behalf of any other person, but excludes an employee of such first-mentioned person;

"installation work" means-

(a) the installation, extension, modification and repair of an electrical installation;

(b) the connection of machinery at the supply terminals of such machinery; or

(c) the inspection, testing and verification of electrical installations for the purpose of issuing a certificate of compliance.

Note: Self explanatory

2.4 Regulation 5 – Design and construction

2.4.1 Sub regulation 1

No person may authorise, design, install, or permit or require the installation of an electrical installation, other than in accordance with the health and safety standard incorporated into these Regulations under section 44 of the Act.

Notes;

1. The incorporated health and safety standard referred to is the SANS 10142-1 Code of practice for the wiring of the premises as published in Government Notice No. R.243 of 6 March 2009 or any updated revision of the standard.

2. The standard has the power of the regulation only in so far as the regulation permits and it must therefore be noted that the standard is only applicable with respect to an 'electrical installation" as defined i.e. from the "point of supply" to the "point of consumption" which expressions are clearly defined.

3. This sub regulation will also apply to the extension, modification and repair of an existing electrical installation.

2.4.2 Sub regulation 2

No person may use components within an electrical installation unless those components comply with the standards referred to in the relevant incorporated standard referred to in sub regulation (1), and the proof of compliance shall be identifiable on the components or certification shall be available from the manufacturer of supplier of the materials or components in terms of the National Regulator for Compulsory Specifications Act, 2008 (Act No. 5 of 2008).

Note: Self explanatory

2.4.3 Sub regulation 3

Items of an electrical installation not covered by an incorporated health and safety standard, and the conductors in-between the point of supply and the point of control, shall be installed in accordance with the by-laws or regulations of the supplier concerned.

Note: Self explanatory

2.4.4 Sub regulation 4

A registered person shall exercise general control over all electrical installation work being carried out, and no person may allow such work without such control.

Definition:

"general control" in relation to electrical installation work that is being carried out, includes instruction, guidance and supervision in respect of that work.

Notes:

1. This sub regulation emphasizes the point that no one may do installation work unless he or she does the work under the general control of a registered person or himself or herself is a registered person.
2. If the registered person does the work himself or herself, this general control will not be necessary.
3. The intention of the regulation is to ensure that installation work is carried out under clear instructions, guidance and proper supervision and that it complies with the health and safety standard.

2.4.4 Sub regulation 5

Where the voltage exceeds 1Kv, a person deemed competent in terms of paragraph (b), (c) or (d) of the definition of a competent person in regulation 1 of the General Machinery Regulations, 1998, or the person registered in a professional category in terms of the Engineering Profession Act, 2000, shall approve the design of that part of the electrical installation.

Note: Self explanatory

2.4.5 Sub regulation 6

When the intention is to supply five or more users from a new point of supply, the user shall appoint an approved inspection authority for electrical installations or a person deemed competent in terms of paragraph (b), (c) or (d) of a definition of a competent person in regulation 1 of the General Machinery Regulations, 1988, or a person registered in the professional category in terms of the Engineering Profession Act, 2000, who shall ensure the compliance contemplated in sub regulation (1) from the commencement to the commissioning of the electrical installation.

Note: Self explanatory

2.4.6 Sub regulation 7

No supplier may restrict the application of a health and safety standard referred to in sub regulation (1) when an electrical installation is installed, except where the distribution system of the supplier may be adversely affected by the application thereto.

Notes;

1. By-laws of a supplier are subordinate legislation to those regulations and may therefore not attempt to add or to detract from the provision of these regulations.
2. A by-law requires more than the regulation call for, or prohibits something that the regulations permit, could be challenged on dispute.
3. A supplier may make by-laws and regulations on anything outside the scope of the definition for an electrical installation and also on aspects of such by-law or regulation are meant to safeguard or fit in with the supplier's distribution system.

2.5 Regulation 6 – Electrical contractor

2.5.1 Sub regulation 1

No person may do electrical installation work as an electrical contractor unless that person has been registered as an electrical contractor in terms of these regulations

Note: Self explanatory

2.5.2 Sub regulation 2

Any person who does electrical installation work as an electrical

contractor shall register annually in the form of Annexure 3 with the chief inspector or a person appointed by the chief inspector.

Notes:

1. The registration of electrical contractors will be done at the 9 Provincial Offices in South Africa as from the 1st of June 2012.
2. The ECB's registration will stay valid till such time it elapses. As an example, if a contractor registers with the ECB on 31 May 2012, that registration will be valid till 30 May 2013.

(Editorial Note: Wording as per original *Government Gazette)*

2.5.3 Sub regulation 3

An application for registration as referred to in sub regulation (2) shall be accompanied by a fee prescribed by regulation 14.

Note: Self explanatory

2.5.4 Sub regulation 4

The chief inspector or a person appointed by the chief inspector shall register any person referred to in sub regulation (1) as an electrical contractor and enter such registration into the national data base: Provided that such a person-

(a) Has a fixed address and telephone

(b) Employs a registered person in a full-time capacity, or is himself or herself a registered person.

Note: Self explanatory

2.6 Regulation 7 – Certificate of compliance

2.6.1 Sub regulation 1

Subject the provisions of sub regulation (3), every user or lessor of an electrical installation, as the case may be, shall have a valid certificate of compliance for that installation in the form of Annexure 1, which shall be accompanied by a test report in the format approved by the chief inspector, in respect of every such electrical installation.

Definition:

"certificate of compliance" means-

(a) A certificate with a unique number obtainable from the chief inspector, or a person appointed by the chief inspector, in the form of Annexure 1, and issued by a registered person in respect of an electrical installation or part of an electrical installation; or

(b) A certificate of compliance issued under the Electrical Installation Regulations, 1992;

"registered person" means a person registered in terms of –

(a) Regulation 11; or

(b) Regulation 9 of the Electrical Installation Regulations, 1992, as an electrical tester for single phase,, an installation electrician or a master installation electrician, as the case may be;

"electrical test for single phase" means a person who has been registered as an electrical tester for single phase in terms of regulation 11(2) for the verification and certification of the construction, testing and inspection of electrical installations supplied by a single-phase electricity supply at the point of control, excluding specialised electrical installations;

"installation electrician" means a person who has been registered as an installation electrician in terms of regulation 11 (2) for the verification and certification of the construction, testing, inspection of any electrical installation, excluding specialised electrical installations;

"master installation electrician" means a person who has been registered as a master installation electrician in terms of regulation 11 (2) for the verification and certification of the construction test and inspection of any electrical installation;

"specialised electrical installations" means electrical installations in-

(a) Explosive atmosphere as contemplated in SANS 10086-1;

(b) The petroleum industry as contemplated in SANS 10089-2;

(c) Hazardous locations as contemplated in SANS 10108; or

(d) Medical locations as contemplated in SANS10142-1;

Published by Standards South Africa;

Note:

1. Registered person may generate their own certificate of compliance with a sequential unique number for now. Unique numbers will be made available at a later stage.

2.6.2 Subregulation 2

Subject to the provisions of subregulation (3),every user or lessor of an electrical installation, as the case may be, shall on request produce the certificate of compliance for that electrical installation to an inspector, a supplier or, subject to regulation 4 (1), an approved inspection authority for electrical installations.

Note: Self explanatory

2.6.3 Subregulation 3

Subregulation (1) shall not apply to an electrical installation that has existed prior to 23 October 1992, and where there was no change of ownership after 1 March 1994:Provided that, if any addition or alteration is effected to such an electrical installation, the user or lessor of the electrical installation, as the case may be, shall obtain a certificate of compliance for the whole electrical installation, where after the provisions of subregulation (1) shall be applicable to such electrical installation.

Note: Self explanatory

2.6.4 Subregulation 4

Where any alteration or addition has been effected to an electrical installation for which a certificate of compliance was previous issued, the user or lessor of such electrical installation shall obtain a certificate of compliance for at least the addition or alteration.

Note: Self explanatory

2.6.5 Subregulation 5

Subject to the provisions of section 10 (4) of the Act, the user or lessor may not allow a change of ownership if the certificate of compliance is older than two years.

Note: Self explanatory

2.6.6 Subregulation 6

The relevant supplier may at a reasonable time inspect or test any electrical installation: Provided that the supplier shall not charge a fee for such an inspection or test unless the inspection or test is carried out at the request of the user or lessor.

