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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 text 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.

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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 designated 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;

"mandatory" 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);

[Definition of "trade union" inserted 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 list 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 con-

cerning 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. 50f of 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 before 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 s. 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 householders 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 designat-

ed 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 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) 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 preventing 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;
- (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 mandatories.-(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 mandatory 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 mandatory with the provisions of this Act.

(3) Whenever any employee or mandatory 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 mandatory 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 mandatory 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 mandatory referred to in subsection (3) may be so convicted and sentenced in addition to the employer or user.

(6) Whenever the employee or mandatory 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 mandatory.

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 mandatory, 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 mandatory 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 contained 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 2003

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
2. Access to premises
3. Exemption
4. Copy of the Act
5. Health and safety committee
6. Negotiations and consultations before designation of health and safety representative

7. Designation of health and safety representatives
8. Reporting of incidents and occupational diseases
9. Recording and investigation of incidents
10. Witness at inquiry
11. Returns

12. Offences and penalties
13. Repeal of regulations
- Annexure 1 Recording and investigation of incidents
- Annexure 2 Subpoena of attend inquiry

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, Bronkhorstspuit, 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, Rodepoort, 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 Pro-

vincial 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, Buhmansdrif, 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

GENERAL ADMINISTRATIVE REGULATIONS

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 workplace: 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 WCL 1 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:

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
-
-

GENERAL ADMINISTRATIVE REGULATIONS

.....
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	7. Working in danger of engulfment	13C.
2. Personal safety equipment and facilities	8. Stacking of articles	13D.
2A. Intoxication	9. Welding, flames cutting, soldering and similar operations	13E.
2B. Display of substituted notices and signs	10. Operation trains	13F.
2C. Admittance of persons	11.	13G.
3. First Aid, emergency equipment and procedures	12.	14. Offence and penalties
4. Use and storage of flammable liquids	13.	15. Withdrawal of regulations
5. Work in confined spaces	13A. Ladders	16. Short title
6. Work in elevated positions	13B. Ramps	Annexure Minimum contents of a first aid box [Regulation 3]

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;

[Definition of "boatswain's chair" added by GNR.1791 OF 1988]

"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;

[Definition of "putlog scaffold" added by GNR.1791 of 1988.]

"scaffold" means any temporary elevated platform and supporting structure used for supporting workmen or materials or both;

[Definition 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;

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

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

[Definition 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 under 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; and

(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

GENERAL SAFETY REGULATIONS

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 sub-regulation (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 1965); 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 endo-

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 safely 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 outside 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.

GENERAL SAFETY REGULATIONS

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 stiles; 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 ladders.
- (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 not 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 (100ml)
- 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 Safety 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 Practice 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 Safety 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 entitled "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, Memphasi Mphumzi Shepherd Mladlana, 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 Standards 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.

MAJOR HAZARDS INSTALLATION REGULATIONS

GNR.692 of 30 July 2001

[These regulations were published in GNR.692 of July 2001]

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 | 5. Risk assessment | 8. General duties of suppliers |
| 2. Scope of application | 6. On-site emergency plan | 9. General duties of local government |
| 3. Notification of installation | 7. Reporting of risk and emergency occurrences | 10. Closure |
| 4. Temporary installations | | 11. Offences and penalties |

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

“**emergency plan**” means a plan in writing which, on the basis of identified potential incidents at the installation, together with their consequences, describes how such incidents and their consequences should be dealt with on-site and off-site;

“**local government**” means a local government as defined in section 1 of the Local Government Transition Act, 1993 (Act No. 209 of 1993);

“**material safety data sheet**” means a material safety data sheet as contemplated in regulation 7 of the General Administrative Regulations;

“**near miss**” means any unforeseen event involving one or more hazardous substances which, but for mitigating effects, actions or systems, could have escalated to a major incident;

“**on-site emergency plan**” means the emergency plan contemplated in regulation 6;

“**risk assessment**” means the process contemplated in regulation 5;

“**rolling stock**” means any locomotive, coach, railway carriage, truck, wagon or similar contrivance used for the purpose of transporting persons, goods or any other thing, and which can run on a railway;

“**temporary installation**” means an installation that can travel independently between planned points of departure and arrival for the purpose of transporting any substance, and which is only deemed to be an installation at the points of departure and arrival, respectively;

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

“**transit**” includes any time or place in which rolling stock may be between planned points of departure and arrival.

2. Scope of application.—(1) Subject to the provisions of sub-regulation (3) these regulations shall apply to employers, self-employed persons and users, who have on their premises, either permanently or temporarily, a major hazard installation or a quantity of a substance which may pose a risk that could affect the health and safety of employees and the public.

(2) These regulations shall apply to local governments, with specific reference to regulation 9.

(3) These regulations shall not apply to nuclear installations registered in terms of the Nuclear Energy Act, 1993 (Act No. 131 of 1993).

3. Notification of installation.—(1) Every employer, self-employed person and user shall notify the chief inspector, provincial director and relevant local government in writing of—

- the erection of any installation that will be a major hazard installation, prior to commencement of erection thereof; and
- the conversion of any existing installation into a major hazard installation, prior to such conversion.

(2) Every employer, self-employed person and user shall notify the chief inspector, the local government and the provincial director within 60 days of the promulgation of these regulations of an existing major hazard installation.

(3) No employer, self-employed person and user shall modify an installation by increasing its storage or production capacity, or altering the process or by effecting any other change that may increase the risk of an existing major hazard installation, without notifying the chief inspector, relevant local government and provincial director in writing.

(4) The information submitted by an employer, self-employed person and user in terms of subregulations (1), (2) and (3), shall include

- the physical address of the installation;
- the complete material safety data sheets of all substances that resulted in the installation being classified as a major hazard installation;
- the envisaged maximum quantity of such substance that may be on the premises at any one time;
- the risk assessment of the major hazard installation as contemplated in regulation 5 (1); and
- any further information that may be deemed necessary by an inspector in the interests of the health and safety of the public.

(5) Subregulations (1), (2) and (3) shall not apply to rolling stock in transit.

(6) An employer, self-employed person and user shall advertise the notifications contemplated in subregulations (1), (2) and (3) in at least one newspaper serving the communities in the vicinity of the installation which is to be declared a major hazard installation, a proposed major hazard installation or an existing installation which is to be modified, and by way of notices posted within those communities.

(7) Any interested or affected person may make representations in writing to the relevant local government or provincial director within 60 days about an existing major hazard installation or after the erection, conversion, modification of a major hazard installation, if that installation is not acceptable to that person.

4. Temporary installations.—(1) Any employer, self-employed person and user who has a temporary installation on his or her premises which would, taking into consideration the risks attached to the quantity of substance and the procedure of discharge, result in that temporary installation being declared a major hazard installation if it were not a temporary installation, shall be deemed to be responsible for the storage and discharge of that installation while on his or her premises.

(2) An employer, self-employed person and user contemplated in subregulation (1) shall ensure that a risk assessment for the storage and discharge procedure be carried out for a temporary installation prior to the risk coming into existence.

(3) An employer, self-employed person and user

contemplated in subregulation (1) shall, after taking into consideration the risk assessment, take the reasonably practicable steps that may be necessary to reduce the risks attached to the storage and discharge of a temporary installation.

5. Risk assessment.—(1) An employer, self-employed person and user shall, after consultation with the relevant health and safety representative or relevant health and safety committee, carry out a risk assessment at intervals not exceeding five years and submit such risk assessment to the chief inspector, relevant local government and provincial director.

(2) The risk assessment is the process of collecting, organising, analysing, interpreting, communicating and implementing information in order to identify the probable frequency, magnitude and nature of any major incident which could occur at a major hazard installation, and the measures required to remove, reduce or control the potential causes of such an incident.

(3) An employer, self-employed person and user shall inform the relevant health and safety representative or relevant health and safety committee in writing of the arrangements made for the assessment contemplated in subregulation (1), give them 60 days within which to comment thereon and ensure that the results of the assessment are made available to the relevant representative or committee who may comment thereon.

(4) An employer, self-employed person and user shall make available on the premises a copy of the latest risk assessment for inspection by an inspector.

(5) An employer, self-employed person and user shall ensure that the risk assessment contemplated in subregulation (1), shall -

- be carried out by an Approved Inspection Authority which is competent to express an opinion as to the risks associated with the major hazard installation; and
- at least include -
 - a general process description of the major hazard installation;
 - a description of the major incidents associated with that type of installation and the consequences of such incidents, which shall include potential incidents;
 - an estimation of the probability of a major incident;
- a copy of the site emergency plan;
- an estimation of the total result in the case of an explosion or fire;
- in the case of toxic release, an estimation of concentration effects of such release;
- the potential effect of an incident on a major hazard installation or part thereof on an adjacent major hazard installation or part thereof;
- the potential effect of a major incident on any other installation, members of the public and residential areas;
- meteorological tendencies;
- the suitability of existing emergency procedures.

- dures for the risks identified;
- (xi) any requirements laid down in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989); and
 - (xii) any organisational measures that may be required.
- (6) (a) An employer, self-employed person and user shall ensure that the risk assessment required in terms of subregulation (1) is reviewed forthwith if-
- (i) there is reason to suspect that the preceding assessment is no longer valid;
 - (ii) there has been a change in the process involving a substance resulting in the installation being classified a major hazard installation or in the methods, equipment or procedures in the use, handling or processing of that substance; or
 - (iii) after an incident that has brought the emergency plan into operation or after any near miss.
- (b) Where the risk assessment has been updated an employer, self-employed person and user shall submit a copy of the updated risk assessment to the chief inspector, the relevant local government and the provincial director within 60 days.
- (7) Subregulation (5) (b) 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 local government or both that local government and inspector, as the case may be; and
 - (b) that in the interests of the health and safety of the public the necessary precautions are taken.
- (8) An employer, self-employed person and user shall ensure that the risk assessments contemplated in subregulations (1) and (5) (a) be made available for scrutiny by any interested person or any person that may be affected by the activities of a major hazard installation, at a time and place and in a manner agreed upon between the parties.
- 6. On-site emergency plan.**-(1) An employer, self-employed person and user shall after submission of the information contemplated in regulation 3 (4)-
- (a) establish an on-site emergency plan to be followed inside the premises of the installation or part of the installation classified as a major hazard installation in consultation with the relevant health and safety representative or the relevant health and safety committee;
 - (b) discuss the emergency plan with the relevant local government, taking into consideration any comment on the risk related to the health and safety of the public;
 - (c) review the on-site emergency plan and, where necessary, update the plan, in consultation with the relevant local government, at least once every three years;
 - (d) sign a copy of the on-site emergency plan in the presence of two witnesses, who shall attest the signature;
 - (e) ensure that the on-site emergency plan is readily available at all times for implementation and use;
 - (f) ensure that all employees are conversant with the on-site emergency plan; and
 - (g) cause the on-site emergency plan to be tested in practice at least once a year and keep a record of such test.
- (2) Any employer, self-employed person and user owning or in control of a pipeline that could pose a threat to the general public shall inform the relevant local government and shall be jointly responsible with the relevant government for the establishment and implementation of an on-site emergency plan.

- (3) Subregulation (1) shall not apply to rolling stock in transit: Provided that the operator of a railway shall-
- (a) establish an emergency plan for each route traversed within 12 months of the coming into operation of these regulations;
- (b) draw up the plan contemplated in paragraph (a) in consultation with the local government through whose jurisdiction that rolling stock is being transported;
- (c) sign a copy of the on-site emergency plan in the presence of two witnesses, who shall attest the signature;
- (d) ensure that the plan is readily available at all times for implementation and use; and
- (e) cause that plan to be tested when reasonably practicable and keep a record of such test.

7. Reporting of risk and emergency occurrences.-(1) Every employer, self-employed person and user of a major hazard installation and owner or user of a pipeline shall-

- (a) subject to the provisions of regulation 6 of the General Administrative Regulations, within 48 hours by means of telephone, facsimile or similar means of communication inform the chief inspector, the provincial director and relevant local government of the occurrence of a major incident or an incident that brought the emergency plan into operation or any near miss;
 - (b) submit a report in writing to the chief inspector, provincial director and local government within seven days; and
 - (c) investigate and record all near misses in a register kept on the premises, which shall at all times be available for inspection by an inspector and the local government.
- (2) Every employer, self-employed person and user shall in the case of a major incident or an incident contemplated in subregulation (1) that was or may have been caused by a substance, inform the supplier of that substance of the incident.
- (3) An employer, self-employed person and user shall -
- (a) record all near misses in a register kept on the premises, which shall at all times be available for inspection by an inspector; and
 - (b) ensure that the contents of the register contemplated in paragraph (a) shall also be available in the event of an inspection contemplated in regulation 5 (4).

8. General duties of suppliers.-(1) Every person that supplies a substance to a major hazard installation that has been classified as a major hazard installation for the reason of the presence of that substance in that installation shall ensure that he or she supplies with the substance a material safety data sheet contemplated in regulation 7 of the General Administrative Regulations.

- (2) On receipt of the information contemplated in regulation 7 (2), every supplier of the relevant substance shall assess the circumstances and substance involved in an incident or potential incident and inform all persons being supplied with that substance, of the potential dangers surrounding it.
- (3) Every supplier of a hazardous substance to a major hazard installation shall provide a service that shall be readily available on a 24-hour basis to all employers, self-employed persons and users, the relevant local government and any other body concerned, to provide information and advice in the case of a major incident with regard to the substance supplied.

9. 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), no local government shall permit the erection of a new major hazard installation at a separation distance

less than that which poses a risk to-

- (a) airports;
- (b) neighbouring independent major hazard installations;
- (c) housing and other centres of population; or
- (d) any other similar facility:

Provided that the local government shall permit new property development only where there is a separation distance which will not pose a risk in terms of the risk assessment: Provided further that the local government shall prevent any development adjacent to an installation that will result in that installation being declared a major hazard installation.

(2) Where a local government does not have facilities available to control a major incident or to comply with the requirements of this regulation, that local government shall make prior arrangements with a neighbouring local government, relevant provincial government or the employer, self-employed person and user for assistance.

(3) All off-site emergency plans to be followed outside the premises of the installation or part of the installation classified as a major hazard installation shall be the responsibility of the local government.

10. Closure.-An employer, self-employed person and user shall notify the chief inspector, relevant provincial director and local government in writing, 21 days prior to the installation ceasing to be a major hazard installation.

11. Offences and penalties.-Any person who contravenes or fails to comply with any provision of regulations 3 (1), 3 (2),

3 (3), 3 (4), 3 (6), 4 (2), 4 (3), 5, 6, 7, 8 or 9, shall be guilty of an offence and on conviction be liable to a fine or to imprisonment for a period of 12 months and, in the case of a continuous offence, to an additional fine of R200 or additional imprisonment for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.