Note: Self explanatory

2.6.7 Subregulation 7

If an inspector, approved inspection authority for an electrical installations or supplier has carried out an inspection or test and has detected any fault or defect in any electrical installation, that inspector, approved inspection authority for electrical installations or supplier may require the user or lessor of that electrical installation to obtain a new certificate of compliance: Provided that if such fault or defect in the opinion of the inspector, approved inspection authority for electrical installations and supplier constitutes an immediate danger to persons, that inspector, approved inspection authority for electrical installation or suppliers shall forthwith take steps to have supply to the circuit in which the fault or defect was detected, disconnected: Provided further that where such fault or defect is of such a nature that it may indicate negligence on the part of a registered person, the inspector, approved inspection authority for electrical installations or supplier shall forthwith report those circumstances in writing to the chief inspector.

Note: Self explanatory

2.7 Regulation 8 – Commencement and permission to connect installation work

2.7.1 Subregulation 1

No person shall commence installation work which requires a new supply or an increase in electricity supply capacity unless the supplier has been notified thereof in the form of Annexure 4: Provided that the supplier may waive this requirement in respect of such types of work as it may specify.

Note:

1. The supplier needs this notice in order to be advised of any additional load or connection facilities which he may have to provide for, but also to be able to exercise his prerogative to arrange for inspection of the installation work while it is in progress.

2.7.2 Subregulation 2

No person shall connect or permit the connection of any completed or partially completed electrical installation to the electricity sup-

ply unless it has been inspected and tested by a registered person and a certificate of compliance for electrical installation has been issued: Provided that the supplier may on request connect the supply to the electrical installation for the purpose of testing and the completion of the certificate of compliance by the registered person: Provided further that this subregulation shall not apply in a case where the electricity was disconnected for the non-payment of the electricity account and where there has been a change of tenant but not of ownership.

Note: Self explanatory

2.8 Regulation 9 – issuing of certificate of compliance

2.8.1 Subregulation 1

No person other than a registered person shall issue a certificate of compliance

Note: Self explanatory

2.8.2 Subregulation 2

A registered may issue a certificate of compliance accompanied by the request test report only after having satisfied himself or herself by means of an inspection and test that-

(a) A new electrical installation complies with the provisions of regulation 5 (1) and was carried out under his or her general control; or

(b) An electrical installation which existed prior to the publication of the current addition of the health and safety standard incorporated into these Regulations in terms of regulation 5 (1), which complies with the general safety principles of such standard; or

(c) An electrical installation referred to in paragraph (b), to which extensions or alterations have been effected, that-

(i) the existing part of the electrical installation complies with the general safety principles of such standard and is reasonably safe;

(ii) the extensions and alterations effected comply with the provisions of regulation 5 (1) and were carried out under his or her general control.

Note: Self explanatory

2.8.3 Subregulation 3

If at any time prior to the issue of the certificate of compliance any fault or defect is detected in any part of the electrical installation, the registered person shall refuse to issue such certificate until that fault or defect has been rectified: Provided that if such fault or defect in the opinion of the registered person constitutes an immediate danger to persons in a case where electricity is already supplied, he or she shall forthwith take steps to disconnect the supply to the circuit in which the fault or defect was detected and notify the chief inspector thereof.

Note: Self explanatory

2.8.4 Subregulation 4

Any person who undertakes to do electrical installation work shall ensure that a valid certificate of compliance is issued for that work.

Note:

1. Only in special cases will it be allowed through an exemption for another person to issue a certificate of compliance e.g. when the electrical contractor has closed his business.

2.8.5 Subregulation 5

No person may amend a certificate of compliance.

Note: Self explanatory

2.9 Regulation 10 Disputes

2.9.1 Subregulation 1

Should a dispute arise over the interpretation of a health and safety standard referred to in regulation 5 (1) between a user, a registered person, an electrical contractor, an approved inspection authority for electrical installations or a supplier, as the case may be, an affected person may appeal against that interpretation to the chief inspector.

Note: Self explanatory

2.9.2 Subregulation 2

A person who refers a dispute referred to in subregulation (1) shall serve a notice of dispute, setting out fully the nature and grounds of the dispute, on both the chief inspector and the person whose interpretation he or she is disputing, by personally delivering the notice of dispute or sending it by the registered post.

Note: Self explanatory

2.9.3 Subregulation 3

The person whose interpretation is disputed shall within 14 working days of the date of which he or she received the notice of dispute, forward a notice setting the reasons for his or her interpretation to the chief inspector.

Note: Self explanatory

2.9.4 subregulation 4

the chief inspector shall after having considered the grounds and cause of the dispute, confirm, set aside or vary the interpretation of the safety standard in question or substitute it for the interpretation, which in the opinion of the chief inspector, ought have been given.

Note: Self explanatory

2.10.2 Subregulation 2

Any natural person who satisfies the chief inspector that he or she-

(a) has sufficient knowledge of the rules applicable to electrical installations in the category for which the application is being made; and

(b) has appropriate practical experience in respect of the electrical installation, verification and certification of the construction, testing and inspection of the type of electrical installation for which application is being made,

shall be registered as an electrical tester for single phase, an installation electrician, or a master installation electrician, as the case may be

Note: Self explanatory

2.10.1 Subregulation 3

The chief inspector shall furnish the registered person with the appropriate certificate of registration and enter such registration in the national data base

Note:

1. All certificates of registration issued since 24 May 1982 are still valid, unless it has been cancelled or withdrawn.

2.10.2 Subregulation 2

A registered person shall on request produce his or her certificate of registration to an inspector, approved inspection authority for electrical installations, a supplier or any person to whom he or she intends to issue a certificate of compliance.

Note: Self explanatory

2.10.3 Subregulation 3

A registered person shall inform the chief inspector of changes affecting his or her registration within 14 days after such change.

Note: Self explanatory

2.10 Regulation 12 – Withdrawal of registration and approval

2.11.1 Subregulation 1

Subject to the provisions of subregulation (2), the chief inspector may with draw an approval issued to an approved inspection authority, a registration issued to an electrical contractor or a certificate of registration issued to a registered person if such person-

(a) No longer complies with any of the conditions referred to in regulation 3 (2) (a), 6 (4) or 11 (2), respectively; or

(b) Is convicted of an offence referred to in regulation 15.

2.11.2 Subregulation 2

The chief inspector may not withdraw a registration or an approval unless he or she has-

(a) Informed the holder such registration or approval of the intended withdrawal thereof and of the grounds upon which it is based; and

(b) Afforded such holder a reasonable opportunity to state his or her case and, if the holder is a person contemplated in subregulation (1) (a), afforded such holder an opportunity to comply with those conditions within the period specified by the chief inspector.

Note: Self explanatory

2.11.3 Subregulation 3

The chief inspector shall, in writing, inform the person concerned of the reasons of his or her decision

Note: Self explanatory

2.11.4 Subregulation 4

Any person adversely affected by the decision of the chief inspector may, in writing appeal to the Director-General against such decision.

Note: Self explanatory

2.11.5 Subregulation 5

An appeal referred to in subregulation (4) shall-

(a) Be lodged within sixty days from the date on which the

decision was made known; and

(b) Set out the grounds of appeal

Note: Self explanatory

2.11.6 Subregulation 6

After considering the grounds of appeal and the chief inspector's reasons for his or her decision, the Director-General shall as soon as practicable confirm, set aside or amend the decision

Note: Self explanatory

2.12 Regulation 13 – Substitution of lost, damaged or destroyed certificate

2.12.1 Subregulation 1

If any registration certificate issued in terms of these regulations to an electrical contractor or a registered person is lost, damaged or destroyed, the person to whom the certificate was issued may apply to the chief inspector for a duplicate certificate in the form of Annexure 6, together with the relevant registration fee prescribed by regulation 14

Notes:

1. The following documents must accompany the Annexure 6-
   - Certified copy of ID
   - Two colour or black and white photographs (40mm x 30mm)
   - A copy of the old registration certificate (blue, yellow or pink card) if available
   - Proof of payment in the form of a receipt, deposit slip, print out of payment, etc.
   - An affidavit to say what has happened with the old registration certificate
2. No faxed or e-mailed copies will be accepted.

2.12.2 Subregulation 2

After proof that a certificate referred to in subregulation (1) has been lost, damaged or destroyed has been submitted to the satisfaction of the chief inspector, the chief inspector shall issue a duplicate thereof on which the word "duplicate' shall appear.

Note: Self explanatory

2.13 Regulation 14 – Fees payable

The fees payable in respect of an application in terms of regulation 3 (2), 6 (3) and 11 (1) or a duplicate certificate of registration in terms of regulation 13 (1) shall be R120,00

Note:

1. Any payment to the department of Labour shall be made at any Labour Center or any branch of First National Bank. The banking details are as follows-
   - Account holder: Department of Labour
   - Bank: First National Bank
   - Account Number:
   - 62025135577
   - Branch code: 253145
   - Reference: OHS: EIR – (your surname and initials).

2.14 Regulation 15 – Offences and penalties

Any person who contravenes or fails to comply with any of the provisions of regulations 3 (3), 4, 5, 6 (1), 7, 8, 9, 11 (4) and 11 (5) shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum period of 12 months, and in the case of a continuous offence, to an additional fine of R200,00 for each day on which the offence continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

Note: Self explanatory

2.15 Regulation 16 – Repeal of regulations

The Electrical Installation Regulations, 1992, promulgated by Government Notice.2920 of 23 October 1992, as amended by Government Notice No.962 of 20 May 1994, are hereby repealed

Note: Self explanatory

2.16 Regulation 17 – Short title and commencement

These Regulations shall be called the Electrical Installation Regulations, 2009: Provided that regulation 5 (6) shall come into effect on 1 April 2010.

Note: Self explanatory

Annexure 1

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

CERTIFICATE OF COMPLIANCE

Certificate of compliance in accordance with regulation 7 (1) of the Electrical Installation Regulations, 2009.	Certificate No			
	Certificate Type (Tick appropriate block)			
	Initial Certificate		Supplementary Certificate	

Supplement No ..... to Initial Certificate No ..... as issued on: .....

Identification of the relevant electrical installation

(Address or other unique reference, where applicable)

Physical address:

.....

Name of building: .....

GPS Co-ordinates .....

Suburb/Township: .....

Pole number: .....

District/Town/City: .....

Erf/Lot No.: .....

.

Declaration by registered person

I _____ (ID No. _____)
a registered person, declare that I have personally carried out the inspection and testing of the electrical installation described in the attached test report as per the requirements of:

(Tick appropriate box)

(*a*) electrical installation regulations 9 (2) (*a*) (new electrical installation); or	
(*b*) electrical installation regulations (9 (2) (*b*) (existing electrical installation); or	
(*c*) electrical installation regulations 9 (2) (*c*) (new part to existing electrical installation)	

and deem the electrical installation to be reasonably safe when properly used.

I have entered the number of this certificate on the attached test report(s).

I declare that the persons responsible for the design, specification, procurement, construction, commissioning and inspection and test have completed the relevant sections of the test report.

Registered person registration number: ..... Date of registration .....

Type of registration: (Tick appropriate block)

Electrical tester for single phase	
Installation electrician	
Master installation electrician	

Signature: ..... Date: .....

Contact details of registered person:	Tel No.	
	Fax No.	
	Cell No.	
	E-mail.	
	Address	.....
		.....
		.....

NOTE: 1. This certificate is not valid unless all the sections have been completed correctly and the test report in the format approved by the chief inspector is attached.
2. This certificate will be invalid if any corrections have been made.

Declaration by electrical contractor

I _____ (ID No. _____)
declare that the electrical installation has been carried out in accordance with the requirements of the Occupational Health and Safety Act, 1993, and regulations made thereunder.

Electrical contractor registration number: ..... Date of registration .....
Signature: .....

Contact details of electrical contractor:

Name	
Address	.....
	.....
	.....
Tel.	
Fax	
Cell	
E-mail	

Recipient name: ..... Signature: ..... Date: .....

Annexure 2

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

APPLICATION FOR APPROVAL AS APPROVED INSPECTION AUTHORITY FOR ELECTRICAL INSTALLATIONS

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby apply to be approved as an approved inspection authority for electrical installations in terms of regulation 3 (2) of the Electrical Installation Regulations, 2009. I declare that the particulars given hereunder are, to the best of my knowledge and belief, correct.

1. PARTICULARS OF THE APPLICANT:

SURNAME OF APPLICANT: .....
NAME OF APPLICANT: .....
ID NO. OF APPLICANT: .....
REGISTERED NAME: .....
TRADING NAME: .....

State whether your business is: **SOLE PROPRIETOR/PARTNERSHIP/COMPANY/CLOSE CORPORATION** (delete which is not applicable).
BUSINESS REGISTRATION No.: .....
IN WHICH PROVINCE IS YOUR BUSINESS SITUATED? .....
PHYSICAL ADDRESS: .....
..... POSTAL CODE: .....
POSTAL ADDRESS: .....
..... POSTAL CODE: .....
TEL No.: ..... CELL No.:.....
FAX No.: ..... EMAIL: .....

2. SCOPE OF APPROVAL (Tick appropriate block(s)):

(*a*)	Electrical tester for single phase	
(*b*)	Installation electrician	
(*c*)	Master installation electrician	

3. IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

(*a*) Certified copy of your 10 of registered person(s);
(*b*) Certified copy of business registration no.;
(*c*) Certified copy of a registration certificate of registered persons (both sides);
(*d*) Certified copy of accreditation certificate from accreditation authority.

Signature of the applicant .... Date: .....

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... ..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

Annexure 3
DEPARTMENT OF LABOUR
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)
APPLICATION FOR REGISTRATION AS ELECTRICAL CONTRACTOR

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby apply to be approved as an approved inspection authority for electrical installations in terms of regulation 6 (2) of the Electrical Installation Regula-

tions, 2009. I declare that the particulars given hereunder are, to the best of my knowledge and belief, correct.

1. PARTICULARS OF THE APPLICANT:

SURNAME OF APPLICANT: .....
NAME OF APPLICANT: .....
ID NO. OF APPLICANT: .....
REGISTERED NAME: .....
TRADING NAME: .....
State whether your business is: **SOLE PROPRIETOR/PARTNERSHIP/COMPANY/CLOSE CORPORATION** (delete which is not applicable).
WRITE DOWN YOUR BUSINESS REGISTRATION No.: .....
IN WHICH PROVINCE IS YOUR BUSINESS SITUATED? .....
PHYSICAL ADDRESS: .....
..... POSTAL CODE: .....
POSTAL ADDRESS: .....
..... POSTAL CODE: .....
TEL No.: ..... CELL No.:.....
FAX No.: ..... EMAIL: .....

2. STATE TYPE OF REGISTRATION YOU HAVE:

(*a*) ELECTRICAL TESTER FOR SINGLE PHASE **YES/NO**
ETSP No.: .....
(*b*) INSTALLATION ELECTRICIAN **YES/NO**
IE No.: .....
(*c*) MASTER INSTALLATION ELECTRICIAN **YES/NO**
MIE No.: .....

3 WHERE REGISTERED PERSON(S) IS/ARE EMPLOYED ON A FULL-TIME BASIS, COMPLETE THE FOLLOWING: (Section 3 can be filled in as many times as the number of registered person/s employed by the business). Notify the chief inspector in case of any changes.

SURNAME OF REGISTERED PERSON: .....
NAME/S OF REGISTERED PERSON: .....
ID NUMBER OF REGISTERED PERSON: .....
TYPE OF REGISTRATION: TSP/IE/MIE (delete which is not applicable)
REGISTRATION NUMBER: ..... DATE ISSUED: .....

4. IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

(*a*) Certified copy of your ID and, where applicable, certified copies of ID's of registered person(s);
(*b*) Certified copy of business registration no.
(*c*) Certified copy of the relevant registration certificate(s) (both sides).

Signature of the applicant ..... Date: .....

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... ..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

Annexure 4

REGULATION 8 (1) OF THE ELECTRICAL INSTALLATION REGULATIONS, 2009
NOTICE OF COMMENCEMENT OF INSTALLATION WORK

Name of supplier: .....
Address of supplier: .....

.....
.....I hereby advise that electrical installation work will commence at-
ERF No.: ..... Township: .....
Street address: .....
Name of building: ..... Floor: .....
Name of tenant/occupier/agent/owner:.....
Note: Farms and agricultural holdings, full description as per title deed is required.
Description of proposed work: .....

Date of commencement of installation work: .....

New electrical installation		Extension		Modification	

Estimated capacity of electrical installation ..... kVA
Electrical Contractor/Registered person* .....
(block letters)
Fixed address: .....
Contractor's/Registered person's Registration Certificate No.* .....
Signature: ..... Office telephone No.: .....
Fax No.: .....
Cell No .....
Name of signatory: .....