GNR.1610 of 11 December 1998: Notice of exemption in terms of section 40 (1) of the Occupational Health and Safety, 1993

Under section 40 (3) (b) of the Occupational Health and Safety Act, 1993, I, Faiza Salie, designated chief inspector in terms of sections 27 (1) of the said Act, 1993, 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 persons presently occupied with the activities described under regulation 3 (2) and 5 (3) of the Major Hazard Installation Regulation, 1998, published under Government Notice No. R.66 of 16 January 1998, from the obligation to carry out a risk assessment and notify the local authority and the provincial director of Labour regarding existing major hazard installations from the date of commencement to the said regulations until 31 December 1999

F SALIE
Chief Inspector

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENT

GNR.1390 of 27 December 2001

[These regulations were published in GNR.1390 of 27 December 2001]

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

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions
2. Scope of application
3. Classification of biological agents
4. Information and training
5. Duties of persons who might be exposed to HBA
6. Risk assessment by employer of self-employed person
7. Monitoring exposure at workplace

8. Medical surveillance
9. Records
10. Control of exposure to HBA
11. Personal protective equipment and facilities
12. Maintenance of control measures, equipment and facilities
13. Prohibitions
14. Labelling, packaging, transporting and storage

15. Special measures for health and veterinary isolation facilities
16. Special measures for laboratories, animal rooms and industrial processes
17. Disposal of HBA
18. Offences and penalties
19. Short title

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 otherwise-

"biological agent" means any micro-organism, cell culture or human endoparasite, including any which have been genetically modified, which may cause an infection, allergy or toxicity, or otherwise create a hazard to human health;

"decontamination" means to remove, as far as is reasonably practicable, all inanimate objects by way of sweeping, cleaning, washing, ventilating or any other process aimed at removing the contaminant;

"diagnostic laboratory" means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials;

"disinfect" means to render non-viable virtually all recognised pathogenic micro-organisms, but not necessarily all microbial forms;

"engineering control measures" means control measures that remove or reduce the exposure of persons at the workplace by means of engineering methods;

"Facilities Regulations" means the Facilities Regulations promulgated by Government Notice No. R.2362 of 5 October 1990 under section 43 of the Act;

"General Administrative Regulations" means the General Administrative Regulations promulgated by Government Notice No. R.1449 of 6 September 1996 under section 43 of the Act;

"HBA" means hazardous biological agents which are micro-organisms, including those that have been genetically modified, pathogens, cells, cell cultures and human endoparasites that have the potential to provoke an infection toxic effects, subdivided into the following groups:

- (a) Group 1 HBA are HBA that is unlikely to cause human disease;
- (b) Group 2 HBA are 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 are 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;
- (d) Group 4 HBA are HBA that causes 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.

"micro-organisms" means microbiological entities, cellular or non-cellular, capable of replication or of transferring genetic material;

"monitoring" means the planning and carrying out of the measurement programme and the recording of the results thereof;

rying out of the 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 hazardous biological agents, and which conforms to a standard, acceptable to the chief inspector;

"safety equipment" means a contrivance or a device designed to as far as possible try and prevent injury;

"standard precautions" means a synthesis of the major features of Universal Precautions (UP) and Body Substance Isolation (BSI) and applies to all persons coming into contact with potentially infected persons, animals or animal products and potentially contaminated blood and other body fluids in health care facilities or elsewhere 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 membranes; and
 - (v) tissues; and
 - (b) are designed to reduce the risk of transmission of HBA from both recognised and unrecognised sources of infection workplaces;
- "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-

- (a) HBA is deliberately produced, processed, used, handled, stored or transported; or
 - (b) an incident, for which an indicative list is given in Annexure A to these Regulation occurs that does not involve a deliberate intention to work with an HBA but may result in persons being exposed to HBA in the performance of his or her work,
- (2) Regulations 8, 14, 15, 16 and 17 shall 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) The chief inspector may publish in the *Government Gazette* for the purpose of these regulations a document, which may be revised or reissued from time to time, entitled "Categorisation of Biological Agents according to hazard and categories of containment" (Annexure B) to these Regulation containing a list of biological agents together with the classification of each agent.

(2) Where a biological agent has not been assigned a classification, the employer or self-employed person shall provisionally classify that agent in accordance with subregulation (3) below,

having regard to the nature of the agent and the properties of which he or she may reasonably be expected to be aware.

(3) When provisionally classifying a biological agent, the employer and self-employed person shall assign that agent to one of the groups and if there is according to its level-of risk of infection doubt as to which of two alternative groups would be most appropriate, the HBA shall be assigned to the higher of the two.

4. **Information and training.**-(1) An employer shall, before any employee is exposed or may be exposed to HBA 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 regards 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 herself 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 of safety equipment, facilities and engineering control measures provided;
- (g) the necessity of medical surveillance;
- (h) the safe working procedures regarding the use, handling, storage, labelling, and disposal of HBA at the workplace;
- (i) the procedures to be followed in the event of exposure, spillage, leakage, injury or any similar emergency situation, and decontaminating or disinfecting contaminated areas; and
- (j) the potential detrimental effect of exposure on the human reproductive process.

(2) An employer or a self-employed person shall give instructions in writing of the procedures contemplated in subregulation (1) (i) to the drivers of vehicles carrying the HBA.

(3) Every employer and every self-employed person shall ensure that he or she or any person who in any manner assists him or her in the carrying out or conducting of his or her business has the necessary information and has undergone sufficient training in order for him or her to identify the potential risks and the precautions that should be taken.

5. **Duties of persons who might be exposed to HBA.**-(1) Any person who is or might be exposed to HBA, shall obey any lawful instruction

given by or on behalf of the employer of a self-employed person regarding-

- (a) the prevention of an uncontrolled release of a HBA;
- (b) the adherence to instructions regarding environmental and health practices, personal hygiene and good housekeeping;
- (c) the wearing of personal protective equipment and clothing as prescribed by these Regulations;
- (d) the wearing of personal samplers, when necessary, to measure personal exposure to airborne hazardous biological substances;
- (e) the disposal of materials containing HBA and the disinfection and decontamination of any site contaminated by an HBA;
- (f) the reporting during normal working hours for such medical examination or test as contemplated in regulation 8 (1); and
- (g) information and training as contemplated in regulation 4.

(2) Any person shall immediately report to the employer, the health and safety representative or self-employed person any possible accidental exposure to a HBA at the workplace, and the employer or self-employed person shall ensure that such incident is investigated and recorded in accordance with regulation 8 of the General Administrative Regulations.

6. Risk assessment by employer or self-employed person.-(1) An employer or a self-employed person contemplated in regulation 2 shall, after consultation with the relevant health and safety representative or relevant health and safety committee, cause a risk assessment to be made and thereafter at intervals not exceeding two years, to determine if any person might have been exposed to a HBA.

(2) An employer shall inform the relevant health and safety representative or health and safety committee in writing of the arrangements made for the assessment contemplated in sub-regulation (1), give them reasonable time to comment thereon and ensure that the results of the assessment are made available to the relevant health and safety representative or health and safety committee, which may comment thereon.

(3) When making the assessment, the employer or self-employed person shall keep a record of the assessment and take into account matters such as-

- (a) the nature and dose of the HBA to which an employee may be exposed and the suspected route of exposure;
- (b) where the HBA might be present and in what physical form it is likely to be;
- (c) the nature of the work, process and any reasonable deterioration in, or failure of, any control measures;
- (d) what effects the HBA can have on an employee; and
- (e) the period of exposure.

(4) An employer or a self-employed person shall cause the risk assessment to be conducted on the basis of all available information as far as is reasonably practicable, including-

- (a) classification of the HBA into the relevant risk group, according to its level of risk of infection;
- (b) recommendations from the manufacturer, supplier or a competent person regarding the 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 or toxic effects that may result from the activities at the workplace; and
- (e) knowledge of diseases from which an employee might be suffering and which may be aggravated by conditions at the workplace.

(5) An employer shall review the assessment required by subregulation (1) forthwith if there-

- (a) is a reason to suspect that the previous assessment is no longer valid; or
- (b) has been a change in a process involving a HBA or in the methods, equipment or procedures in the use, handling, control or processing of HBA, and the provisions of subregulations (21), (3) and (4) shall apply.

7. Monitoring exposure at workplace.-An employer shall ensure that the exposure of employees to a HBA is monitored in accordance with a suitable procedure that is standardised, sufficiently sensitive and of proven effectiveness in any case which it is-

- (a) requisite for ensuring the maintenance of adequate control of the exposure of employees to HBA; or
- (b) otherwise requisite for protecting the health of employees.

8. Medical surveillance.-(1) An employer shall ensure that an employee is under medical surveillance if-

- (a) the results of the assessment referred to in regulation 6 indicate that an employee might have been exposed to HBA;
- (b) the exposure of the employee to any HBA 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 such as pre-clinical 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 medicine practitioner to ratify the appropriateness of such recommendation.

(2) In order to comply with the provisions of sub-regulation (1), the employer shall after extensive counselling and education offer the employee the opportunity to have-

- (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 any exposure exists or might exist, 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 in cases where a HBA is known to be capable of causing persistent or latent infections which-
 - (i) in the light of present knowledge, are undiagnosable, until signs or symptoms develop;
 - (ii) can have particularly long incubation periods;
 - (iii) can result in an illness which is recurrent in spite of treatment; and
 - (iv) are known to have serious long-term effects.
- (c) All tests and examinations as contemplated in paragraphs (a) and (b) shall be conducted according to a written medical protocol.

(3) The employer shall, in accordance with regulation 8 of the General Administrative Regulations, investigate and record all incidents that

result or might result in infections or the death of an employee.

(4) All occupational health practitioners shall submit to the health and safety Committee for approval a written protocol for procedures to be followed when dealing with abnormal results.

9. Records.-(1) An employer shall-

- (a) keep records of all assessments, monitoring results and medical surveillance reports required by regulations 6, 7 and 8 respectively: Provided that personal medical records shall be made available only to 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) 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 risk assessments and monitoring results available for perusal by the health and safety representative or health and safety committee;
 - (e) keep all records of risk assessments and monitoring results for a minimum period of 40 years;
 - (f) keep all medical surveillance records for a minimum period of 40 years, and if the employer ceases activities, all those records shall be handed over or forwarded by registered post to the relevant provincial director; and
 - (g) keep a record of the examinations and tests carried out in terms of regulation 12 (b) and of any repairs resulting from these investigations and tests, which records shall be kept for at least three years;
- (2) A self-employed person shall keep records of all risk assessments for a minimum period of 40 years, and if the self-employed person ceases activities, all those records shall be handed over or forwarded by registered post to the relevant provincial director.

10. Control of exposure to HBA.-(1) An employer and self-employed person shall ensure that the-

- (a) exposure of persons to HBA in the working environment is either prevented or, where this is not reasonably practicable, adequately controlled; and
- (b) standard precautions contained in Annexure C to these Regulations are implemented to reduce the risk of transmission of HBA from recognised and unrecognised sources of infection in a workplace.

(2) Where reasonably practicable, the employer or self-employed person shall control the exposure of persons to a HBA in the working environment by applying the following measures where appropriate:

- (a) Limiting the amount of HBA used which might contaminate the working environment;
- (b) limiting the number of employees who will be exposed or might be exposed;
- (c) introducing engineering control measures for the control of exposure, which may include the following:
 - (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 HBA;
 - (iii) separate workplaces for different processes;
 - (iv) proper access control to prevent unauthorized access; and
 - (v) immediate personal or environmental disinfection.

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- (d) introducing appropriate work procedures that employees must follow where materials are used, processes are carried out, or incidents might occur that could give rise to the exposure of an employee to HBA, and such procedures shall include written instructions to ensure-
 - (i) the safe handling, use and disposal of HBA;
 - (ii) the proper use and maintenance of process machinery, installations, equipment, tools and local extraction and general ventilation systems;
 - (iii) the regular cleaning of machinery and work areas by vacuum cleaners fitted with a suitable filter that prevents contamination of the environment; and
 - (iv) that a system whereby changes in work procedures and processes that indicate the need for early corrective action can be readily identified;
- (e) ensuring that emissions to the atmosphere comply with the provisions of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965);
- (f) displaying the biohazard sign shown in Annexure D to these Regulations and other relevant warning signs; and
- (g) specifying procedures for taking, handling and processing samples that might contain HBA.

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 shall in the case of-

- (a) airborne HBA, provide the employee with suitable respiratory protective equipment and protective clothing; and
 - (b) HBA that can be absorbed through the skin, provide the employee with suitable impermeable personal protective equipment.
- (2) Where respiratory protective equipment is provided, the employer shall ensure that -
- (a) the relevant equipment is capable of preventing the exposure to the HBA concerned;
 - (b) the relevant equipment is correctly selected and properly used;
 - (c) information, instructions, training and supervision which would be necessary with regard to the use of the equipment are known to the employees; and
 - (d) the equipment is kept in good condition and efficient working order.
- (3) An employer shall 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 sterilised prior to use;
 - (b) provide separate containers or storage facilities for personal 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 shall as far as is reasonably practicable, ensure that all contaminated 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 shall be taken to prevent contamination during handling, transporting and cleaning;
 - (b) where the clothing are sent off the premises to a contractor for cleaning purposes, the clothing shall be placed in impermeable, tightly sealed colour coded containers and such containers shall be clearly identified with a biohazard, label as depicted in Annexure D to these Regulations as contaminated; and
 - (c) ensure that the contractor as contemplated

in sub-regulation (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 sub-regulation (4) (b), an employer shall ensure that no person removes dirty or contaminated personal protective equipment and personal protective clothing from the premises: Provided that where contaminated personal protective equipment has to be disposed of, it shall be treated as HBA waste as contemplated in regulation 17.

(6) Subject to the provisions of the Facilities Regulations an employer shall, where reasonably practicable, provide employees using personal protective equipment and clothing as contemplated in sub-regulation (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 a HBA;
- (b) two separate lockers labelled "protective clothing" and "personal clothing" respectively, and ensure that the clothing is kept separately in the locker concerned; and
- (c) separate "clean" and "dirty change rooms" if the employee uses or processes HBA to the extent that the HBA could endanger the health of persons outside the workplace.

12. Maintenance of control measures, equipment and facilities.-

An employer shall ensure that-

- (a) all control measures, equipment and facilities provided in terms of regulations 10 and 11 are maintained in good working order; and
- (b) thorough examinations and tests of engineering control measures are carried out at intervals not exceeding 24 months by an approved HBA inspection authority or by a person whose ability to do the measurements, analysis and tests is verified by such approved HBA inspection authority.

13. Prohibitions.-

(1) No person shall-

- (a) use compressed air to remove HBA from any surface or person;
 - (b) eat, drink, smoke, keep food or beverages or apply cosmetics in an HBA workplace 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 protective or contaminated clothing and equipment.
- (2) An employer or self-employed person shall cause a notice to be posted at a conspicuous place prohibiting the provision of (a), (b) and (c).

14. Labelling, packaging, transporting and storage.-

An employer or self-employed person shall, as far as is reasonably practicable, take steps to ensure that-

- (a) all HBA 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 HBA are transported are clearly marked with a biohazard sign as depicted in Annexure D to these Regulations and other relevant warning signs that identify the contents; and
- (c) the driver is trained in and equipped with a certificate in emergency procedures.

15. Special measures for health and veterinary isolation facilities.-

(1) Subject to the provisions of regulation 6, every employer and self-employed person shall, in the case of health and veterinary isolation facilities, take into account-

- (a) uncertainties about the presence of HBA in a patient or animal and the materials and specimens taken from them;
 - (b) the hazard represented by HBA known or suspected to be present in a patient, animal, materials and specimens taken from them; and
 - (c) the risks posed by the nature of the work.
- (2) An employer or self-employed person as contemplated in sub-regulation (1) shall ensure that the correct containment measures as indicated in Annexures C and E to these Regulations are selected for persons and animals in isolation facilities that are suspected of being infected with Group 3 or Group 4 HBA in order to minimise the risk of infecting others.