Competent person/Approved Inspection Authority* .....
(block letters)
Fixed address: .....
Approved Inspection Authority Certificate No*.: .....
Signature: ..... Office telephone No.: .....
Fax No.: .....
Cell No .....
Name of signatory: .....
***Delete whichever is not applicable**

Annexure 5

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

REGULATION 11 (1) OF THE ELECTRICAL INSTALLATION REGULATIONS, 2009

APPLICATION FOR REGISTRATION AS REGISTERED PERSON

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby, in terms of regulation 11 (1) of the Electrical Installation Regulations, 2009, apply to be registered as electrical tester for single phase*/installation electrician*/master installation electrician* and hereby declare that the particulars given hereunder are, to the best of my knowledge and belief, correct. I further declare that I know of no reason why I should not be regarded as being physically able to inspect and test electrical installations.

(* Delete whichever is not applicable).

I attach two photographs of myself as required by the chief inspector.

Yours faithfully

....
Signature Date

Notes:

(i) The applicant must also sign this form in the three spaces provided for specimen signatures at the end of this form.
(ii) The chief inspector requires the submission of two clear identical photographs of 40 mm by 30 mm showing the face and shoulders of the applicant.

(The photographs required are similar to those required for a passport and can be obtained from any photographer who renders such a service.)

Surname (block letters) .....
First names (block letters} .....
Postal address ..... Code .....
Telephone No. (W)..... (H) .....
(Fax)..... (Cell) .....
Date of birth ..... Place of birth .....
Identity number (immigration permit number) .....
Details of training appropriate to installation work:

Note - Where paragraph (*a*) hereunder is applicable, applicant must submit with the application, testimonials from employers stating the duration and nature of training.

(*a*) Training other than under a contract of apprenticeship in terms the Manpower Training Act, 1981, or the Skills Development Act, 1998, in a trade appro-

priate to electrical installation work.

Name and address of employer	From	To

(*b*) Apprenticeship or training in terms of the Manpower Training Act, 1981, or the Skills Development Act, 1998, in a trade appropriate to installation work:

No. of contract ..... **Trade in which trained** .....

Name and address of employer	From	To

7. Details of practical experience, other than that referred to in paragraph 6 (documentary proof, such as certificates of service, to be submitted).

Name and address of employer	From	Capacity in which employed

8. Details of certificates or diplomas held. (If you have passed a qualifying trade test and subjects such as Technica-electrical, Electrical Trade Theory, Installation Rules, etc., this should be stated and proof thereof submitted):

.....
.....
.....

SPECIMEN SIGNATURE OF APPLICANT

Note -The specimen signatures should be the normal Signature of the applicant and should be carefully completed. One specimen will be affixed to each certificate of registration that may be issued.

1	2	3

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... ..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

Annexure 6

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

APPLICATION FOR DUPLICATE CERTIFICATE ISSUED IN TERMS OF THE ELECTRICAL INSTALLATION REGULATIONS. 2009

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Sir/Madam

I hereby apply for a duplicate certificate of registration issued to me in terms of regulation 13 (2), of the Electrical Installation Regulations, 2009. I declare that the particulars given hereunder are, to the best of my knowledge and belief, correct.
(*delete which is not applicable).

1. PARTICULARS OF THE APPLICANT:

SURNAME OF APPLICANT: .....
NAME OF APPLICANT: .....
ID NO. OF APPLICANT: .....

PHYSICAL ADDRESS: .....
.....POSTAL CODE.....
POSTAL ADDRESS: .....
.....POSTAL CODE.....
TEL NO.:.....CELL NO.:.....
FAX NO.:.....E-MAIL.....

2. SCOPE OF APPROVAL:

(*a*) REGULATION 11 (2): ELECTRICAL TESTER FOR SINGLE PHASE
(*b*) REGULATION 11 (2): INSTALLATION ELECTRICIAN
(*c*) REGULATION 11 (2): MASTER INSTALLATION ELECTRICIAN

3. IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

(a) Certified copy of ID;
(b) Two clear identical photographs of 40 mm by 30 mm showing face and shoulders of applicant;
(c) Number of the lost, damaged or destroyed certificate.

Signature of the applicant ..... Date: .....

4.. **AFFIDAVIT**

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for refusal: .....
Signature:..... Designation:.....
Registration No.:..... Renewal date: .....
Date: .....

ELECTRICAL MACHINERY REGULATIONS

GNR.250 of 25 March 2011

[These Regulations were first published in GNR.1593 of 12 August 1988, amended by GNR.1185 of 1 June 1990 and subsequently repealed by GN.250 of 25 March 2011.**]**

The Minister of Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisor Council for Occupational Health and Safety, made the regulations in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions.-In these Regulations, "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act shall have such meaning and, unless the context otherwise indicates-

"accreditation authority" means the South African National Accreditation System (SANAS) established by section 3 of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act No. 1 9 of 2006);

"circuit" means an arrangement of conductors for the purpose of carrying electrical energy;

"conductor" means an electrical conductor so arranged as to be electrically connected to a source of electrical energy;

"confined space" means an enclosed, restricted or limited space in which, because of its construction, location or contents, or any work activity carried on therein, a hazardous substance may accumulate or an oxygen deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, pump, sump or similar construction, equipment, machinery or object in which a dangerous liquid or a dangerous concentration of gas, vapour, dust or fumes may be present;

"dead" means at or about zero potential and isolated from any live system;

"earthed" means connected to the general mass of earth in such a manner as will ensure at all times an immediate safe discharge of electrical energy;

"electric fence" means an electrified barrier consisting of one or more bare conductors erected against the trespass of persons or animals;

"electric fence energiser" means electrical machinery arranged so as to deliver a periodic non-lethal amount of electrical energy to an electric fence connected to it;

"electric fence system" means an electric fence and an electric fence energiser;

"insulated" means covered with insulating material of such thickness and properties that it will prevent the flow of electrical energy between the object so covered and its surroundings or any external object in contact with it;

"live" or **"alive"** means electrically charged

"miniature substation" means a substa-

tion that a person cannot enter;

"portable electric tool" means any electrically operated implement, with the exception of ordinary household electrical appliances, which is designed for use with-

(*a*) a flexible cord at the supply end and which is intended for use by hand and which is to be carried by hand at the place of work; or

(*b*) a flexible cable at the supply end and which is intended for use by hand and which is to be moved by hand at the place of work;

"registered person" means a person registered in terms of regulation 14 as an electric fence system installer;

"supplier", means any person who supplies or contracts or agrees to supply electricity.

2. Scope of application.-(1) These Regulations shall apply to the designers, manufacturers, installers, sellers, users, employers and suppliers who design, manufacture, install, sell, generate or use electrical machinery.

(2) These Regulations shall apply to users who generate, transmit or distribute electricity whether overhead or underground to the point of supply.

3. Personal protective equipment.-An employer or user shall provide free of charge and maintain in good condition such protective equipment as may be necessary to prevent incidents, for use by persons engaged in working on or in close proximity to live electrical machinery or dead electrical machinery which may become live.

4. Work on disconnected electrical machinery.-Without derogating from any specific duty imposed on employers or users of machinery by the Act, an employer or user shall, whenever work is to be carried out on any electrical machinery which has been disconnected from all sources of electrical energy, but which is liable to acquire or to retain an electrical charge, as far as is practicable, cause precautions to be taken by earthing or other means to discharge the electrical energy to earth from such electrical machinery or any adjacent electrical machinery if there is danger there from before it is handled and to prevent any electrical machinery from being charged or made live while persons are working thereon.

5. Notice.-An employer or user shall cause notices to be displayed within, and at all designated entrances to premises, as the case may be, where generating plant and transforming, switching or linking apparatus are situated, which notices shall-

(*a*) prohibit unauthorised persons from entering such premises;

(*b*) prohibit unauthorised persons from handling or interfering with electrical machinery;

(*c*) contain directions of procedure in case of fire; and

(*d*) contain directions on how to resuscitate persons suffering from the effects of electric shock:

Provided that this regulation shall not apply to miniature substations and distribution boxes, on condition that their access doors can be locked or bolted and that only authorised persons are permitted to open them and work thereon.

6. Switchgear and transformer premises. -(1) An employer or user shall cause enclosed premises housing switchgear and transformers-

(*a*) to be of an ample size so as to provide clear working space for operating and maintenance staff;

(*b*) to be sufficiently ventilated to maintain the equipment at a safe working temperature;

(*c*) to be, as far as is practicable, constructed so as to be proof against rodents, leakage, seepage and flooding;

(*d*) to be provided with lighting that will enable all equipment, thoroughfares and working areas to be clearly distinguished and all instruments, labels and notices to be easily read;

(*e*) to have doors or gates, which can be readily opened from the inside, opening outwards;

(*f*) to be provided with fire extinguishing appliances or systems which are suitable for use on electrical machinery and which are maintained in good working order: Provided that, in the case of unattended premises, suitable fire extinguishing appliances be made available at such premises only when work is in progress thereon or therein; and

(*g*) to be of such construction that persons cannot reach in and touch bare conductors or exposed live parts of the electrical machinery.

(2) No person other than a person authorised thereto by the employer or user shall enter, or be required or permitted by the employer or user to enter, premises housing switchgear or transformers, unless all live conductors are insulated against inadvertent contact or are screened off: Provided that the person so authorised may be accompanied by any other person acting under his control.

7. Electrical control gear.-(1) An employer or user shall provide all electrical machinery with controlling apparatus and protective devices which shall, as far as is reasonably practicable, be capable of automatically isolating the power supply in the event of a fault developing on such machinery.

(2) No employer or user shall place a switch, circuit breaker or fuse in the neutral conductor of a polyphase alternating current or three-wire direct current distribution system unless such switch, circuit breaker or fuse is so arranged as to isolate all phase conductors and the neutral conductor simultaneously:

Provided that this shall not include an isolating link on the neutral conductor installed for test purposes or to prevent circulating currents.

(3) The employer or user shall, whenever reasonably practicable, provide switchgear with an interlocking device so arranged that the door or cover of the switch cannot be opened unless the switch is in the 'off position and cannot be switched on unless the door or cover is locked.

(4) The employer or user shall mark or label all controlling apparatus permanently so as to identify the system or part of the system or the electrical machinery which it controls, and where such control apparatus is accessible from the front and the back these markings shall be on both the front and the back.

(5) The employer or user shall post a notice at switchgear or control gear which has been switched off or locked out to enable persons to work on electrical machinery or other machinery operated by electricity and controlled by such switchgear or control gear, warning against reclosing such switchgear or control gear.

(6) No person shall act contrary to a warning in terms of subregulation (5).

8. Switchboards.-(1) An employer or user shall provide an unobstructed space for operating and maintenance staff at the back and front of all switchboards, and the space at the back shall be kept closed and locked except for the purpose of inspection, alteration or repair: Provided that the requirements of this regulation with respect to the unobstructed space at the back of the switchboard shall not apply in the case of-

(*a*) switchboards which have no uninsulated conductors accessible from the back;

(*b*) switchboards the switchgear of which is of a totally enclosed construction;

(*c*) switchboards, the backs of which are accessible only through an opening in the wall or partition against which they are placed, such openings being kept closed and locked; and

(*d*) switchboards which can be safely and effectively maintained from the front

and which have all parts accessible from the front.

(2) The employer or user shall ensure that all switchboards are selected, designed, manufactured, installed and maintained in accordance with sound engineering practice.

9. Electrical machinery in hazardous locations.-(1) Every employer or user shall identify all hazardous locations and classify them in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) No person may use electrical machinery in locations where there is danger of fire or explosion owing to the presence, occurrence or development of explosive or flammable articles, or where explosive articles are manufactured, handled or stored, unless such electrical machinery, with regard to its construction relating to the classification of the hazardous locations in which it is to be used, meets the requirements of the safety standard incorporated for this purpose in these Regulations under section 44 of the Act.

(3) Every employer or user referred to in subregulation (1) shall be in possession of a certificate in a form acceptable to the chief inspector, which has been issued by an approved inspection authority and in which it is certified that the electrical machinery referred to in subregulation (2) has been manufactured and tested for the groups of dangerous articles in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act: Provided that in lieu of such certificate an inspector may approve permanent labelling on such machinery, which label shall contain all the relevant information.

(4) When diverse items of electrical machinery such as motors, cables and control apparatus are used together to form a system, the employer or user shall ensure that the selection, arrangement, installation, protection, maintenance and working of the system results in no less a degree of safety than when the individual items of such machinery are used separately.

(5) The employer or user shall use electrical machinery to which this regulation applies only under such conditions and in such surroundings as prescribed in the health and safety standard referred to in subregulation (2).

(6) No employer or user shall effect repairs or adjustments to or otherwise work on electrical machinery under conditions envisaged by subregulation (2) unless such machinery has been rendered dead and effective measures have been taken to ensure that such machinery remains dead.

(7) Wherever there is a possibility of the formation of static electricity under working conditions, the employer or user shall earth all metallic structures, machine parts, pneumatic conveyor ducts and pipelines conveying flammable articles and the like, or take such other measures as may be necessary to prevent the formation of electric sparks.

(8) The employer or user shall cause all electrical machinery in a hazardous location to be visually inspected and tested at intervals not exceeding two years, or any other interval approved by the chief inspector after a risk assessment has been conducted by a person who is competent to express an opinion on the safety thereof: Provided that installed intrinsically safe equipment may in lieu of a test be verified in terms of the approved design.

(9) The person carrying out the examination referred to in subregulation (8) shall enter, sign and date the results of each examination in a record book which shall be kept by the employer or user for this purpose.

10. Portable electric tools.-(1) No person shall

use or permit the use of a portable electric tool with an operating voltage that exceeds 50 V to earth unless-

(*a*) it is connected to a source of electrical energy incorporating an earth leakage protection device, the construction of which meets the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act; or

(*b*) it is connected to a source of electrical energy through the interposition between each tool and the source of an individually double-wound isolating transformer, the secondary winding of which is not earthed at any point and the construction of which meets the requirements of the relevant health and safety standard incorporated into these Regulations under section 44 of the Act; or

(*c*) it is connected to a source of high frequency electrical energy derived from a generator which is used solely for supplying energy to such portable electric tool and which arrangement is approved by the chief inspector; or

(*d*) it is clearly marked that it is constructed with double or reinforced insulation.

(2) No person shall sell a portable electric tool constructed with double or reinforced insulation referred to in subregulation (1) (*d*) unless-

(*a*) it is clearly marked that it is constructed with such insulation; and

{*b*) its insulation is constructed in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(3) No employer or user shall use or permit the use of a portable electric tool which is not fitted with a switch to allow for easy and safe starting and stopping of the tool.

(4) The employer or user shall maintain every portable electric tool, together with its flexible cord and plug, in good working order.

11. Portable electric lights.-(1) No employer or user shall use or permit the use of a portable light where the operating voltage exceeds 50V unless -

(*a*) it is fitted with a substantial handle which is made of non-hygroscopic, non-conducting material;

(*b*) all live metal parts or parts which may become live owing to a faulty circuit are completely protected against accidental contact;

(*c*) the lamp is protected by means of a substantial guard firmly fixed to the insulated handle; and

(*d*) the cable lead-in is such that the insulation can withstand rough use.

(2) No employer or user shall use or permit the use of a portable electric light in wet or damp conditions or in confined spaces inside metal vessels or when the person is in contact with large masses of metal, unless, subject to the provisions of subregulation (1) -

(*a*) the lamp is connected to a source of electrical energy incorporating an earth leakage protection device the construction of which meets the requirements of the relevant safety standard incorporated into these Regulations under section 44 of the Act; or

(*b*) the operating voltage of the lamp does not exceed 50V, and where this electrical energy is derived from a transformer, such transformer shall have separate windings.

12. Electric fences.-(1) No person shall design, manufacture, sell, install or use an electric fence or electric fence energiser other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act: Provided that electric fences or electric fence energizers installed in accordance with the Electrical Machinery Regulations, 1988, prior to the coming into force of these Regulations shall be deemed to comply with this regulation.

(2) The seller, importer and manufacturer of an electric fence energizer shall prove compliance with SANS 60335-2-76 by producing a certificate issued by an accredited test laboratory recognized by the accreditation authority.

(3) In the case of an electric fence energiser which receives its energy from a battery charged by means of a charging apparatus which receives its power from an electric supply, the user or lessor shall ensure that the charging apparatus is of double-wound isolation construction.

(4) Subject to the provisions of subregulation (5), every user or lessor of an electric fence system shall have an electric fence system certificate in the form of Annexure 1 in respect of such electric fence system: Provided that such certificate shall be transferable.

(5) Subregulation (4) shall not apply to an electric fence system that existed prior to the coming into force of these Regulations: Provided that if-

(*a*) any addition or alteration is effected to such electric fence system; or

(*b*) there is a change of ownership of the premises on which such electric fence system exists after 1 October 2012,

the user or lessor shall obtain an electric fence system certificate for the electric fence system, whereafter the provisions of subregulation (4) shall be applicable.