16. Special measures for laboratories, animal rooms and industrial processes.-

In the case of laboratories, animal rooms and industrial processes the employer or self-employed person contemplated in regulation 2 shall ensure that the containment measures required in-

- (a) Annexure C and E are implemented in laboratories and in rooms for laboratory animals, including diagnostic laboratories, and in rooms for laboratory animals that have been deliberately infected with Group 2, 3 and 4 HBA or where laboratory animals are suspected of carrying such agents;
- (b) Annexure C and E are implemented in laboratories handling materials in respect of which uncertainty prevails about the presence of HBA that may cause human disease, but that do not have as their aim working with HBA as such: Provided that the containment measures that are required for Group 3 or 4 are implemented where it is known or suspected that it is necessary; and
- (c) Annexure C and F are implemented where Group 2, 3 or 4 HBA are used in industrial processes: Provided that where it has not been possible to carry out a conclusive assessment of HBA, but where the use envisaged might involve a serious health risk for persons, such activities may be carried out only in workplaces where the containment measures correspond to the requirement for Group 3 HBA.

17. Disposal of HBA.-

An employer or self-employed person as contemplated in regulation 2 shall-

- (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) ensure that all fixtures and equipment including vehicles, re-usable 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 premises concerned;
- (d) ensure that all HBA waste that can cause exposure is disposed of only on sites specifically designated for this purpose in terms of the Environmental Conservation Act, 1989 (Act No. 73 of 1989), in such a manner that it does not cause a hazard inside or outside the site 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; and
- (f) ensure that if the services of a waste disposal contractor is used, a provision is incorporated into the contract stating that the contractor shall comply with the provisions of these Regulations.

18. Offences and penalties.-

Any person who contravenes or fails to comply with any provi-

sions of regulation 3 to 17 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 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. Short title.—These Regulations shall be called Regulations for Hazardous Biological Agents.

ANNEXURE A [Regulation 2 (1) (b)]

INDICATIVE LIST OF INCIDENTS

Incidents or exposure during work—

- in a food production plant;
- where there is contact with animals or products of animal origin;
- in health care, including isolation and post-mortem units;
- in clinical, veterinary and diagnostic laboratories;
- in sewage purification installations; and
- in a general workplace.

ANNEXURE B

HAZARDOUS BIOLOGICAL AGENTS GUIDELINES

CATEGORISATION OF BIOLOGICAL AGENTS ACCORDING TO HAZARD AND CATEGORIES OF CONTAINMENT:

INTRODUCTION

- The attached list must be read in conjunction with the Hazardous Biological Agents, and in particular regulation 3.
- Agents listed are categorised on the basis of their ability to cause disease by infection.
- In allocating agents to a hazard group in the list no account is taken of particular effects on those whose susceptibility to infection may be affected for one or other reason such as pre-existing disease, medication, compromised immunity, pregnancy or breastfeeding. Additional risk to such workers should be considered as part of the assessment required by the Hazardous Biological Agents.
- Biological agents that have not been classified for inclusion into Group 2 to 4 in the list are not implicitly classified in Group 1.
- 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.
- When a strain is attenuated or has lost known virulence genes, the containment required by the classification of its parent strain need not necessarily apply, subject to assessment appropriate to the risk in the workplace, for example when such strain is

used as a product or as part of a product for prophylactic or therapeutic purposes. (See 2)

- 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.
- 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 for humans.
- The list also gives a separate indication where biological agents are capable of causing allergic or toxic reactions, where an effective vaccine is available.

The following notations identify the indications:

- A: Possible allergic effects;
T: Toxin production;
V: Effective vaccine available;
NIV: National Institute of Virology.

The selection of control measures for biological agents should take into account the fact that there is no exposure limits for them. Their ability to replicate and to infect at very small 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 could 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 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. All of the measures listed in Annexure E should be considered, and each should be used where and to the extent that—

- it is applicable; and
- the assessment carried but under regulation 6 shows that it will lead to a non-negligible reduction in risk.

Not all the listed measures will be required in every case. The assessment may indicate, for example, that a specific mode of transmission and route of infection is required, a susceptible host is needed, there is low prevalence of the infection in that particular activity, and that illness is easily treatable, leading to rapid and complete recovery.

In such a case the risk would be relatively low and the control measures required less stringent. Another factor that will determine whether controls are to be applied will be the extent to which the activity involves the handling or deliberate use of a biological agent, or exposure is incidental to the main purpose of the work. However, the level of risk should be the principal consideration — if the risk is sufficiently high and can be reduced by some of the listed measures, they should be applied in full.

Certain special measures are required in health and veterinary care facilities, laboratories, animal rooms and industrial processes to ensure that biological agents are not transmitted to workers or outside the controlled area. For laborato-

ries, animal rooms and industrial processes rules are laid down for the derivation of containment level from the hazard classification of the agent, or from what is suspected about the possible presence of an agent. Laboratories screening for an agent which falls in Group 3 and 4, but which is not ordinarily expected to be present (for example a microbiological laboratory in a food factory screening for salmonella, with the possibility of finding *salmonella typhi*), should achieve at least containment level 2, but switch to the appropriate higher level if the agent is found and if work is to continue with it. In a laboratory that does not deliberately work with biological agents, but where the presence of agents calling for containment levels 3 or 4 is nevertheless known or suspected, those containment levels should be used.

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 to 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 which is non-hazardous to humans, but environmentally harmful, more stringent requirements should be followed.

Where the rules as 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 the risk is not increased by doing so.

Regulation 11 sets out additional requirements in respect of personal protective equipment used to protect employees against biological agents. The object 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 instructions 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 agent 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, it should also be set out on notices displayed in the workplace.

BACTERIA

Key:

- A: Allergic effects
T: Toxic effects
V: Vaccine available
NIV: National Institute of Virology

Biological Agent	Classification	Notes
<i>Acinetobacter calcoaceticus</i>	2	
<i>Acinetobacter lwoffii</i>	2	
<i>Actinobacillus actinomycetem-comitans</i>	2	
<i>Actinomadura madurae</i>	2	
<i>Actinomadura pelletieri</i>	2	

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Biological Agent	Classification	Notes
<i>Actinomyces</i> spp	2	
<i>Aeromonas hydrophila</i>	2	
<i>Alcaligenes</i> spp	2	
<i>Arcanobacterium haemolyticum</i> (<i>Corynebacterium haemolyticum</i>)	2	
<i>Arizona</i> spp	2	
<i>Bacillus anthracis</i>	3	V
<i>Bacillus cereus</i>	2	
<i>Bacteroides</i> spp	2	
<i>Bartonella</i> spp (<i>Rochalimaea</i> spp)	2	
<i>Bordetella bronchiseptica</i>	2	
<i>Bordetella parapertussis</i>	2	
<i>Bordetella pertussis</i>	2	V
<i>Borrelia burgdorferi</i>	2	
<i>Borrelia</i> spp	2	
<i>Brucella</i> spp	3	
<i>Burkholderia cepacia</i>	2	
<i>Burkholderia mallei</i> (<i>Pseudomonas mallei</i>)	3	
<i>Burkholderia pseudomallei</i> (<i>Pseudomonas pseudomallei</i>)	3	
<i>Burkholderia</i> spp	2	
<i>Campylobacter</i> spp	2	
<i>Cardiobacterium hominis</i>	2	
<i>Chlamydia pneumoniae</i>	2	
<i>Chlamydia psittaci</i> (non-avian strains)	2	
<i>Chlamydia psittaci</i> (avian strains)	3	
<i>Chlamydia trachomatis</i>	2	
<i>Clostridium botulinum</i>	2	T, V
<i>Clostridium perfringens</i>	2	
<i>Clostridium tetani</i>	2	T, V
<i>Clostridium</i> spp	2	
<i>Corynebacterium diphtheriae</i>	2	T, V
<i>Corynebacterium minutissimum</i>	2	
<i>Corynebacterium pseudotuberculosis</i>	2	
<i>Corynebacterium</i> spp	2	
<i>Coxiella burnetii</i>	3	
<i>Edwardsiella tarda</i>	2	
<i>Ehrlichia sennetsu</i> (<i>Rickettsia sennetsu</i>)	3	
<i>Ehrlichia</i> spp	3	
<i>Eikenella corrodens</i>	2	
<i>Enterobacter</i> spp	2	
<i>Enterococcus</i> spp	2	
<i>Erysipelothrix rhusiopathiae</i>	2	
<i>Escherichia coli</i> (with the exception of non-pathogenic strains)	2	
<i>Flavobacterium meningosepticum</i>	2	
<i>Fluorobacter bozemanii</i> (formerly <i>Legionella</i>)	2	
<i>Francisella tularensis</i> (Type A)	3	V
<i>Francisella tularensis</i> (Type B)	2	
<i>Fusobacterium</i> spp	2	
<i>Gardnerella vaginalis</i>	2	
<i>Haemophilus ducreyi</i>	2	
<i>Haemophilus influenzae</i>	2	
<i>Haemophilus</i> spp	2	
<i>Helicobacter pylori</i>	2	
<i>Klebsiella oxytoca</i>	2	
<i>Klebsiella pneumoniae</i>	2	
<i>Klebsiella</i> spp	2	
<i>Legionella pneumophila</i>	2	
<i>Legionella</i> spp	2	
<i>Leptospira interrogans</i> (all serovars)	2	

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

Biological Agent	Classification	Notes
<i>Listeria ivanovii</i>	2	
<i>Listeria monocytogenes</i>	2	
<i>Moraxella catarrhalis</i>	2	
<i>Moraxella lacunata</i>	2	
<i>Morganella morganii</i>	2	
<i>Mycobacterium africanum</i>	3	V
<i>Mycobacterium avium/intracellulare</i>	3	
<i>Mycobacterium bovis</i> (BCG strain)	2	
<i>Mycobacterium bovis</i>	3	V
<i>Mycobacterium chelonae</i>	2	
<i>Mycobacterium fortuitum</i>	2	
<i>Mycobacterium kansasii</i>	3	
<i>Mycobacterium leprae</i>	3	V
<i>Mycobacterium mageritense</i>	3	
<i>Mycobacterium marinum</i>	2	
<i>Mycobacterium microti</i>	3	
<i>Mycobacterium paratuberculosis</i>	2	
<i>Mycobacterium scrofulaceum</i>	3	
<i>Mycobacterium szulgai</i>	3	
<i>Mycobacterium simiae</i>	3	
<i>Mycobacterium tuberculosis</i>	3	V
<i>Mycobacterium ulcerans</i>	3	
<i>Mycobacterium xenopi</i>	3	
<i>Mycoplasma hominis</i>	2	
<i>Mycoplasma pneumoniae</i>	2	
<i>Neisseria gonorrhoeae</i>	2	
<i>Neisseria meningitidis</i>	2	V
<i>Nocardia</i> spp	2	
<i>Pasteurella</i> spp	2	
<i>Peptostreptococcus</i> spp	2	
<i>Plesiomonas shigelloides</i>	2	
<i>Porphyromonas</i> spp	2	
<i>Prevotella</i> spp	2	
<i>Proteus mirabilis</i>	2	
<i>Proteus penneri</i>	2	
<i>Proteus vulgaris</i>	2	
<i>Providencia</i> spp	2	
<i>Pseudomonas aeruginosa</i>	2	
<i>Pseudomonas mallei</i> - see <i>Burkholderia mallei</i>	3	
<i>Pseudomonas pseudomallei</i> - see <i>Burkholderia pseudomallei</i>	3	
<i>Rhodococcus equi</i>	2	
<i>Rickettsia</i> spp	3	
<i>Rochalimaea quintana</i> - see <i>Bartonella</i> spp	2	
<i>Rochalimaea</i> spp - see <i>Bartonella</i> spp	2	
<i>Salmonella arizonae</i>	2	
<i>Salmonella enteritidis</i>	2	
<i>Salmonella</i> (other serovars)	2	
<i>Salmonella paratyphi</i> A, B, C	2	
<i>Salmonella typhi</i>	3	V
<i>Salmonella typhimurium</i>	2	
<i>Serpulina</i> spp	2	
<i>Serratia liquefaciens</i>	2	
<i>Serratia marcescens</i>	2	
<i>Shigella boydii</i>	2	
<i>Shigella dysenteriae</i> (Type 1)	3	T
<i>Shigella dysenteriae</i> (other than Type 1)	2	
<i>Shigella flexneri</i>	2	
<i>Shigella sonnei</i>	2	

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

<i>Biological Agent</i>	<i>Classification</i>	<i>Notes</i>
<i>Staphylococcus aureus</i>	2	
<i>Stenotrophomonas maltophilia</i>	2	T
<i>Streptobacillus moniliformis</i>	2	
<i>Streptococcus spp</i>	2	
<i>Treponema spp</i>	2	
<i>Ureaplasma urealyticum</i>	2	
<i>Vibrio cholerae (including El Tor)</i>	2	T,V
<i>Vibrio parahaemolyticus</i>	2	
<i>Vibrio spp</i>	2	
<i>Yersinia enterocolitica</i>	2	
<i>Yersinia pestis</i>	3	V
<i>Yersinia pseudotuberculosis</i>	2	
<i>Yersinia spp</i>	2	

VIRUSES

<i>Biological Agent</i>	<i>Classification</i>	<i>Notes</i>
Adenoviridae	2	
Alphavirus	2* (contact NIV)	V
Arenaviridae:		
Lassa fever	2	
Lassa fever	4	
Lymphocytic choriomeningitis	3	
Mobala	2	
Mopeia	3	
Astroviridae	2	
Bunyaviridae:		
Akabane	3	
Bunyamwera	2	
Germiston	3	
Hantaviruses [contact NIV]		
Nairoviruses:		
Bhanja	3	
Crimean/Congo haemorrhagic fever	4	
Hazara	2	
Phleboviruses:		
Rift Valley fever	3	V
Other Bunyaviridae known to be pathogenic	2* (contact NIV)	
Caliciviridae:		
Hepatitis E	3	
Norwalk	2	
Other Caliciviridae	2	
Coronaviridae	2	
Filoviridae:		
Ebola Reston (Siena)		
Ebola Sudan	4	
Ebola Zaire	4	
Ebola Ivory Coast	4	
Marburg	4	
Flaviviridae:	4	

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

<i>Biological Agent</i>	<i>Classification</i>	<i>Notes</i>
Flaviviruses		
Dengue viruses Type 1-4	3	
Israel turkey meningitis	3	
Spondweni	3	
Wesselsbron	3	
West Nile fever	3	
Yellow fever	3	v
Hepatitis C group viruses:		
Hepatitis C	3	
Other Flaviviruses known to be pathogenic	2* (contact NIV)	
Hepadnaviridae:		
Hepatitis B	3	V
Hepatitis D (delta)	3	V
Herpesviridae:		
Cytomegalovirus	2	
Epstein-Barr virus	2	
Herpes simplex types 1 and 2	2	
Herpesvirus varicella-zoster	2	
Herpesvirus simiae (B virus)	3	
Human herpesvirus type 6 - HHV6	2	
Human herpesvirus type 7 - HHV7	2	
Orthomyxoviridae		
Influenza types A, B and C2	2	V (for A, B)
Tickborne orthomyxoviridae:		
Dhori and Thogoto	2	
Papovaviridae:		
BK and JC viruses	2	
Human papillomaviruses	2	
Paramyxoviridae		
Measles	2	V
Mumps	2	V
Newcastle disease	2	
Parainfluenza (Types 1 to 4)	2	
Respiratory syncytial virus	4	
Rinderpest		
Canine distemper		
Parvoviridae:		
Human parvovirus (B19)	2	
Picomaviridae		
Acute haemorrhagic conjunctivitis		
Virus (AHC)	2	
Coxsackie viruses	2	
Echoviruses	2	
Polioviruses	2	V
Rhinoviruses	2	
Hepatoviruses:		
Hepatitis A (Human enterovirus type 72)	2	V

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

<i>Biological Agent</i>	<i>Classification</i>	<i>Notes</i>
Poxviridae:		
Buffalopox	2	
cowpox	2	
Milker's nodes	2	
Molluscum contagiosum virus	2	
Monkeypox	3	V
Orf	2	
Vaccinia (including strains originally classified as Rabbitpox virus)	2	
Variola (major and minor) (all strains, including "White virus")	4	
Yatapox (Tana & Yaba)	2	
Reoviridae:		
Coltivirus	2	
Human rotaviruses	2	
Orbiviruses (includes - African horsesickness serogroup L-Blue tongue serogroup L)	2	
Reoviruses	2	
Retroviridae:		
Human immunodeficiency viruses	3	
Human T-cell lymphotropic viruses (HTLV) types 1 and 2	3	
Simian immunodeficiency virus	3	
Rhabdoviridae:		
Lagos bat	3	
Duvenhage	3	
Makola	3	
Rabies	3	V
Togaviridae:		
Alphaviruses:		
Chikungunya	3	
Middelburg	2	
Ndumu	3	
O'nyong-nyong	2	
Semliki forest	3	
Sindbis	2	
Rubiviruses:		
Rubella	2	V
Toroviridae*	2	
Unclassified viruses:		
Blood-borne hepatitis viruses not yet identified	3	
Equine morbillivirus	3	
Unconventional agents:		
- Associated with:	3	
Creutzfeldt-Jakob disease	3	
Gerstmann-Strussler-Scheinker syndrome	3	
Kuru		
- Including strains isolated from cats and exotic species e.g. elephants, cheetahs.		
- Including strains originally classified as rabbitpox virus.		
- All strains including "whitepox virus".		

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

PARASITES

Biological Agent	Classification	Notes
<i>Acanthamoeba</i> spp	2	
<i>Ancylostoma duodenale</i>	2	
<i>Angiostrongylus cantonensis</i>	2	
<i>Angiostrongylus costaricensis</i>	2	
<i>Ascaris lumbricoides</i>	2	A
<i>Ascaris suum</i>	2	A
<i>Babesia divergens</i>	2	
<i>Babesia microti</i>	2	
<i>Balantidium coli</i>	2	
<i>Blastocystis homines</i>	2	
<i>Brugia</i> spp	2	
<i>Capillaria</i> spp	2	
<i>Clonorchis</i> - see <i>Opisthorchis</i>		
<i>Cryptosporidium</i> spp	2	
<i>Cyclospora cayetanensis</i>	2	
<i>Cyclospora</i> spp	2	
<i>Dientamoeba fragilis</i>	2	
<i>Dipetalonea</i> - see <i>Mansonella</i>	2	
<i>Diphylobothrium latum</i>	2	
<i>Dracunculus medinensis</i>	2	
<i>Echinococcus granulosus</i>	3	
<i>Echinococcus multilocularis</i>	3	
<i>Echinococcus vogeli</i>	3	
<i>Entamoeba histolytica</i>	2	
<i>Enterobius vermicularis</i>	2	
<i>Enterocytozoon bieneusi</i>	2	
<i>Fasciola gigantica</i>	2	
<i>Fasciola hepatica</i>	2	
<i>Fasciolopsis buski</i>	2	
<i>Giardia lamblia</i> (<i>Giardia intestinalis</i>)	2	
<i>Hymenolepis diminuta</i>	2	
<i>Hymenolepis nana</i>	2	
<i>Isopora belli</i>	2	
<i>Leishmania brasiliensis</i>	3	
<i>Leishmania donovani</i>	3	
<i>Leishmania major</i>	2	
<i>Leishmania tropica</i>	2	
<i>Leishmania</i> spp	2	
<i>Loa loa</i>	2	
<i>Mansonella ozzardi</i>	2	
<i>Mansonella perstans</i>	2	
<i>Mansonella streptocerca</i>	2	
<i>Naegleria fowleri</i>	3	
<i>Necator americanus</i>	2	
<i>Onchocerca volvulus</i>	2	
<i>Opisthorchis sinensis</i> (<i>Clonorchis sinensis</i>)	2	
<i>Opisthorchis viverrini</i> (<i>Clonorchis viverrini</i>)	2	
<i>Opisthorchis felineus</i>	2	
<i>Opisthorchis</i> spp	2	
<i>Paragonimus</i> spp	2	

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

Biological Agent	Classification	Notes
<i>Plasmodium falciparum</i>	3	
<i>Plasmodium spp (human & simian)</i>	2	
<i>Sarcocystis suihominis</i>	2	
<i>Schistosoma spp</i>	2	
<i>Strongyloides spp</i>	2	
<i>Taenia saginata</i>	2	
<i>Taenia solium</i>	3	
<i>Toxocara canis</i>	2	
<i>Toxocara cati</i>	2	
<i>Toxoplasma gondii</i>	2	
<i>Trichinella nativa</i>	2	
<i>Trichinella nelsoni</i>	2	
<i>Trichinella pseudospiralis</i>	2	
<i>Trichinella spiralis</i>	2	
<i>Trichomonas vaginalis</i>	2	
<i>Trichostrongylus orientalis</i>	2	
<i>Trichostrongylus spp</i>	2	
<i>Trichuris trichiura</i>	2	
<i>Trypanosoma brucei brucei</i>	2	
<i>Trypanosoma brucei gambiense</i>	2	
<i>Trypanosoma brucei rhodesiense</i>	3	
<i>Trypanosoma cruzi</i>	3	
<i>Trypanosoma rangeli</i>	2	
<i>Wuchereria bancrofti</i>	2	

ANNEXURE C

[Regulations 10 (1) (b), 15 (2) and 16 (a), (b) and (c)]

PRECAUTIONS FOR WORKPLACES

FIVE MAIN ROUTES OF TRANSMISSION:

1. Contact

The most important route of transmission in a workplace is by-

- direct contact with an infected or contaminated body surface or fluid; and
- indirect contact via contact with an object previously contaminated with organisms from an infected person or animal.

2. Droplet Transmission

Droplets are generated during coughing, sneezing, talking and during procedures such as suctioning.

Droplets may carry organisms that can infect a new host if they are deposited on conjunctivae, nasal mucosa or the mouth.

Droplets do not remain suspended in the air. Droplets do not travel more than one metre.

3. Airborne Transmission

Small particles (droplet nuclei) that remain suspended in air for long periods of time have a far greater potential for spreading disease than large droplets.

Few organisms are carried by this route, the most important being *Mycobacterium tuberculosis* and the viruses causing measles and chickenpox.

Prevention of spread requires an enclosed area with at least six air changes per hour, or an open window that provides adequate ventilation.

4. Common Vehicle Transmission

Transmission by items such as food, water, devices and equipment.

Normal hygienic practices and proper sterilisation or disinfection of equipment should make this type of spread a rare event in certain workplaces, e.g. hospitals.

5. Vector-Borne Transmission

Vectors such as mosquitoes, flies, fleas, etc. are hopefully not frequently encountered in workplaces as a cause of outbreaks.

In areas where there is a problem the appropriate measures, e.g. screens on windows and the use of insecticides must be instituted.

Two levels of precautions are recommended:

(a) Standard Precautions

These are applied at all times to all patients irrespective of their diagnosis.

All body fluids (except sweat) are regarded as potentially infectious.

(b) Transmission-Based Precautions

These are applied when a specific infectious disease is diagnosed or suspected.

The route by which the disease is transmitted will determine the category of precautions that must be applied.

PRECAUTIONS

A. Administrative Controls

- Education and Training
- Adherence to precautions

B. Precautionary measures

- Standard Precautions
- Airborne Precautions
- Droplet Precautions
- Contact Precautions
- Formidable Epidemic Disease (e.g. viral haemorrhagic fevers) Precautions

A. ADMINISTRATIVE CONTROLS

1. EDUCATION AND TRAINING

A system must be developed to ensure that hospital patients, employees, contractors and visitors are educated about-

- the use of precautions;
- their responsibility for adhering to the precautions.

2. ADHERENCE TO PRECAUTIONS

Periodic evaluation of adherence to precautions must be carried out. The findings are to be used to implement improvements.

B. PRECAUTIONARY MEASURES

1. STANDARD PRECAUTIONS

Standard precautions are used for the protection of all people exposed to HBA.

1.1 HAND WASHING

Wash hands after touching blood, body fluid, secretions, excretions and contaminated items, whether or not gloves are worn-

- Wash hands (when working with patients)- immediately after gloves are removed;
- between patient contact;
- where indicated to prevent cross -contamination of different body sites.

Use plain (non-antimicrobial) soap for routine hand washing.

Use an antimicrobial agent or an alcohol hand disinfectant for specific circumstances (e.g. control of outbreaks or hyperendemic infections) as defined by the infection control program. (See contact precautions.)

1.2 GLOVES

Wear gloves (clean, intact non-sterile gloves are adequate) when touching blood, body fluid, secretions, excretions and contaminated items.

Put on clean intact gloves just before touching mucous membranes and non-intact skin.

Change and dispose of gloves between tasks and procedures-

- on the same person;
- after contact with material that may contain high concentration of microorganisms.

Remove gloves promptly after use-

- before touching non-contaminated items and environmental surfaces.
- before attending to another person.

Wash hands immediately to avoid transfer of micro-organisms to other persons and environments.

1.3 MASK, EYE PROTECTION, FACE SHIELD

Wear a mask and eye protection or a face shield to protect mucous membranes of the eyes, nose and mouth.

during procedures and activities that are likely to generate splashes or sprays of blood or body fluid, secretions and excretions.

1.4 PROTECTIVE CLOTHING

Wear appropriate protective clothing to protect skin and to prevent soiling of clothing during procedures and activities that are likely to generate splashes or sprays of blood, body fluid, secretions and excretions.

Select protective clothing that is appropriate for the activity and amount of fluid likely to be encountered.

Remove soiled protective clothing as promptly as possible and consider it contaminated.

Wash hands immediately after removal of protective clothing to avoid transfer of micro-organisms to other people or environments.

1.5 PATIENT-CARE EQUIPMENT

Handle patient-care equipment soiled with blood, body fluids, secretions and excretions in a manner that prevents-

- skin and mucous membrane exposures.
- contamination of clothing;
- transfer of micro-organisms to other environments.

Ensure that reusable equipment is not used for the care of another patient until-

- it has been cleaned;
- it has been reprocessed appropriately.

Ensure that-

- sufficient disposable syringes and needles are at all times available for use;
- provision is made for their safe disposal.

1.6 ENVIRONMENTAL CONTROL

Ensure that adequate procedures are in place for routine care, cleaning and disinfection of environmental surfaces, and other frequently used or potentially contaminated surfaces.

Disinfection of environmental surfaces is not routinely required. Simple cleaning is adequate unless there has been significant soiling by potentially infectious body fluids.

1.7 LINEN

Process, handle and transport used linen contaminated with blood, body fluid, secretion and excretions in colour coded, impervious containers and all possible measures should be observed to prevent-

- skin and mucous membrane exposure.
- contamination of clothing.
- transfer of micro-organisms to other persons and environments.

1.8 OCCUPATIONAL HEALTH

1.8.1 Injuries

Take care to prevent injuries when-

- using needles, scalpels and other sharp instruments or devices;
- handling sharp instruments after a procedure;

cleaning instruments;

disposing of used needles.

Never

Re-cap needles or manipulate them using both hands, if it is absolutely necessary to resheath a needle. A variety of mechanical devices that are commercially available must be used.

Use any other technique that involves directing the point of a needle toward any part of the body.

Do not

Remove used needles from disposable syringes by hand.

Bend or break or otherwise manipulate needles by hand.

Do

Place used disposable syringes and needles, scalpel blades and other sharp objects in appropriate puncture-proof containers that are as close as possible to the area in which the procedure is carried out.

Transport them safely to the disposal area.

1.8.2 Resuscitation

Use mouthpieces, resuscitation bags or other ventilation devices as an alternative method to mouth-to-mouth resuscitation in areas where the need for resuscitation is predictable.

1.9 PATIENT PLACEMENT

Place in an isolation area (single or private room) patients who-

- contaminate the environment;
- do not or cannot be expected to assist in maintaining appropriate personal hygiene or environmental control.

If an isolation area is not available, consult infection control professionals regarding patient placement or other alternatives.

2. AIRBORNE PRECAUTIONS

In addition to Standard Precautions, use Airborne Precautions for-

- patients known or suspected of being infected with micro-organisms transmitted by airborne droplet nuclei, i.e. small particle residue of evaporated droplets containing micro-organisms that-
- remain suspended in the air;
- can be widely dispersed by air currents wit in a room or over a long distance.

2.1 PATIENT PLACEMENT

Ideally place patients in a private room that has-monitored negative air pressure in relation to the surrounding areas;

- 6 -12 air changes per hour;
- Appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas of the hospital.

Where this is not possible

use-

- a room with a simple extraction fan providing at least six air changes per hour;
- a room with an open window, and adequate ventilation.

When an isolation area is not available, place the patient in a room with another patient who has active infection with the same micro-organism, and no other infection, unless otherwise recommended.

When a private room is not available and cohorting is not desirable, consultation with infection control professionals is advised before patient placement.

Keep the patient in the room and keep the door closed.

2.2 RESPIRATORY PROTECTION

Tuberculosis:

Respiratory protection may be worn when entering the room of a patient known or suspected to

have infectious pulmonary tuberculosis.

Measles (rubeola) and chickenpox (varicella):

- Susceptible person should not enter the room of patients known or suspected of having measles or varicella if other immune caregivers are available.

- if susceptible persons must enter the room they must wear respiratory protection.

- Persons immune to measles or varicella need not wear respiratory protection,

2.3 PATIENT TRANSPORT

Movement and transport of the patient should be kept to a minimum.

If transport or movement is necessary, the patient must wear a surgical mask to minimise dispersal of droplet nuclei.

2.4 ADDITIONAL PRECAUTIONS FOR PREVENTING TRANSMISSION OF TUBERCULOSIS

Respirators-

- must be worn by all who enter the room;
- must be able to filter particles 1 micron or less in size with a filter efficiency of 95%.

Effective treatment of the patient

Isolation-

- there is significant clinical improvement in the patient's condition.

- ideally, two negative acids fast bacilli smears must be obtained.

- ideally a smear positive patient will require isolation for a minimum of two weeks.

3. DROPLET PRECAUTIONS

In addition to Standard Precautions, use Droplet Precautions for patients known or suspected to be infected with micro-organisms transmitted by droplets (large particle droplets that can be generated during coughing, sneezing, talking or respiratory therapy).

3.1 PATIENT PLACEMENT

Place the patient in an isolation area, e.g. private or single room

When a private room is not available and cohorting is not achievable, maintain spatial separation of at least one metre between the infected patient and other patients and visitors.

Additional ventilation measures are not necessary and the door may remain open.

3.2 MASKS

Wear a mask when working within one metre of the patient. However, logistically some hospitals may want to implement the wearing of a mask to enter the room.

3.3 PATIENT TRANSPORT

Movement and transport of the patient from the room should be kept to a minimum. If transport or movement is necessary, minimise dispersal of droplets by masking the patient.

4. CONTACT PRECAUTIONS

In addition to Standard Precautions use Contact Precautions for -

- specified patients known or suspected to be infected or colonised with epidemiologically important micro-organisms that can be transmitted by direct contact with the patient (hand to skin contact occurs when performing patient care activities that required touching the patient's dry skin) - or indirect contact (touching) environmental surfaces or patient care items in the patient's environment.

4.1 PATIENT PLACEMENT

Place the patient in an isolation area, e.g. private or single room-

- When a private room is not available, place the patient in a room with patients who have active disease with the same micro-organism but no other infection (cohorting).

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

When either a private room nor cohorting is achievable, consider the epidemiology of the microorganism and the patient population when determining patient placement.

Consultation with infection control professionals is advisable before patient placement.