13. Issuing of electric fence system certificate.-(1) Only a registered person may issue an electric fence system certificate in the form of Annexure 1, after having satisfied himself or herself by means of an inspection and test that-

(*a*) the new electric fence system complies with the provisions of regulation 12(1);

(*b*) an electric fence system which existed prior to the incorporation of the relevant health and safety standard contemplated in regulation 12 (1) into these Regulations complies with the general safety principles of such standard; or

(*c*) an electric fence system which existed prior to the incorporation of the relevant health and safety standard contemplated in regulation 12 (1) into these Regulations and to which extensions or alterations have been effected, that-

(i) the affected part of the system complies with the general safety principles of such standard, and

(ii) the extensions or alterations effected comply with the provisions of regulation 12 (1):

Provided that a user of a pet-shock system or strip-grazing electric fence system, who is competent to install such a system, may issue an electric fence certificate for a pet-shock system or strip-grazing electric fence system, as the case may be.

(2) If at any time prior to the issuing of an electric fence system certificate in terms of regulation 13 (1), any fault or defect is detected in any part of the system, the registered person shall refuse to issue such certificate: Provided that if such fault or defect in the opinion of the registered person constitutes an immediate danger to persons in the case where electricity is already supplied, he or she shall forthwith notify the user or lessor, as the case may be, in writing.

(3) Any person who undertakes to install, alter or extend an electric fence system shall ensure that an electric fence system certificate is issued for that work.

(4) No person shall amend an electric fence system certificate issued by a registered person.

14. Application for registration as registered person.-(1) Application for registration as a registered person shall be made to the chief inspector in the form of Annexure 2, and shall be accompanied by the registration fee prescribed by regulation 23.

(2) Any natural person who satisfies the chief inspector that he or she has sufficient knowledge of the safety standards applicable to electric fence systems may be registered by the chief inspector as a registered person.

(3) The chief inspector shall furnish a registered person with a certificate of registration, and enter such registration into the national database.

(4) A registered person shall on request produce his or her certificate of registration to any inspector and any supplier or any person for whom he or she intends to install an electric fence system and issue an electric fence certificate.

15. Withdrawal of registration and approval. - (1) Subject to the provisions of subregulation (2), the chief inspector may withdraw a registration or an approval issued to an approved inspection authority or to a registered person if such a person-

(*a*) no longer complies with any of the conditions referred to in regulation 14 (2) or 17 (1), respectively; or

(*b*) is convicted of an offence referred to in regulation 24.

(2) The chief inspector may not withdraw a registration or an approval unless he or she has-

(*a*) informed the holder of such registration or approval of the intended withdrawal thereof and of the grounds upon which it is based; and

(*b*) afforded such holder a reasonable opportunity to state his or her case and, if the holder is a person referred to in subregulation (1) (a), afforded such holder an opportunity to comply with those conditions within the period specified by the chief inspector.

(3) The chief inspector shall, in writing, inform the person concerned of the reasons for his or her decision.

(4) Any person adversely affected by a decision of the chief inspector may, in writing, appeal to the Director-General against such decision.

(5) An appeal referred to in subregulation (4) shall-

(*a*) be lodged within 60 days from the date on which the decision was made known; and

(*b*) set out the grounds of appeal.

(6) After considering the grounds of appeal and the chief inspector's reasons for his or her decision, the Director-General shall as soon as practicable confirm, set aside or amend the decision

16. Substitution of lost, damaged or destroyed certificate of registration.-(1) A registered person whose registration certificate issued in terms of regulation 14 has been lost, damaged or destroyed, may apply for a duplicate in the form of Annexure 2.

(2) The application referred to in sub regulation (1) shall be accompanied by the fee prescribed by regulation 23.

(3) After submission of proof that a certificate of registration has been lost, damaged or destroyed, the chief inspector shall issue a substitute therefor on which the word "duplicate" shall appear.

17. **Inspection authorities.**-(1) On application, the chief inspector may approve as an inspection authority any person that has been accredited by the accreditation authority to be an approved inspection authority for performir,g the prescribed functions with regard to the manufacture or testing of electrical machinery.

(2) An application referred to in subregulation (1) shall be made to the chief inspector in the form of Annexure 3 and shall be accompanied by-

(*a*) a certified copy of the accreditation certificate issued by the accreditation authority; and

(*b*) the fee prescribed by regulation 23.

18. Earthing.-(1) An employer or user shall cause -

(*a*) roofs, gutters, downpipes and waste pipes on premises to which electrical energy is supplied to be earthed, except-
  (i) where the operating voltage does not exceed 50V;
  (ii) roofs made of non-conductive material or metal roofs covered by non-conductive material;
  (iii) gutters, downpipes and waste pipes made of non-conductive material or gutters and downpipes attached to a metal roof which is covered by non-conductive material;
  (iv) roofs, gutters, downpipes and waste pipes on premises which receive electricity by means of underground service connections: Provided that the connection is to the conductive structures;

(*b*) all accessible metallic parts of electrical machinery that, though normally not forming part of an electrical circuit, may become live accidentally, to be protected by an insulating covering or to be otherwise enclosed or to be earthed and the resistance of the earth continuity path shall not exceed 0,2 ohm, except-
  (i) metal in earth-free situations, other than runs of metal wireway, and the close-fitting metal sheathing and armouring of cables;
  (ii) short separate lengths of heavy-gauge metal wireway used for the mechanical protection of cables where such cables are not used in the secondary circuits of discharge luminaire installations;
  (iii) short, unexposed separate lengths of metal wireway used for the mechanical protection of insulated wiring passing through walls, floors, partitions or ceilings;
  (iv) metalwork of fixed electrical machinery where such metalwork is more than 2,4 m above the floor: Provided that this exception shall not apply where such metalwork is situated in any position likely to become damp, or in an elevator shaft, or near rotating machinery, or in contact with a wall, ceiling or other support constructed of or covered with conducting material;
  (v) metal parts of electrical machinery where such parts are enclosed or shrouded by insulating material so that such metal parts cannot be touched;
  (vi) cleats, clips, saddles, clamps of other devices for fixing wireways and cables;
  (vii) shades, reflectors and guards supported on lamp holders or discharge luminaries;
  (viii) lamp caps;
  (ix) metal parts of or screws in or through non-conducting materials which are separated by such materials from current-carrying parts and from earthed non-current-carrying parts in such a way that in normal use they cannot become live or come into contact with earthed parts.

(2) If at any time through a test of any electrical machinery on the premises by the supplier or inspector it is found that exposed metallic parts of the electrical installations are not earthed, the supplier or inspector shall require the occupier or owner of such premises to effect the necessary earthing within a fixed period of time not exceeding 30 days and, should the occupier or owner fail to effect the necessary earthing, the supplier may disconnect the electrical energy to such premises and shall not reconnect such energy until the earthing has been carried out.

19. Overhead power lines.-(1) A supplier, employer or user shall cause the supports, clearances, insulators and fittings and conductors for power lines to be designed, installed and maintained in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act.

(2) The supplier, employer or user shall cause the distance of any power line from an explosives magazine to comply with the requirements of the Explosives Act, 1956 (Act No. 26 of 1956).

(3) A supplier, employer or user shall cause the clearance of conductors and other wires over the normal high-water level of power lines crossing over water to be not less than the values for power lines above the ground outside townships: Provided that if the owner of the land on which the water is situated requires a greater clearance and no agreement between the supplier, user or owner of the land can be reached, the dispute shall be referred to the chief inspector for a decision.

(4) No person shall construct any road, railway, tramway, communication line, other power line, building or structure, or place any material or soil under or in the vicinity of a power line, which will encroach on the appropriate minimum clearances required in terms of subregulation (1).

(5) No person shall encroach in person or with objects on the minimum safety clearances required in terms of subregulation (1) or require or permit any other person to do so except by permission of the supplier, employer or user operating the power line.

(6) The supplier or user of power lines shall control vegetation in order to prevent it from encroaching on the minimum safety clearance of the power lines and the owner of the vegetation shall permit such control.

(7) The employer or user shall ensure that all supports of the lattice type which are used to carry overhead conductors or live parts of other electrical equipment are adequately protected in order to prevent any unauthorised person from coming into dangerous proximity of the conductors by climbing such supports, and an inspector may require an employer or user similarly to protect a support of any other type.

20. Service connections.-(1) No person shall require or permit any overhead service connection to be connected to the supplier's conductors elsewhere than at a point of support.

(2) No supplier, employer or user shall connect electrical energy to premises other than by means of conductors complying with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act and by means of a safe connection to the premises.