4.2 GLOVES AND HAND WASHING

In addition to wearing gloves and washing hands as outlined in Standard Precautions-

Wear clean gloves when entering the room. Change gloves after having contact with infective material.

Remove gloves before leaving the patient's environment.

Wash hands immediately after glove removal with an antimicrobial or an alcohol hand rub.

Ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of micro-organisms to other patients or the environment.

4.3 PROTECTIVE CLOTHING

In addition to wearing a gown or plastic apron as outlined in Standard Precautions-

Wear a clean, non-sterile gown and/or plastic apron as appropriate-

when entering a room where soiling of clothing is anticipated; following substantial contact with the patient;

following contact with environmental surfaces or items in the patient's room; if the patient is incontinent or has diarrhea, an ileostomy or a colostomy; where wound drainage is not contained by a dressing.

Remove the gown or plastic apron before leaving the patient's environment.

After gown or plastic apron removal, ensure that clothing does not make contact with potentially contaminated environmental surfaces to avoid transfer of micro-organisms to other patients or environments.

4.4 PATIENT TRANSPORT

Movement and transport of the patient from the room should be minimised.

Ensure that precautions are maintained to minimize the risk of transmission of micro-organisms to other patients and contamination of environmental surfaces or equipment.

4.5 PATIENT-CARE EQUIPMENT

Where possible dedicate the use of non-critical patient-care equipment to a single patient (or cohort of patients infected or colonised with the pathogen requiring precautions).

Avoid sharing equipment between patients- If the use of common equipment or items is unavoidable, then these must be cleaned and disinfected before use for another patient.

4.6 ADDITIONAL PRECAUTIONS FOR PREVENTING THE SPREAD OF MULTI-DRUG-RESISTANT MICRO-ORGANISMS

Limit antibiotic use and prevent misuse.

Educate staff.

Detect multi-drug-resistant micro-organisms early by laboratory and infection control surveillance.

Consult an Infection Control Practitioner regarding further management.

5. FORMIDABLE EPIDEMIC DISEASE (FED) ISOLATION

Standard and contact precautions plus additional items such as respirators, visors, water repellent gowns and boots, caps, double gloves are required.

Standard precautions are adequate during the

non-haemorrhagic phase in cases of haemorrhagic fevers, such as Ebola and Congo-Crimean haemorrhagic fever.

5.1 ISOLATION AREA

This may be a dedicated viral haemorrhagic fever (VHF) unit or a dedicated sideward or private room, preferably with an anteroom.

The door must be kept closed, and strict access control must be implemented.

5.2 GOWNS

Impervious disposable gowns must be worn over a theatre scrub suit.

5.3 GLOVES

Two pairs are worn, the one pair on top of the other.

Sterile latex gloves are used because of the thicker quality and longer non-roll cuff.

5.4 BOOTS

Impervious boots or overshoes are worn in the isolation room.

They must be-

high enough to cover the area of skin below the trouser legs.

strong enough to withstand wear and tear.

5.5 THEATRE CAPS/GOGGLES OR VISORS

Worn inside the isolation room.

Theatre caps.

A theatre cap worn with a visor providing full protection of the head and neck is preferred.

5.6 MASKS AND RESPIRATORS

Masks - good quality, high-filtration respirators are necessary.

5.7 FORMIDABLE EPIDEMIC DISEASE PACK (FED Pack)

A FED pack contains all the isolation gear necessary, must be safely stored in an area not accessible to unauthorised persons. The FED pack must be immediately replenished after every usage.

This pack is available immediately, is portable and is used until the patient is diagnosed or transferred to an isolation unit or an infectious diseases hospital. The pack is kept in a box or in a trolley. The box (or trolley) is distinctive and kept in an easily accessible place. The pack contents are replenished as required by the infection control staff.

Instruction posters provide instructions for untrained personnel until infection control professionals arrive to provide guidance and instruction in VHF procedures.

Contents-

Sterile latex gloves of varying sizes.

Disposable impermeable gowns.

Goggles or visors.

Masks.

Shoe covers (half-leggings).

Theatre caps.

Blood tubes, labels, bio-hazard plastic specimen bags, a rigid, walled container for transportation of specimens and bio-hazard stickers.

Masking tape used for-

sealing boxes of refuse;

fixing instruction posters to the wall;

securing tops of plastic shoe covers.

Plastic refuse bags for contaminated refuse.

Autoclavable bags for non-disposable items.

Clear plastic bags.

Sodium-hypochlorite sachets of powder (NaOCl) and liquid 1% hypochlorite.

Plastic-covered instruction posters containing detailed instructions on how to-
put on isolation gear;
undress safely;
collect and handle specimens safely;
mix disinfectants;
disinfect and handle contaminated equipment;

dispose of linen and refuse;
deal with a blood spill.

5.8 SPECIFIC INFECTION CONTROL PROCEDURES

The infection control professionals must ensure that staff follows correct procedures and that equipment is available for disposal of fuse.

All refuse bags are colour coded, double bagged and are placed into cardboard boxes.

Refuse bags are sealed and labelled with bio-hazard stickers and tape.

Containers are escorted to the incinerator.

Their immediate incineration is ensured.

5.9 TRANSPORTING VHF SPECIMENS

These specimens require a special container and packaging:

The specimen is placed in a bio-hazard bag. The patient's label is placed in the outer pouch.

The specimen is then wrapped in absorbent material and placed in an unbreakable screw-top container.

The container is labelled with a bio-hazard sticker and the destination (name of the receiving laboratory).

It is preferably delivered by hand.

If the specimen has to be posted or sent by courier a second unbreakable container is used and labelled accordingly.

5.10 MANAGEMENT OF SOILED LINEN, REFUSE AND EQUIPMENT

Bedding

All bedding used is either disposable or condemned linen that is subsequently incinerated.

Mattresses must be covered with durable plastic covers-

The covers are disposable.

If the mattress becomes soiled with blood or body substance it must be destroyed.

Linen and Refuse

All linen (disposable and condemned) is placed into plastic refuse bags.

The person inside the cubicle or room takes the sealed bag and places it in a second bag held by another person outside the room.

This bag is then sealed and sent for incineration.

Terminal disinfection of equipment

All equipment is washed down well with a hypochlorite-detergent.

It is then dried, using a paper towel.

If the equipment is not autoclavable, it must be wrapped in clear plastic bags, then-

double bagged into a clean bag held by a second person outside the cubicle.
clearly labelled with the contents and a bio-hazard sticker attached.

sent to Central Sterilizing Service Department (CSSD) for ethylene oxide gas sterilization.

Autoclavable items must be placed in Asepto type bags-

labelled as above;
sealed in clean plastic bags for transport to CSSD;
autoclavable plastic bags may be used if available.

Furniture or environment

All furniture, walls and floors are washed down well with hypochlorite-detergent.

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

TABLE 1

<i>Infection / Conditions</i>	<i>Precautions Type*</i>	<i>Duration</i>
Abscess		
Draining, major ^a	C	DI
Draining, minor or limited ^b	S	
AIDS ^c	S	
Actinomycosis	S	
Adenovirus infection, in infants and young children	D,S	DI
Amebiasis	S	
Anthrax		
Cutaneous	S	
Pulmonary	S	
Antibiotic-associated colitis (see <i>C. difficile</i>)		
Arthropodborne viral encephalitides (eastern western, Venezuelan equine encephalomyelitis: St Louis, California encephalitis)	S ^d	
Arthropodborne viral fevers (dengue, yellow fever, Colorado tick fever)	S ^d	
Ascariasis	S	
Aspergillosis	S	
Babesiosis	S	
Blastomycosis, North American, cutaneous or pulmonary	S	
Botulism	S	
No dressing or dressing does not adequately contain damage		
Dressing covers and adequately contains drainage		
Bronchiolitis (see respiratory infections in infants and young children)		
Brucellosis (undulant, Malta, Mediterranean fever)	S	
<i>Campylobacter</i> gastroenteritis (see gastroenteritis)		
Candidiasis, all forms including mucocutaneous	S	
Cat-scratch fever (benign inoculation lymphoreticulosis)		
Cellulitis, uncontrolled drainage	C	DI
Chancroid (soft chancre)	S	
Chickenpox (varicella) (see F ^e for varicella exposure)	A,C	
Chlamydia trachomatis		
<i>Conjunctivitis</i>		
Genital	S	
Respiratory	S	
Cholera (see <i>gastroenteritis</i>)		
Closed-cavity infection		
<i>Draining, limited or minor</i>	S	
Not draining	S	
Clostridium spp		
<i>C. botulinum</i>	S	
<i>C. difficile</i>	C	DI
<i>C. perfringens</i>		
food poisoning	S	
Gas gangrene	S	
Coccidioidomycosis (<i>valley fever</i>)		
Draining lesions	S	
Pneumonia	S	
Colorado tick fever	S	
Congenital rubella	C	F
Conjunctivitis		
Acute bacterial	S	
Chlamydia	S	
Conococcal	S	
Acute viral (<i>acute hemorrhagic</i>)	C	DI
Coxsackie virus (see <i>enteroviral infection</i>)		
Creutzfeldt-Jakob disease	S ^d	
Croup (see <i>respiratory in infants and young children</i>)		

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

Infection / Conditions	Precautions Type*	Duration
Cryptosporidiosis (see gastroenteritis)	S	
Cysticercosis		
Cytomegalovirus infection neonatal or immunosuppressed	S	
Decubitus ulcer, infected	S	
Cryptococcosis		
Major ^a	C	
Minor or limited ^b	S	DI
Dengue	S ^c	
Diarrhea acute-infective etiology suspected (see gastroenteritis)		
Diphtheria		
Cutaneous	C	CN ⁿ
Pharyngeal	D	CN ⁿ
Ebola viral hemorrhagic fever	C	DI
Echinococcosis (hydatidosis)	S	
Echovirus (see enteroviral infection)		
Encephalitis (see enteroviral infection)		
Encephalitis or encephalomyelitis (see specific etiologic agents)		
Endometritis	S	
Enterobiasis (pinworm disease, oxyuriasis)	S	
Enterococcus species (see multidrug-resistant organisms if epidemiologically significant or vancomycin resistant)		
Enterocolitis. <i>C. difficile</i>	C	DI
Enteroviral infections		
Adults	S	
Infants and young children	C	DI
Epiglottitis caused by <i>H. influenzae</i>	D	U ^{24 hrs}
Epstein-Barr virus infection, including infectious mononucleosis	S	
Erythema infectiosum (also see Parvovirus B19)	S	
<i>Escherichia coli</i> gastroenteritis (see gastroenteritis)		
Food poisoning		
Botulism	S	
<i>Clostridium perfringens</i> or <i>welchii</i>	S	
Staphylococcal	S	
Furunculosis-staphylococcal		
Infants and young children	C	DI
gangrene (gas gangrene)	S	
Gastroenteritis		
<i>Campylobacter</i> sp	S ⁱ	
Cholera	S ⁱ	
<i>C. difficile</i>	C	
<i>Cryptosporidium</i> species	S ⁱ	
<i>E. coli</i>		
Enterohemorrhagic 0157:H7	S ⁱ	
Diapered or incontinent	C	DI
Other species	S ⁱ	
<i>Giardia lamblia</i>	S ⁱ	
Rota virus	S ⁱ	
Diapered or incontinent	C	DI
<i>Salmonella</i> species (including <i>S. typhi</i>)	S ⁱ	
<i>Shigella</i> species	S ⁱ	
Diapered or incontinent	C	DI
<i>Vibrio parahaemolyticus</i>	S ⁱ	
Viral (if not covered elsewhere)	S ⁱ	
<i>Yersinia enterocolitica</i>	S ⁱ	
German measles (rubella)	D	F ^v
Giardiasis (see gastroenteritis)		
Gonococcal ophthalmia neonatorum (gonorrheal ophthalmia acute conjunctivitis of newborn)	S	

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

Infection / Conditions	Precautions Type*	Duration
Gonorrhea	S	
Granuloma inguinale (donovanosis, granuloma venereum)	S	F ^v
Guillain-Barre syndrome	S	
Hand, foot and mouth disease (see enteroviral infection)		
Hantavirus pulmonary syndrome	S	
Helicobacter pylori	S	
Hemorrhagic fevers (for example Lassa and Ebola)	C ¹	DI ¹
Hepatitis, viral		
Type A	S	
Diapered or incontinent patients	C	F ^c
Type B-HBsAg positive	S	
Type C and other unspecified, non-A, non-B	S	
Type E	S	
Herpangina (see enteroviral infection)		
Herpes simplex (Herpesvirus hominis)		
Encephalitis	S	
Neonatal ¹ (see F ¹ for neonatal exposure)	C	DI
Mucocutaneous disseminated or primary severe	C	DI
Mucocutaneous, recurrent (skin, oral, genital)	S	
Herpes zoster (varicella-zoster)		
Localized in immunocompromised patient or disseminated	A, C	DI ^m
Localized in normal patient	S ^m	
Histoplasmosis	S	
HIV (see human immunodeficiency virus)	S	
Hookworm disease (ancylostomiasis, uncinariasis)	S	
Human immunodeficiency virus (HIV) infection	S	
Impetigo	C	U ^{24 hrs}
Infectious mononucleosis	S	
Influenza	D ⁿ	DI
Kawasaki syndrome	S	
Lassa fever	C	DI
Legionnaires disease	S	
Leprosy	S	
Leptospirosis		
Lice (pediculosis)	C	U ^{24 hrs}
Listeriosis	S	
Lyme disease	S	
Lymphocytic choriomeningitis	S	
Lymphogranuloma venereum	S	
Malaria	S	
Marburg virus disease	A	DI
Measles (rubeola) all presentations	A	DI
Melioidosis all forms	S	
Meningitis		
Aseptic (non bacterial or viral meningitis) (also see enteroviral infections)	S	
Bacterial, gram-negative enteric in neonates	S	
Fungal		
H. influenzae, known or suspected	D	U ^{24 hrs}
Listeria monocytogenes	S	
Neisseria meningitidis (meningococcal) known or suspected	D	U ^{24 hrs}
Pneumococcal	S	
Tuberculosis	S	
Other diagnosed bacterial	S	
Meningococcal pneumonia	D	U ^{24 hrs}
Meningococcal (meningococcal sepsis)	D	U ^{24 hrs}
Molluscum contagiosum	S	
Mucormycosis	S	
Multidrug-resistant organisms, infection or colonization?		