21. Overhead line crossings.-(1) Where a power line crosses a proclaimed road, railway or tramway, or a conductive communication line, the supplier, employer or user shall cause the clearance to comply with the requirements of regulation 19, and shall further cause-

(*a*) every structure supporting a crossing span to be designed in such a manner that it will be able to withstand the loads that may be imposed upon it should a breakage of any phase conductor or earth conductor occur;

(*b*) every structure supporting a crossing span, as far as is reasonably practicable, to be located so that it will not touch the service crossed, should it overturn;

(*c*) subject to the restrictions referred to in paragraph (*b*), one of the structures supporting a crossing span to be located as close to the point of crossing as is reasonably practicable;

(*d*) the clearance of the crossing span where it crosses a proclaimed road to be not less than 4,5 m in the case of a broken-phase conductor in a span other than the crossing span;

(*e*) armour rods, arcing horns or other proven methods to be fitted at the live ends of suspension and rigid insulators on at least the first three structures on each side of the crossing if the maximum voltage for which the power line is designed exceeds 1,1kV rms; alternatively, duplicate conductors, tied together at intervals of not more than 1 ,5 m shall be provided in the crossing span and shall be supported by duplicate parallel insulators, and for lines on rigid insulators the duplicate conductors shall extend at least 1,5 m beyond the supports on each side of the crossing span; and

(*f*) all crossings over services, including conductive communication lines, shall be mutually agreed between the power line user or supplier and the communications line user or user of other services.

(2) The supplier, employer or user shall cause every overhead service connection that crosses over bare conductive communication lines of the communication network to have minimum clearances between the overhead service connection and the conductive communication lines at the points of crossing of 0,5 m and the overhead service connection shall not cross below bare conductive communication lines.

22. Bare conductors on premises.-The employer or user shall cause bare conductors, other than conductors of a power line which cannot be completely insulated and which is installed on premises, to be so placed as to prevent accidental contact therewith and warning notices to be prominently displayed at such conductors.

23. Fees payable.-The fees payable in respect of an application in terms of regulations 14 (1) and 17 (2) (*b*) or a duplicate certificate of registration in terms of regulation 16 (2) shall be R120.

24. Offences and penalties.-Any person who contravenes or fails to comply with any of the provisions of regulations 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 (4), 18, 19, 20, 21 and 22 shall be guilty of an offence and liable upon conviction to a fine or to imprisonment for a maximum of 12 months and, in case of a continuous offence, to an additional fine of R200 for each day on which the offence continues or additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

25. Repeal of regulations.-The Electrical Machinery Regulations, 1988, published under Government Notice No. R.1593 of 12 August 1988, are hereby repealed.

26. Short title.-These Regulations shall be called the Electrical Machinery Regulations, 2011, and shall commence on 1 July 2011: Provided that regulation 12 (4) shall commence on 1 October 2012.

Annexure 1

DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

ELECTRIC FENCE SYSTEM CERTIFICATE OF COMPLIANCE

Electric Fence System Certificate of Compliance in accordance with regulation 12 (4) and 13 (1) of the Electrical Machinery Regulations, 2011.	Certificate No.	
	Certificate Type (Tick appropriate block)	
	Initial Certificate	Supplementary Certificate

Supplement No ..... to Initial Certificate No ..... as issued on: .....
.....

Identification of the relevant installation

(Address or other unique reference, where applicable)

Physical address:

.....

.....

Name of premises: ..... GPS Co-ordinates: .....

Suburb/Township: ..... Pole number: .....

District/Town/City: ..... Erf/Lot No.: .....

Declaration by registered electrical fence installer

I _____ (ID No. _____) a registered electric fence system installer, declare that I have personally carried out the inspection and testing of the electric fence system described above as per the requirements of regulation 13 (1), and deem the installation to be reasonably safe when properly used.

Registered person registration number: ..... Date of registration

.....

Signature: ..... Date: .....

Contact details of registered person:	Tel No.	
	Fax No.	
	Cell No.	
	E-mail.	
	Address	.....
		.....
		.....

Declaration by user or lessor

I declare that I am aware of my responsibilities in terms of regulation 12 of the Electrical Machinery Regulations and undertake to operate and maintain the electric fence system in a safe manner.

Recipient name: ..... Signature: ..... Date: .....

Annexure 2

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)
REGULATION 14 (1) OF THE ELECTRICAL MACHINERY REGULATIONS
APPLICATION FOR REGISTRATION AS AN ELECTRIC FENCE SYSTEM INSTALLER

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

Surname (block letters) .....
First names (block letters} .....
Postal address .....
Code .....

Telephone No. (W)..... (H) .....
(Fax)..... (Cell) .....
Date of birth ..... Place of birth .....
Identity number (immigration permit number) .....

A certified copy of electric fence system installer proficiency must be attached.

Two clear identical unmounted photographs of 40 mm by 30 mm showing the face and shoulders of the applicant to be submitted. One photograph to be certified on the back as follows:

I certify this to be a true photograph of.. .....

....
Signature of Magistrate, Justice of the Peace or Commissioner of Oaths Date

I hereby declare that the above particulars are, to the best of my knowledge and belief, correct.

Signature of applicant: ..... Date: .....

SPECIMEN SIGNATURE OF APPLICANT

Note -The specimen signatures should be the normal Signature of the applicant and should be carefully completed. One specimen will be affixed to each certificate of registration that may be issued.

1	2	3

Annexure 3

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)
REGULATION 17 (1) OF THE ELECTRICAL MACHINERY REGULATIONS
APPLICATION FOR APPROVAL AS AN APPROVED INSPECTION AUTHORITY FOR ELECTRICAL MACHINERY

Department of Labour **Occupational Health and Safety** **Private Bag X117** **Pretoria** **0001**	**R120,00**

PARTICULARS OF THE APPLICANT

SURNAME: .....
FIRST NAMES: .....
ID NO: .....
TRADING NAME: .....

State whether your business is: **SOLE PROPRIETOR/PARTNERSHIP/COMPANY/CLOSE CORPORATION** (delete which is not applicable).

BUSINESS CK No.: .....
PROVINCE IN WHICH BUSINESS IS SITUATED? .....
PHYSICAL ADDRESS: .....
..... POSTAL CODE: .....
POSTAL ADDRESS: .....
..... POSTAL CODE: .....

TEL No.: ..... CELL No.:.....
FAX No.: ..... E-MAIL: .....

STATE TYPE OF REGISTRATION YOU HAVE:

SANAS REGISTRATION NUMBER: .....
SCOPE OF ACCREDITATION: .....

IN SUPPORT OF THIS APPLICATION, PLEASE SUBMIT THE FOLLOWING:

1. A certified copy of the business registration number (indicate CK No.);

2. A certified copy of the accreditation certificate from the accreditation authority.

I hereby declare that the above particulars are, to the best of my knowledge and belief, correct.

Signature of the applicant ..... Date: .....

FOR OFFICE USE ONLY

Application: **APPROVED/NOT APPROVED**
Reason/s for declining: .....
.....
Registration No.:.....
Date: .....

GNR.251 of 25 March 2011: Incorporation of Health and Safety Standards into the Electrical MachineryRegulations,2011

I, M OLIPHANT, Minister of Labour, after consultation with the Advisory of Council for Ocuupational Health and Safety, hereby, under the section 44 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), incorporate into the Electrical Machinery Regulations,2011, the safety standards specified in the Schedule.

M OLIOHANT, Minister of Labour

SCHEDULE

Standards of South Africa:
SANS 767-1: Earth leakage protection units part 1:Fixed earth leakage protection circuit-breakers;
SANS 10086-1: The installation, inspection and mantainance of equipment used in explosive atmospheres Part 1: Installations include surface installations;

SANS 1507-6: Electrical cables with extruded solid dielectric insulation for fixed installations (300/ 500V to 1900/3 300V), Part 6: Service cables;

SANS 10108: The classification of hazardous locations and the selection of electrical apparatus for use in such locations;
SANS 1022-3: Electrical security installations,Part 3: Electric security fences (non-lethal)

SANS 10280-1: Overhead power lines for conditions prevailing in South Africa Part 1: Safety; and

SANS 60335-2-76: Household and similar electrical appliances - Safety: Part 2 - 76: Particular requirements for electric fence energisers.

NOTICES

GNR.859 of 2 September 2005

NOTICEOF DIRECTION IN TERMS OF SECTION 7 (1) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 DEPARTMENT PF LABOUR

Under section 7 (1) of the occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Jacob Pannye Malatse, appointed as chief inspector in terms of section 27 (1) of the said Act, here by direct all employers in the Class XIII :Iron, steel, artificial limbs, galvanising, garages, metal, etc. as per schedule below, of all the classification of industries in terms of the Compensation for Occupational Injuries and Diseases Act, 1993, to prepare a written policy concerning the protection of the health and safety of the employees at work, including the description of the organisation and the arrangements for carrying out and reviewing the policy, within six (6) months from the date of the notice.