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

<i>Infection / Conditions</i>	<i>Precautions Type*</i>	<i>Duration</i>
<i>Gastrointestinal</i>	C	CN
<i>Respiratory</i>	C	CN
<i>Pneumococcal</i>	S	
<i>Skin, wound or burn</i>	C	CN
<i>Mumps (infections parotitis)</i>	D	F ²
<i>Mycobacteria non tuberculosis (atypical)</i>		
<i>Pulmonary</i>	S	
<i>Wound</i>	S	
<i>Mycoplasma pneumonia</i>	D	DI
<i>Necrotizing enterocolitis</i>	S	
<i>Nocardiosis draining lesions or other presentations</i>	S	
<i>Norwalk agent gastroenteritis (see viral gastroenteritis)</i>		
<i>Orf</i>	S	
<i>Parainfluenza virus infection, respiratory in infants and young children</i>	C	DI
<i>Parvovirus B 19</i>	D	F
<i>Pediculosis (lice)</i>	C	U ^{24 hrs}
<i>Pertussis (whooping cough) ‘</i>	D	F ²
<i>Pinworm infection</i>	S	
<i>Plague</i>		
<i>Bubonic</i>	S	
<i>Pneumonic</i>	D	U ^{72 hrs}
<i>Pleurodynia (see enteroviral infection)</i>		
<i>Pneumonia</i>		
<i>Adenovirus</i>	DC	DI
<i>Bacterial not listed elsewhere (including gram -negative bacterial)</i>	S	
<i>Burkholderia cepacia in patients with CF including respiratory tract colonization</i>	S	
<i>Chlamydia</i>	S	
<i>Fungal</i>		
<i>H. influenzae</i>		
<i>Adults</i>	S	
<i>Infants and children (any age)</i>	D	U ^{24 hrs}
<i>Legionella</i>	S	
<i>Meningococcal</i>	D	U ^{24 hrs}
<i>Multidrug - resistant bacterial (see multidrug- resistant organisms)</i>		
<i>Mycoplasma (primary atypical pneumonia)</i>	D	D1
<i>Pneumococcal</i>		
<i>Multidrug- resistant (see multidrug-resistant organisms)</i>		
<i>Pneumocystis carinii</i>	S	
<i>Pseudomonas cepacia (see Burkholderia cepacia)</i>	S	
<i>Staphylococcus aureus</i>	S	
<i>Streptococcus, Group A</i>		
<i>Adults</i>	S	
<i>Infants and children</i>	D	U ^{24 hrs}
<i>Viral</i>		
<i>Adults</i>	S	
<i>Infants and young children (see respiratory infectious disease, acute)</i>		
<i>Poliomyelitis</i>	S	
<i>Psittacosis (ornithosis)</i>	S	
<i>Q fever</i>	S	
<i>Rabies</i>	S	
<i>Rat-bite fever (Streptobacillus moniliformis disease. Spirillum minus disease)</i>	S	
<i>Relapsing fever</i>	S	
<i>Resistant bacterial infection or colonization (see multidrug resistant organisms)</i>		
<i>Respiratory infectious disease acute (if not covered elsewhere)</i>		
<i>Adults</i>	S	
<i>Infants and young children</i>	C	DI
<i>Respiratory Syncytial Virus infection in infants and young children and immunocompromised adults</i>	C	DI

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

Infection / Conditions	Precautions Type*	Duration
<i>Reye's syndrome</i>	S	
<i>Rheumatic fever</i>	S	
<i>Rickettsial fever, tickborne (Rocky Mountain spotted fever, tickborne typhus)</i>	S	
<i>Rickettsia</i> (vesicular rickettsiosis)	S	
<i>Ringworm (dermatophytosis, dermatomycosis, tinea)</i>	S	
<i>Ritter's disease (staphylococcal scalded skin syndrome)</i>	S	
<i>Rocky Mountain spotted fever</i>	S	
<i>Roseola infantum (exanthum subitum)</i>	S	
<i>Rotavirus infection (see gastroenteritis)</i>		
<i>Rubella German measles (also see congenital rubella)</i>	D	F'
<i>Salmonellosis (see gastroenteritis)</i>		
<i>Scabies</i>	C	U ^{24 hrs}
<i>Scalded skin syndrome, staphylococcal (Ritter's disease)</i>	S	
<i>Schistosomiasis (bilharziasis)</i>	S	
<i>Shigellosis (see gastroenteritis)</i>		
<i>Sporotrichosis</i>	S	
<i>Spirillum minus disease (rat-bite fever)</i>	S	
<i>Staphylococcal disease (S. aureus)</i>		
<i>Skin wound or burn</i>		
Major	C	DI
Minor or limited	S	
<i>Enterocolitis</i>	S	
<i>Multidrug resistant multidrug-resistant organisms</i>		
<i>Pneumonia</i>	S	
<i>Scalded skin syndrome</i>	S	
<i>Toxic shock syndrome</i>		
<i>Streptococcus moniliformis disease (rat-bite fever)</i>	S	
<i>Streptococcal disease (group A Streptococcus)</i>		
<i>Skin wound or burn</i>		
Major	C	U ^{24 hrs}
Minor or limited	S	
<i>Endometritis (puerperal sepsis)</i>	S	
<i>Pharyngitis in infant and young children</i>	D	U ^{24 hrs}
<i>Pneumonia in infant and young children</i>	D	U ^{24 hrs}
<i>Scarlet fever in infant and young children</i>	D	U ^{24 hrs}
<i>Streptococcal disease (group B Streptococcus) neonatal</i>	S	
<i>Streptococcal disease (not group A or B) unless covered elsewhere</i>	S	
<i>Multidrug-resistant bacterial (see multidrug-resistant organisms)</i>		
<i>Strongyloidiasis</i>	S	
<i>Syphilis</i>		
<i>Skin and mucous membrane including congenital primary secondary</i>	S	
<i>Latent (tertiary) and seropositivity without lesions</i>	S	
<i>Tapeworm disease</i>		
<i>Hymenolepis nana</i>	S	
<i>Taenia solium (pork)</i>	S	
<i>Other</i>	S	
<i>Tetanus</i>	S	
<i>Tinea (fungus infection dermatophytosis dermatomycosis ringworm)</i>	S	
<i>Toxoplasmosis</i>	S	
<i>Toxic shock syndrome (staphylococcal disease)</i>	S	
<i>Trachoma acute</i>	S	
<i>Trench mouth (Vincent angina)</i>	S	
<i>Trichinosis</i>	S	
<i>Trichomoniasis</i>	S	
<i>Trichuriasis (whipworm disease)</i>	S	
<i>Tuberculosis</i>		
<i>Extrapulmonary draining lesion (including scrofula)</i>	S	
<i>Extrapulmonary meningitis</i>	S	

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

Infection / Conditions	Precautions Type*	Duration
Pulmonary confirmed or suspected or laryngeal disease	A	F ^w
Skin-test positive with no evidence of current pulmonary disease	S	
Tularemia		
Draining lesion	S	
Pulmonary	S	
Typhoid (<i>Salmonella typhi</i>) fever (see gastroenteritis)		
Typhus endemic and epidemic	S	
Urinary tract infection (including pyelonephritis) with or without urinary catheter	S	
Varicella (chickenpox)	AC	F ^e
<i>Vibrio parahaemolyticus</i> (see gastroenteritis)		
Vincent's angina (trench mouth)	S	
Viral diseases		
Respiratory (if not covered elsewhere)		
Adults	S	
Infants and young children (see respiratory infectious disease acute)		
Whooping cough (pertussis)	D	F ^p
Wound infections		
Major	C	DI
Minor or limited	S	
<i>Yersinia enterocolitica</i> gastroenteritis (see gastroenteritis)		
Zoster (varicella-zoster)		
Localised in immunocompromised patient, disseminated	AC	DI ^m
Localised in normal patient	S ^m	
Zygomycosis (phycomycosis mucormycosis)	S	

Abbreviations used

Type of precautions:

Standard precautions (S) are applied at all times in addition to either:

- A Airborne
- C Contact
- D Droplet
- VHF Viral haemorrhagic fever

Duration of precautions:

- CN until antibiotics are discontinued and culture-negative
- DH duration of hospitalisation
- DI duration of illness (with wound lesions, DI means until they stop draining)
- U until time specified in hours (hrs) after initiation of effective therapy.
- F footnote number under type

Meaning of superscript number (i.e. F^e Standard precaution is applied at all times)

- a No dressing, or dressing does not contain drainage adequately.
- b Dressing covers and contains drainage adequately.
- c Also see syndromes or conditions listed in Table 2.
- d Install screens in windows and doors in endemic areas.
- e Maintain precautions until all lesions are crusted. The average incubation period for varicella is 10 to 16 days, with a range of 10 to 21 days. After exposure, use varicella-zoster immune globulin (VZIG) when appropriate and discharge susceptible patients if possible. Place exposed susceptible patients on Airborne Precautions beginning 10 days after exposure and continuing until 21 days after last exposure (up to 28 days if

VZIG has been given). Susceptible persons should not enter the room of the isolated patient on precautions if other immune caregivers are available.

- f Isolate all infants on precautions during any admission until one year of age, unless nasopharyngeal and urine cultures are negative for virus after age three months of age.
- g Additional special precautions are necessary for handling and decontamination of blood, body fluids and tissues, and contaminated items from patients with confirmed or suspected disease.
- h until two cultures are taken at least 24 hours apart are negative.
- i Consult the National Institute of Virology for guidelines issued by provincial health departments. Use Contact Precautions for diapered or incontinent children less than six years of age for duration of illness. Maintain precautions in infants and children under three years of age for duration of hospitalisation; in children three to fourteen years of age, until two weeks after onset of symptoms; and others, until one week after onset of symptoms. For infants delivered vaginally or by Caesarean section and if mother has active infection and membranes have been ruptured for more than four to six hours.
- m Persons susceptible to varicella are also at risk for developing varicella when exposed to patients with zoster lesions; therefore, susceptibles should not enter the room if other immune caregivers are available.
- n Many hospitals encounter logistic difficulties and suspected or diagnosed limitations when admitting multiple patients with suspected influenza during community

outbreaks. If sufficient private rooms are unavailable, consider cohorting patients or, at the very least, avoid room sharing with high-risk patients.

- o Patients should be examined for evidence of current (active) pulmonary tuberculosis, if evidence exists, additional precautions are necessary (see tuberculosis 3).
 - p Resistant bacteria judged by the infection control program, based on current state, regional or national recommendations, to be of special clinical and epidemiologic significance.
- For nine days after onset of swelling. Maintain precautions for duration of hospitalisation when chronic disease occurs in an immunodeficient patient. For patients with a transient plastic crisis or red cell crisis, maintain precautions for seven days. Maintain precautions for five days after patient is placed on effective therapy.
- Avoid cohorting or placement in the same room with a cystic fibrosis (CF) patient who is not infected or colonised with *B. cepacia*. Persons with CF who visit or provide care and are not infected or colonised with *B. cepacia* may elect to wear a mask when within one metre of a colonised or infected patient. Avoid placement in the same room with an immunocompromised patient.
- Until seven days after onset of rash. Discontinue precautions only when TB patient is improving clinically and has three consecutive negative sputum smears collected on different days or TB is ruled out. Maintain all precautions until the patient stops bleeding.

TABLE II

CLINICAL SYNDROMES OR CONDITIONS WARRANTING ADDITIONAL EMPIRIC PRECAUTIONS TO PREVENT TRANSMISSION OR EPIDEMIOLOGICALLY IMPORTANT PATHOGENS PENDING CONFIRMATION OF DIAGNOSIS*

Clinical Syndrome or Condition*	Potential Empiric	Empiric Precautions
Diarrhoea		
Acute diarrhoea-like infections: Contact cause in an incontinent or diapered patient.	Enteric pathogens***	Contact
Diarrhoea in an adult with a history of recent antibiotic use Rash or exanthems, generally, etiology unknown	Clostridium	Droplet
Petechial or ecchymotic with fever	Neisseria meningitidis	Droplet
Vesicular	Varicella	Airborne and contact
Maculopapular with coryza and fever	Measles	Airborne
Respiratory infections		
Cough/fever/upper lobe pulmonary infiltrate in an HIV-negative patient or a patient at low risk for HIV infection	Mycobacterium tuberculosis	
Cough/fever/pulmonary infiltrate in any lung location in an HIV-infected patient or a patient at high risk of HIV infection	Mycobacterium tuberculosis	
Paroxysmal or severe persistent cough during periods of pertussis activity	Bordella pertussis	
Particularly bronchiolitis and croup in infants and young children	Respiratory syncytial virus or parainfluenza virus	Contact
Risk of multidrug-resistant micro-organisms		
History of infection or colonisation with multidrug-resistant organisms	Resistant bacteria	Contact
Skin and wound if urinary tract infection in a patient with a recent hospital or nursing home stay in a facility where multidrug-resistant organisms are prevalent.	Resistant bacteria	Contact
Skin and wound infection		
Abscess or draining wound that Staphylococcus	Staphylococcus aureus, Group A streptococcus	Contact

* Infection control professionals are encouraged to modify or adapt this table according to local conditions. To ensure that appropriate empiric precautions are always implemented, hospitals must have systems in place to evaluate patients routinely according to these criteria part of their pre-admission care.

** Patients with the syndromes or conditions listed below may present atypical signs or symptoms (e.g. pertussis in neonates and adults may not have paroxysmal or severe cough). The clinician's index of suspicion should be guided by the prevalence of specific conditions in the community, as well as clinical judgement.

*** The organisms listed under "Potential Pathogens" are not intended to represent the complete, or even the most likely, diagnosis, but rather possible etiologic agents that require additional precautions beyond Standard Precautions until they can be ruled out.

SYNOPSIS OF TYPES OF PRECAUTIONS AND PATIENTS REQUIRING THE PRECAUTIONS

Abbreviations used in list of precautions.

α See Table I for a complete list of infections requiring precautions, including appropriate footnotes.

β Certain infections require more than one type of precaution.

γ See "Guidelines for Preventing the Transmission of Tuberculosis in Health-Care Facilities" available from the Department of Health.

1. Standard Precautions

Use Standard Precautions for the care of all patients.

2. Airborne Precautions

In addition to Standard Precautions, use Airborne Precautions for patients known or suspected to have serious illnesses trans-

mitted by the airborne droplet nuclei. Examples of such illnesses include-

Measles
Varicella (including disseminated zoster)β
Tuberculosis

3. Droplet Precautions

In addition to Standard Precautions, use Droplet Precautions for patients known or suspected to have illnesses transmitted by large-particle droplet.

Examples of such illnesses include:

Invasive Haemophilus influenzae Type B disease, including meningitis, pneumonia, epiglottitis and sepsis.
Invasive Neisseria meningitidis disease, including meningitis, pneumonia and sepsis.

Other serious bacterial respiratory infections spread by droplet transmission, including-

Diphtheria (pharyngeal)
Mycoplasma pneumonia
Pertussis
Pneumonic plague
Streptococcal pharyngitis, pneumonia or scarlet fever in infants and young children.

Serious viral infections spread by droplet transmission, including-

Adenovirus
Influenza
Mumps
Pawovirus 812
Rubella

4. Contact Precautions

In addition to Standard Precautions, use Contact Precautions for patients known or suspected to have serious illnesses easily transmitted by direct contact or by contact with items in the patient's environment. Examples of such illnesses include-Gastrointestinal, respiratory, skin or wound infections or colonisation with multidrug-resistant bacteria judged by the infection

control program, based on current state, regional, or national recommendations, to be of special clinical and epidemiologic significance.

Enteric infections with a low infectious dose or prolonged environmental survival, including:

Clostridium difficile

For diapered or incontinent patients: enterohaemorrhagic Escherichia coli 0157: H7, Shigella, Hepatitis A or Rotavirus
Respiratory syncytial virus, parainfluenza virus or enteroviral infections in infants and young children.