The OHSAS 18001 Occupational Health and Safety Management Systems - Specification and OHSAS: 18002 Occupational Health and Safety Management Systems - Guidelines for the implementation of OHSAS 18001 may be used as a guideline.

J.P MALATSE
Chief Inspector

SCHEDULE

CLASS XIII
IRON, STEEL, ARTIFICIAL LIMBS, GALVANISING, GARAGES, METALS ETC.

1300: Iron and steel production, including processing and all quarrying and/or mining as well as other operations if incidental thereto.

1301: Foundry products manufacturing as a separate business, stove manufacturing.
1331: Iron button, buckle, hook, eye, hairpin and/or metal badges and brooch manufacturing; air-gun pellets manufacturing; leaden toy and novelty manufacturing; solder manufacturing; Venetian blind manufacturing and repairing; artificial limb manufacturing and repair; manufacturing of vehicles and other metal plates.
1340: Metal tube manufacturing; metal furnisher; door and/or window manufacturing; sheet metal products manufacturing as a separate business; wire, wire spring, wire rope, wire goods, fencing and/or gate; tin container manufacturing, lead pipe manufacturing, blacksmith as a separate business (including furriers); iron bedstead manu-

facturing, cutlery manufacturing including repairing if undertaken by the manufacturer, scale making and repairing; cycle frame manufacturing; electro-static power spray painting; metal spraying; derusting of metals, manufacturing of gas producers, electric battery, accumulator and/or electrode manufacturing; building and/or repair of ships (other than fibre glass, wooden or sailing ship) including repairs to ships whilst moored to the quay side or anchored in the harbor or road stead or undergoing trial runs; chain manufacturing as a separate business; aluminum products manufacturing and installing, welding as a separate business; galvanising as a separate business; metal product manufacturing including the business the business of saw doctors ; lighthouse and/or marine lighting engineering and metal or engineering works not otherwise classified but excluding structural steel erection or steel reinforcing operations rated under subclasses 0530 or 0532

1350: Electric cable manufacturing; manufacture of safety razor blades

1360: Motor car assembly as a business includ ing all operations on connection therewith

1361: Motor garaging, including servicing and/or repair of motor vehicles: the business of the owner of a motor graveyard or scrap yard; business of an automotive electrician as a separate business; petrol and oil filling station; lock-smithing; aircraft repair and/or servicing as a separate business; employment of parking attendants; the business of a dealer in new/ second hand motor vehicles, motor vehicle hiring if repairs are undertaken.

Note:

(a) The sale of motor spare parts and/or cars etc., as well as the supply of petrol, oil and/or air is incidental to the business of a motor garage owner whether such services are supplied on the garage premises or not.

(b) This rate also applies to a dealer in second-hand spare parts if the employer undertakes the dismantling of cars.

1363: Wagon, coach, carriage and/or motor body building as a separate business; panel beating and spraying as a separate business; motor car radiator manufacturing and repairing as a separate business.

GNR.442 OF 28 June 2013

OCCUPATIONAL HEALTH AND HYGIENE APPROVED INSPECTION AUTHORITIES: LIST OF BASIC EQUIPMENT, LIST OF TERTIARY INSTITUTIONS FOR LEGAL KNOWLEDGE EXAMINATION AND REPORTING FORMAT

DEPARTMENT OF LABOUR

I,Thobile Lamati designated Chief Inspector in terms of section 27 (1) of the Occupational Health and Safety Act, 1993 and by the virtue of the power delegated to me by the Minister of Labour in terms of section 42 (1) of that Act is hereby-

1. Approves the list basic equipment required; list of tertiary institutions for legal knowledge examination as well as the format to be used by the occupational health and hygiene inspection authorities.
2. This note will be effective as from the 1st September 2013 and the first report is due on 30 September 2013.

(Signed)
TM LAMATI
CHIEF INSPECTOR: OCCUPATIONAL HEALTH AND SAFETY

ANNEXURE 1
LIST OF BASIC EQUIPMENT

1.	**Airborne Contaminants (Hazardous Chemicals, Leads and Asbestos)**
	• Personal Sampling Pump/s (PSP) with a constant airflow system. Pump must have variable flow settings to accommodate low rates as well. • Primary calibration standard i.e. Electronic Calibration instrument or an inverted Burette able to calibrate PSP to a known flow rate. • Detector tubes for measuring gas or vapour (including detector tube pump i.e. bellow pump). • Will be an advantage if available: direct reading instruments for airborne gases and vapours (real time quantification) or direct reading diffusion tubes/badges. • Phrase Contrast Microscope fitted with a Walter Beckett graticule for Asbestos counting will be an advantage • Correct sample media (filters and sorbent tubes, sample heads (i.e. open face, antistatic cowl), cyclones and other consumables are important.
2.	**Noise** • Integrating sound level meter that complies at least with the accuracy requirements specified for a type 2 instrument in SAN 61672-1 and SAN 61672-2. • Sound calibrator that complies with the requirements prescribed for a type 2 calibrator in SAN60942. • Personal sound exposure meter (noise dose meter) that comply with the relevant accuracy requirements of IEC 61252 (and its calibrator) for personal exposure measurements will also be an advantage. • A type 1 SLM with frequency analyzer (and it's calibrator will again be an advantage, especially due to accuracy, sound intergrating properties and for noise control purposes.
3.	**Illumination** • Photometer (cosine calibrated and colour corrected), e.g. Lux meter
4.	**Heat Stress** • Instrument/s able measure the following environmental parameters: - Air temperature or dry bulb - Humidity or wet bulb - Radiant temperature or globe bulb - Air velocity • i.e. whirling hygrometer, globe thermometer, kata thermometer or anemometer (hotwire or vane) or • integrated electronic instrumentation i.e. WBGT thermal, environmental meter.
5.	**Cold Stress** • Dry bulb thermometer and anemometer (hotwire).
6.	**Ventilation** • Hot wire anemometer • Pitot static tube • Manometer

ANNEXURE II
LEGAL KNOWLEDGE CERTIFICATE

The Department of Labour will only accept Legal Knowledge Certificates that are issued by the following institutions:

Institution	Contact Person	E-mail	Contact number
CPUT	Mr. Hennie Van der Westhuizen	vanderwesthuizenh@cput.ac.za	072 127 2377
DUT	Mr Ivan Niranjan	ivann@dut.ac.za	082 859 4304
NMMU	Mr Charles M. Qoto	Charles.Qoto@nmmu.ac.za	083 632 2850
University of North West	Pro Fritz Eloff	Fritz.Eloff@nwu.ac.za	082 545 4373
University of Pretoria	Dr Nico Classen	nico.claassen@up.ac.za	083 258 4416

ANNEXURE III
SIX MONTHLY RETURN

PERIOD ..... to .....

	AIA Details
Company name	
Physical Address	
Postal Address	
Responsible Registered Occupational Hygienist/s	
Contact person	
Telephone number	
Fax number	
E-mail address	
Number of operational staff	
Stressors approved for	

LIST OF COMPANIES THAT HAVE BEEN SERVICED
AIA Name ..... **Cert. No.** ..... Date .....
Reporting period: ..... **to** .....

Sector **(as per 2-digit SIC Division Codes*)**	Number of employees in company **(<10, 10>99, 100-500, >500)**	Servicer provided **(i.e. hazard identification, risk assessment, monitoring, risk reduction recommendations, etc. e.g. follow up survey on noise**	Stressors monitored	Date	Number of employees potentially exposed to that stressor	Results in compilance with OH standards (Y/N)	Explanatory remarks (compliance with OH standards should be justified or actions being taken to ensure future compliance should be described. Additional sheets may be attached if necessary)

Appropriate 2-digit SIC Codes (i.e. Division level) are available from http://www.statssa.gov.za/additional services/sic/CONTENTS.htm

NOTICES

NAMES OF COMPANIES THAT HAVE BEEN SERVICED

Reporting period .....

Name of Company	Sector	Contact details	Province

A Division of Makrosafe Holdings (Pty) Ltd

Head office
71 Second Avenue,
Alberton North,
Tel: 0861 444 777,
Web: www.safetywallet.co.za

Centurion
Anker Building,
1279 Mike Crawford Avenue,
Centurion,
Tel: 012 980 0100

Cape Town
Suite 22 Frazzitta Business Park,
Langeburg Road, Durbanville
Tel: 021 974 6270

Durban
Suite 203 Granda Square,
16 Chartwell Drive, Umhlanga Rocks
Tel: 010 980 0520