Skin infections that are highly contagious or that may occur on dry skin, including:

Diphtheria (cutaneous)
Herpes simplex virus (neonatal or mucocutaneous)
Impetigo
Major (non-contained) abscesses, cellulitis or decubitus ulcers
Pediculosis (lice)
Scabies
Staphylococcal furunculosis in infants and young children.
Zoster (disseminated or in the immunocompromised host)
Viral haemorrhagic conjunctivitis
Viral haemorrhagic infections (Ebola, Lassa, Marburg, Congo-Crimean) (during early non-haemorrhagic stages)

5. Formidable Epidemic Disease (FED) Precautions

In addition to Standard Precautions and Contact Precautions, use FED precautions for persons proven or suspected of having a viral haemorrhagic fever. Examples of such diseases are:

Ebola Viral Haemorrhagic Fever
Marburg Haemorrhagic Fever
Congo-Crimean Haemorrhagic Fever
Lassa Fever

REGULATIONS FOR HAZARDOUS BIOLOGICAL AGENTS

ANNEXURE D

[Regulations 10 (2) (f), 11 (4) (b) and (b)]

BIO-HAZARD SIGN



ANNEXURE E

[Regulations 15 (2), 16 (a) and (b)]

INDICATIONS CONCERNING CONTAINMENT MEASURES AND CONTAINMENT LEVELS

The measures contained in this Annexure shall be applied according to the nature of the activities, the assessment of risk and the nature of the HBA concerned

A. CONTAINMENT MEASURES	B. CONTAINMENT LEVELS		
	Level 2	Level 3	Level 4
1. The workplace is to be separated from any other activities in the same building.	No	Recommended	Yes
2. Input air and extract air in the workplace are to be filtered using High Efficiency Particulate Air (HEPA) Filter or likewise.	No	Yes, or extract air and safe discharge of air	Yes, on input and extract air and safe discharge of air
3. Access is to be restricted to authorised persons only.	Recommended	Yes	Yes , via airlock
4. The workplace should be sealable in order to permit disinfection.	No	Recommended	Yes
5. Specified disinfection procedures.	Yes	Yes	Yes
6. The workplace is to be maintained at an air pressure negative to atmosphere.	No	Recommended	Yes
7. Efficient vector control, e.g. rodents and insects.	Recommended	Yes	Yes
8. Surfaces impervious to water and easy to clean.	Yes, for bench	Yes, for bench and floor	Yes , for bench, walls, floor and ceiling
9. Surfaces resistant to acids, alkalis, solvents, disinfectants.	Recommended	Yes	Yes
10. Safe storage of a biological agent.	Yes	Yes	Yes, secure storage
11. An observation window or alternative is to be present so that occupants can be seen.	Recommended	Recommended	Yes
12. A laboratory is to contain own equipment.	No	Recommended	Yes
13. Infected material, including any animal, is to be handled in a safety cabinet or isolator or other suitable container.	Where appropriate	Yes, where infection is by airborne route	Yes
14. Incinerator for disposal of animal carcasses.	Recommended	Yes (available)	Yes, on site

ANNEXURE F

[Regulations 16C]

CONTAINMENT FOR INDUSTRIAL PROCESSES

Group 1 biological agents

For work with group 1 biological agents, including life-attenuated vaccines, the principles of good occupational safety and hygiene should be observed.

Group 2, 3 and 4 agents

It may be appropriate to select and combine containment requirements from different categories below on the basis of a risk assessment related to any particular process or part of a process.

A. CONTAINMENT MEASURES	B. CONTAINMENT LEVELS		
	Level 2	Level 3	Level 4
1. Viable organisms should be handled in a system, which physically separates the process from the environment.	Yes	Yes	Yes
2. Extracted air from the closed system should be treated so as to-	minimise release	Prevent release	Prevent release
3. Sample collection, addition of materials to a closed system and transfer of viable organisms to another closed system should be performed so as to-	minimise release	Prevent release	Prevent release
4. Bulk culture fluids should not be removed from the closed system unless the viable organisms have been-	Inactivated by validated means	Inactivated by validated chemical or physical means	Inactivated by validated chemical or physical means
5. Seal should be designed as to-	minimise release	Prevent release	Prevent release
6. Closed systems should be located within a controlled area.	Optional	Optional	Yes, and purpose-built
(a) Biohazard signs should be posted.	Optional	Yes	Yes
(b) Access should be restricted to nominated personnel only.	Optional	Yes	Yes, via an airlock
(c) Personnel should wear protective clothing.	Yes, work clothing	Yes	A complete change
(d) Decontamination and washing facilities should be provided for personnel.	Yes	Yes	Yes
(e) Personnel should shower before leaving the controlled area.	No	Optional	Yes
(f) Effluent from sinks and showers should be collected and inactivated before release.	No	Optional	Yes
(g) The controlled area should be adequately ventilated to minimise air contamination.	Optional	Optional	Yes
(h) The controlled area should be maintained at an air pressure negative to atmosphere.	No	Optional	Yes
(i) Input air and extract air to the controlled area should be HEPA filtered.	No	Optional	Yes
(j) The controlled area should be designed to contain spillage of the entire contents of the closed system.	No	Optional	Yes
(k) The controlled area should be sealable in order to permit fumigation	No	Optional	Yes
(l) Effluent before final discharge	Inactivated by validated means	Inactivated by validated chemical or physical means	Inactivated by validated chemical or physical means

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

- Definitions
- Scope of application
- Classification of explosives for manufacturing
- Licensing of explosives workplaces
- Non-detonatable and non-sensitised explosives
- Danger area

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

- Danger buildings
- Safeguarding of explosives workplace
- Design, construction and manufacture
- Importation of explosives
- Safety distances
- Supervision of explosives workplace
- Safe handling of explosives
- Emergencies

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

- Incidents
 - Closure of explosives workplace
 - National Explosives Council
 - Approved inspection authorities
 - Standards of training
 - Offences and penalties
 - Short title
- Annexure 1 Explosives Regulations

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 licence 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;

platives 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 contemplated 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 sub-regulation (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 reloading 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 sub-regulations (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-detonatable 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 shall 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 Practice 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 with-

EXPLOSIVES REGULATIONS

out 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 building, 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, self-employed 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 subregulation (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 im-

plemented;

- (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;

EXPLOSIVES REGULATIONS

- (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
2. Scope of application
3. Application of construction work permit
4. Notification of construction work
5. Duties of client
6. Duties of designer
7. Duties of principal contractor and contractor
8. Management and supervision of construction work
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10. Fall protection
11. Structures
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14. Demolition work
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19. Material hoists
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21. Explosive actuated fastening device
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24. Electrical installations and machinery on construction sites
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28. Stacking and storage of construction sites
29. Fire precautions on construction sites
30. Construction employees' facilities
31. Construction health and safety technical committee
32. Approved Inspection Authorities
33. Offences and penalties
34. Repeal of regulations and commencement

Annexure A Notification of construction work

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, 2000 (Act No.67 of 2000), 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 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), (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 contractors 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;

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- (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;
 - (vi) 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 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.

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 pro-

cedure, 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 para-

graph (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; 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 bear-

ing 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 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 inter-

vals 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 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 with-

stand 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 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 require-

- ments 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 with-

- out 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 com-

panies 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 Manager:
- (c) Construction Health and Safety Officer:

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
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CONSTRUCTION REGULATIONS

14. Date of application:					
15. Submitted documents prescribed in Construction Regulation 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 Officer/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

Construction 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 Operator, 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 above 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 established 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

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

1. Definitions
2. Purpose and interpretation
3. Risk management
4. Respiratory hazards
5. Work in elevated position
6. Lifting of heavy weights
7. Work in a cold environment
8. Work in a hot environment
9. Work in noisy environment
10. Power tools and cutting and grinding equipment
11. Report to department of social development
12. Offences and penalties
13. Summary
14. Short title and commencement

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 environment⁴.—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 environment⁵.—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 addi-

tional 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 an 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 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 sub-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 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.

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, carcin-

ogens 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 supervi-

- sor 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 perform 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 and 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 exer-

cise 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 "not" 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) place 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.

REGULATIONS ON HAZARDOUS WORK BY CHILDREN IN SOUTH AFRICA

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 its 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.

visions 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-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, 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 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

REGULATIONS ON HAZARDOUS WORK BY CHILDREN IN SOUTH AFRICA

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.—(1) 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 Diving 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 °C;
- (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, 1993;
 - (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 contemplated 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 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 a 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 an 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 ap-

proved 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
 Radiiodines, 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

REGULATIONS ON HAZARDOUS WORK BY CHILDREN IN SOUTH AFRICA

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 OHS Act 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 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 OHS Act 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 its 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 their 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 6 pm 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 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) 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 into 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.

ASBESTOS REGULATIONS

(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 REGULATIONS

GNR.155 of 10 February 2002

[These regulations were published in GNR.773 of 10 April 1987 and subsequently amended by GNR.1637 of 4 August 1989 and repealed by GNR.155 of 10 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 contained in the Schedule.

SCHEDULE

ARRANGEMENT OF REGULATIONS

1. Definitions
2. Scope of application
3. Notification of asbestos work
4. Exposure to asbestos
5. Information and training
6. Duties of persons who may be exposed
7. Assessment of potential exposure
8. Air monitoring
9. Medical surveillance
10. Respirator zone

11. Control of exposure to asbestos
12. Cleanliness of premises and plant
13. Control of exposure to asbestos of persons other than employees
14. Asbestos that forms part of structure of workplace, building, plant or premises
15. Asbestos cement sheeting and related products
16. Records
17. Personal protective equipment and facilities

18. Maintenance of control measures
19. Labeling, packaging, transportation and storage
20. Disposal of asbestos
21. Demolition
22. Prohibition
23. Offences and penalties
24. Repeal of regulations
25. Short title
- Annexure 1 Warning asbestos

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 text otherwise indicates—

“**approved asbestos inspection authority**” means an approved inspection authority for the monitoring of asbestos concentrations in the air;

“**asbestos**” means any of the following minerals—

- (a) Amosite
- (b) Chrysotile
- (c) Crocidolite
- (d) Fibrous actinolite
- (e) Fibrous anthophyllite; and
- (f) Fibrous tremolite,

or any mixture containing any of these minerals;

“**asbestos dust**” means airborne or settled dust, which contains or is likely to contain regulated asbestos fibres;

“**asbestos waste**” means an undesirable or superfluous asbestos-containing by-product, emission or residue of any process or activity that has been—

- (a) discarded by any person;
- (b) accumulated and stored by any person with the purpose of eventually discarding it with or without prior treatment connected with the discarding thereof; or
- (c) stored by any person with the purpose of recycling, re-using or extracting a usable product from such matter;

“**asbestos work**” means work that exposes or is likely to expose any person to asbestos dust.

“**demolition work**” includes demolition, alteration, stripping, removing, repair, gleaning of any split asbestos, or high-pressure water jetting of any structure containing asbestos lagging or insulation, but does not include work performed on asbestos cement sheeting and related products and asbestos cement products that form part of the structure of a workplace, building, plant or premises;

“**exposed to asbestos**” means exposed or

likely to be exposed to asbestos dust while at the workplace, building, plant or premises;

“**HSG 173**” means the Monitoring Strategies for Toxic Substances, HSG 173, published by the Health and Safety Executive of the United Kingdom;

“**MDHS 39/4**” means the Methods for the Determination of Hazardous Substances 39/4 of the Health and Safety Executive of the United Kingdom: *Asbestos fibres in the air, sampling and evaluation by phase contrast microscopy* (PCM) under the Control of Asbestos at Work Regulations, 1995 HSE ISBN 0 717 60913 8, as revised from time to time;

“**measurement programmer**” means a programme according to the monitoring strategy as contemplated in OESSM and HSG 173;

“**monitoring**” means the planning and carrying out of a measurement programme and the recording of the results thereof;

“**occupational exposure limit**” or “**OEL**” 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;

“**occupational exposure limit for asbestos**” means an occupational exposure limit of 0.2 regulated asbestos fibres per millilitre of air averaged over any continuous period of four hours measured in accordance with MDHS 39/4;

“**provincial director**” means the provincial director as defined in regulation 1 of the General Administrative Regulations published under Government Notice R.1449 of September 1996;

“**registered asbestos contractor**” means a mandatory employer conducting demolition work, who is registered with the chief inspector;

“**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;

tres;

“**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 device conforms to a standard approved by the Minister;

“**respirator zone**” means a respirator zone contemplated in regulation 10 (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);

“**short-term exposure limit**” means the concentration to which workers can be exposed continuously for a short period of time, which is a 10-minute Time-Weighted Average (TWA) exposure for asbestos, which should not be exceeded at any time during the working day even if the 4-hour TWA is within the OEL-TWA;

“**short term exposure limit for asbestos**” means an exposure limit of 0.6 regulated asbestos fibres per millilitre of air averaged over any 10 minutes;

“**the Act**” means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).

2. **Scope of application.**—(1) Subject to sub-regulation 2, these Regulations shall apply to every employer and self-employed person who carries out work at a workplace that may expose any person to asbestos dust at that workplace.

(2) Regulations 5 (1), 5 (2), 5 (3), 5 (4), 5 (6), 7 (2), 8, 9, 11 (2) (f), 14 (2), 14 (3), 14 (4) 16 (c), 16 (f) and 17 (6) shall not apply in the case of self-employed persons.

3. **Notification of asbestos work.**—No employer or self-employed person shall carry out any asbestos work unless he or she has notified

the provincial director in writing thereof prior to the commencement of such work.

4. Exposure to asbestos.—Subject to regulation 17 (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 asbestos in excess of the prescribed occupational exposure limit.

5. Information and training.—(1) An employer shall, before any employee is exposed or may be exposed to asbestos dust, 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, including the recognition of derelict asbestos-containing materials;
- (c) the potential health risk caused by exposure to asbestos, including the health risks to employees' families and others, which could result from taking home asbestos contaminated equipment and clothing, and the dramatically increased risk of lung cancer for asbestos workers who smoke;
- (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 himself 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 for medical surveillance and the long term benefits and limitations thereof;
- (h) the occupational exposure limit and its meaning;
- (i) the importance of good housekeeping at the workplace and personal hygiene;
- (j) the safe working procedures regarding the use, handling, processing, and storage of any material containing asbestos, which procedures include the correct use of control measures to limit the spread of asbestos dust outside the work area, and to limit the exposure of workers inside the work area as far as is reasonably practicable;
- (k) procedures to be followed in the event of an accidental spillage or any other similar emergency situation likely to result in the release of asbestos dust;
- (l) procedures for reporting and correcting defects likely to result in the release of asbestos dust;
- (m) safe disposal of asbestos waste;
- (n) procedures for record keeping; and
- (o) matters contemplated in regulation 6.

(2) Refresher training on matters contemplated in subregulation (1) shall be given at least every year or at more frequent intervals that may be recommended by the health and safety committee.

(3) Training should 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 carried 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 exposed to asbestos at the workplace are given adequate information, 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 the drivers of vehicles carrying asbestos or asbestos-containing material, that has the potential of causing environmental pollution or affecting human health.

6. Duties of persons who may be exposed.—Any person who is or may be exposed to asbestos 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 asbestos dust from becoming airborne;
- (b) the wearing and use of personal protective equipment and clothing;
- (c) the wearing of monitoring equipment to measure personal exposure to asbestos;
- (d) the reporting for medical surveillance as required by Regulation 9;
- (e) the cleaning up and disposal of any material containing asbestos;
- (f) housekeeping at the workplace, personal hygiene, good environmental and health practices, including eating, drinking and smoking in designated places provided; and
- (g) information and training received contemplated in regulation 5.

7. Assessment of potential exposure.—(1) An employer or 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 asbestos; and
- (b) the assessment results contemplated in paragraph (a) to be recorded as required by regulation 16.

(2) An employer contemplated in subregulation (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 assessment, give them reasonable time to comment thereon and ensure that the results of the assessment are made available to them for comment.

(3) When making the assessment contemplated in subregulation (1) (a), the employer or self-employed person shall take the following into account:

- (a) the presence of any material containing asbestos being used, processed, handled or stored;
- (b) where asbestos may be present, the ease with which the asbestos dust may be released 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 asbestos, 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 that 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 asbestos dust into the environment;
 - (f) procedures for dealing with emergencies; and
 - (g) procedures for the removal of asbestos waste from the workplace, and the disposal thereof.
- (4) If the assessment or any of its reviews made in accordance with subregulation (1) and (5) indicates that any person is likely to be exposed to asbestos, the employer or self-employed person shall ensure that the exposure is adequately controlled as contemplated in regulation 11.
- (5) An employer or 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.

8. Air monitoring.—(1) Where exposure is in excess of half the OEL for asbestos, an employer shall ensure that a measurement programme of the concentration of airborne regulated asbestos fibres 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 was given a reasonable opportunity, as mutually agreed upon, to comment thereon;
- (c) carried out by—
 - (i) an approved asbestos inspection authority; or
 - (ii) a person whose ability to do the measurements is verified by an approved asbestos inspection authority;
- (d) representative of the exposure of employees to the airborne asbestos fibres 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 measurements of exposure shall be by personal sampling taken in accordance with MDHS 39/4: Provided further that in so far as any provision of the OESSM and the MDHS 39/4 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 take precedence; and
 - (ii) if in the case of the most exposed employee measurement, the exposure exceeds the OEL for asbestos, then

any other employee whose exposure could be above the OEL for asbestos is identified and that measurements representative of typical exposure shall be carried out on every employee identified; and

- (b) that representative measurements contemplated in subregulation 1 (d) are carried out at least every 12 months: Provided that whenever the OEL for asbestos is exceeded, regulation 11 shall apply.
- (3) In order to comply with subregulation (1) (e), an employer shall obtain the services of an approved asbestos inspection authority who shall, at intervals not exceeding 12 months, do the required verification—
 - (a) by examining the measurement and analysis equipment of the employer;
 - (b) by questioning the person contemplated in subregulation (1) (c) (ii) regarding the measurement programme;
 - (c) by 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) by ensuring that the results of the measurement and investigation as contemplated in subregulation (2) and (3) respectively, have been recorded as required by regulation 16.

9. Medical surveillance.—(1) An employer shall ensure that an employee is under the medical surveillance of an occupational medical practitioner if—

- (a) an employee is exposed or is likely to be exposed to asbestos dust exceeding the OEL for asbestos; or
- (b) 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, as far as is reasonably practicable, ensure that a structured medical surveillance programme be drawn up by an occupational medicine practitioner which shall include at least the following:
 - (a) an initial health evaluation, carried out by an occupational health practitioner immediately or within 14 days after a person commences employment, which comprises—
 - (i) an evaluation of the employee's medical and occupational history;
 - (ii) medical examinations and tests which should include chest X-rays, pulmonary function testing and an appropriate physical examination; and
 - (iii) any other essential medical examination which in the opinion of the occupational medicine practitioner is necessary in order to enable such practitioner to do a proper evaluation; and
 - (b) subsequent to the initial health evaluation contemplated in paragraph (a), evaluations of the relevant employee as contemplated in paragraph (a) (ii) and (iii), at intervals not exceeding two years, or at shorter intervals specified by an occupational medicine practitioner.
 - (3) An employer shall not permit or allow 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 will be exposed or is likely to be exposed to asbestos dust: Provided that the relevant employee may be permitted to return to work if he or she is certified fit for that work beforehand by an occupational medicine practitioner.
 - (4) Where the reason for the employee being certified unfit as contemplated in subregulation (3) is as a result of exposure to asbestos in that workplace, the employer shall record and investigate the incident in compliance with regulation 8 of the General Administrative Regulations.

10. Respirator zone.—An employer or self-employed person shall ensure that—

- (a) any workplace or part of a workplace under his or her control, where the concentration of regulated asbestos fibres in the air is, or may be, such that the exposure of persons in that workplace exceeds the OEL for asbestos 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 17 must be worn there;
- (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 for asbestos is exceeded is identified and action is taken, as soon as is reasonably practicable, to lower the concentration of asbestos in the air by means other than respiratory protective equipment, so that it does not exceed the OEL for asbestos.

11. Control of exposure to asbestos.—(1) An employer or self-employed person shall 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 the exposure shall be regarded as adequate if the level of exposure 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 exposure by means other than respiratory protective equipment, so that it does not exceed the OEL for asbestos.
- (2) Where reasonably practicable, an employer or self-employed person shall control the exposure of a person—
 - (a) by using a substitute for asbestos;
 - (b) by limiting the number of persons who will be exposed or may be exposed;
 - (c) by limiting the period during which persons will be exposed or may be exposed;
 - (d) by limiting the amount of asbestos dust that may contaminate the working environment;
 - (e) by introducing, *inter alia*, the following engineering control measures for the control of exposure—
 - (i) Process separation, automation or enclosure;
 - (ii) bonding of asbestos fibres with other material to prevent the release of asbestos dust;
 - (iii) the installation of local extraction ventilation systems to processes, equipment or tools for the control of emissions of asbestos dust;
 - (iv) the use of wet methods where appropriate;
 - (v) separate workplaces for carrying out different processes; and
 - (vi) a fault indicator to enable early corrective action to be taken; and
 - (f) by introducing appropriate written work procedures that an employee must follow to ensure that—
 - (i) asbestos is safely handled, used and disposed of;
 - (ii) process machinery, installations, equipment, tools and local extraction and general ventilation systems are safely used and maintained; and
 - (iii) early corrective action regarding the control exposure.

12. Cleanliness of premises and plant.—Every employer or self-employed person shall take steps to ensure, as far as is reasonably practica-

ble, that—

- (a) workplaces are maintained in a clean state and are free of asbestos waste and, whenever asbestos is accidentally spilled or asbestos dust is accidentally released into the workplace, that remedial measures are taken immediately before work is resumed;
- (b) machinery, plant and equipment, as well as external surfaces of ventilation equipment and internal surfaces of buildings, are kept free of asbestos dust;
- (c) cleaning is carried out by vacuum-cleaning equipment with a filtration efficiency of at least 99 percent for particles one micrometre in size, or in such other manner that asbestos dust neither escapes nor is discharged into the air to such an extent that it contaminates any workplace or the environment;
- (d) the vacuum cleaning equipment is regularly serviced and its external surfaces are kept in a clean state and free from asbestos dust; and
- (e) where the use of vacuum-cleaning equipment is impracticable, the relevant surfaces are first dampened and that persons undertaking such cleaning are wearing appropriate protective clothing and respiratory protective equipment.

13. Control of exposure to asbestos of persons other than employees.—(1) An employer or self-employed person shall ensure that the release of asbestos dust 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).

(2) In respect of asbestos dust which may be released from a workplace into any environment or water system which may affect the health of persons other than persons at his or her workplace, an employer or self-employed person shall ensure—

- (a) with regard to airborne emissions—
 - (i) that all work performed with asbestos be controlled as far as is reasonably practicable; and
 - (ii) that suitable filtration systems are used to control the release of asbestos dust into the environment to levels as low as is reasonably practicable;
- (b) with regard to the contamination of water with asbestos—
 - (i) that 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; and
 - (ii) that a suitable water filtration system is used which will ensure that the asbestos being released or entering into any environment or water system are reduced as far as is reasonably practicable;
- (c) that contaminated parts of the filtration system, when discarded, are disposed of as asbestos waste; and
- (d) that appropriate measures are taken to prevent the release of asbestos dust into the environment arising from the transport of asbestos.

14. Asbestos that forms part of structure of workplace, building, plant or premises.—(1) Where asbestos forms part of the structure of a workplace, building, plant or premises, the employer or self-employed person shall—

- (a) take reasonable steps to ensure that he or she determines the location of asbestos in such workplace, buildings, plant or premises, where that asbestos is likely to release

asbestos dust that could impact on health or pollute the environment;

- (b) make and maintain a written inventory of the location of asbestos in such workplace, buildings, plant or premises.

(2) An employer shall inform the relevant health and safety representative or relevant health and safety committee in writing of the arrangements made for the identification and location procedure contemplated in subregulation (1), give them reasonable time to comment thereon and ensure that the asbestos inventory is made available to the relevant representative or committee who may comment thereon.

(3) The health or safety representative, or a person nominated by the health and safety committee, shall be entitled to take part in the identification and location procedure contemplated in subregulation (1).

(4) With regard to any dispute as to whether any substance is in fact asbestos, the health and safety representative or a person nominated by the employees may require that a sample of that substance be taken and the true nature of the substance be determined by an approved asbestos inspection authority: Provided that the cost of the identification shall be borne by the employer.

(5) The employer or self-employed person shall regularly examine the condition of asbestos recorded in the inventory for deterioration or damage.

(6) The employer or self-employed person shall assess the risk of exposure to such asbestos as contemplated in subregulation (1) and document the action necessary to ensure that—

- (a) information about the location and condition of material containing asbestos is given to anyone likely to disturb it;
- (b) any material containing asbestos is maintained in a good state of repair and that, where necessary, a planned maintenance program is implemented;
- (c) any material containing asbestos and which may create a risk of exposure because of its state and location, is repaired or, if necessary, removed: Provided that, if the removal constitutes demolition work, the asbestos shall be removed in accordance with regulation 21; and
- (d) procedures and arrangements are in place so that work that may disturb the material complies with all other requirements of these Regulations.

15. Asbestos cement sheeting and related products.—(1) An employer or self-employed person who erects, maintains, alters, renovates, repairs, dismantles or adds asbestos-cement roof sheeting, wall paneling, gutters, fascia boards and related products to a building shall ensure that—

- (a) if any roof work is performed, suitable roof ladders or duckboards or crawling boards are used in accordance with regulation 12 of the General Safety Regulations published by Government Notice No. R.1031 of 30 May 1986;
- (b) written work procedures are laid down and followed to prevent the release of asbestos dust into the environment;
- (c) any water which contains asbestos dust as a result of the activities contemplated in subregulation (1), shall be treated in accordance with regulation 13 (2) (b) and (c);
- (d) the work procedures contemplated in paragraph (b) shall be available for perusal by the relevant health and safety representative or relevant health and safety committee and for inspection by an inspector;
- (e) removal work is conducted under controlled conditions in accordance with regulations 11 and 13;
- (f) cutting or drilling is performed under controlled conditions in accordance with regulation 11 and 13, including the use of wet

methods where possible, and a suitable slow-speed cutter is used, provided that a respirator shall be used by the operator and others at risk of exposure;

- (g) asbestos waste of any form, including dust, is collected and disposed of in accordance with regulation 20;
- (h) once installed and where reasonably practicable, the relevant items are painted or otherwise sealed with a protective coating to limit the release of asbestos dust, combat weathering and inhibit growth of lichen or moss;
- (i) cleaning is done under controlled conditions ensuring that—
 - (i) dry-brushing, scraping, sanding or abrasion techniques are not used;
 - (ii) where reasonably practicable, high-pressure water jetting is not used unless in conjunction with a suitable profiled hood that limits dispersal of contaminated water and, if the said jetting is used, that suitable control methods are used in accordance with regulation 13 (2) (b); and
 - (iii) when fungicidal solution or moss killer is applied, a standing time of 24 hours or any other period specified by the manufacturer is allowed, and a low-pressure hose is used after such period to keep the sheets wet whilst employing a stiff broom or any similar means to remove any moss or lichens.

16. Records.—An employer shall —

- (a) keep records of the results of all assessments, air monitoring, medical surveillance reports and the asbestos inventory required by regulations 7, 8, 9 and 14 (1) (c), respectively: 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) allow any person, subject to formal consent in writing of an employee, to peruse the records with respect to that particular employee;
- (d) make the records of all assessments and air monitoring, and the asbestos inventory 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, and the asbestos inventory for a minimum period of 40 years;
- (f) keep all medical surveillance records for a minimum period of 40 years and, if the employer ceases activities relating to asbestos work, shall hand over or forward by registered post all these records to the relevant provincial director: Provided that those records contain at least the following information:
 - (i) Surname, forenames, 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 asbestos and, where relevant, its location, the starting and ending dates of exposure and average duration of exposure in hours per week;
 - (iii) a record of any work with asbestos prior to this employment; and
 - (iv) dates of medical surveillance reports;
- (g) keep a record of the tests and investigations carried out in terms of regulation 18 (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 5 (5) for as long

as the employee remains employed at the workplace in which he or she is being exposed to asbestos.

17. Personal protective equipment and facilities.—(1) An employer or self-employed person shall provide—

- (a) all persons exposed to asbestos at the workplace with suitable protective clothing; and
- (b) a person with suitable respiratory protective equipment to ensure that the person's exposure is adequately controlled as contemplated in regulation 11 (1).

(2) Where respiratory protective equipment is provided, the employer or self-employed person shall ensure that—

- (a) the relevant equipment is capable of keeping the exposure level at or below the OEL for asbestos;
- (b) the relevant equipment is correctly and properly used;
- (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 shall, 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 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 personal protective equipment contaminated with asbestos dust 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—
 - (i) the equipment shall be packed in impermeable containers;
 - (ii) the container shall be tightly sealed and clearly labeled in the form of Annexure 1; and
 - (iii) the relevant contractor shall be informed of these Regulations and the precautions to be taken for the handling of the asbestos contaminated equipment; and
- (c) water that is used for decontamination or cleaning of equipment shall be filtered in accordance with regulation 13 (2) (b) before being released into any water system.

(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 workplace: Provided that where personal protective equipment contaminated with asbestos dust has to be disposed of, it shall be treated as asbestos waste as contemplated in regulation 20.

(6) Subject to the provisions of the Facilities Regulations published by Government notice R.1593 of 12 August 1988, the employer shall, where reasonably practical, 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 asbestos dust;
- (b) two separate lockers labeled "protective clothing" and "personal clothing" respectively, and shall ensure that the clothing is kept separately in the lockers concerned; and
 - (c) separate change rooms labeled "clean change room" and "dirty change room", with suitable barrier and bathing facilities between to prevent the contamination of personal clothes with asbestos dust.

18. 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, 13, and 17 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 or by a person whose ability to do such examinations and tests is verified by an approved inspection authority.

19. Labeling, packaging, transportation and storage.-An employer or self-employed person shall, in order to avoid the spread of asbestos dust, take steps, as far as is reasonably practicable, to ensure that-

- (a) the asbestos in storage or being distributed is properly identified, classified and handled in accordance with SABS 0228;
- (b) a container or a vehicle in which asbestos is transported is clearly identified, classified and packed in accordance with SABS 0228 and SABS 0229; and
- (c) any article or substance which contains asbestos is clearly labeled, in the form of Annexure 1.

20. Disposal of asbestos.-An employer or self-employed person shall as far as is reasonably practicable ensure that-

- (a) all asbestos waste is placed in containers that will prevent the likelihood of exposure during handling;
- (b) all vehicles, re-usable 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;

- (c) all asbestos waste which can cause exposure, 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;
- (d) all persons occupied in the collection, transport and disposal of asbestos waste, who may be exposed to that waste, are provided with suitable personal protective equipment; and
- (e) where the services of a contractor for the disposal of asbestos waste are used, a provision is incorporated into the contract stating that the contractor shall also comply with the provisions of these Regulations.

21. Demolition.-Any person who intends to have demolition work carried out, shall-

- (a) before the commencement of that work, take steps to ensure that-
 - (i) demolition work is carried out by a person who is a registered asbestos contractor;
 - (ii) all asbestos materials likely to become airborne are identified;
 - (iii) a plan of work is submitted for approval at least 30 days prior to the commencement of that work to an approved asbestos inspection authority who may at its discretion allow a shorter period of time for such submission and may approve standardised procedures for routine alterations or repairs: Provided that the stipulated time period shall not apply if the plan of work is drawn up by an approved asbestos inspection authority;
 - (iv) a copy of the approved plan of that work, which has been signed by the approved asbestos inspection authority, the employer and, if the person performing that work is not the employer or self-employed person, the mandatory of the employer or self-employed person, is submitted to the provincial director at least 14 days prior to commencement of such demolition work: Provided that an inspector may allow a shorter period for such submission; and

- (v) copies of approved standardised procedures for demolition work are submitted to the provincial director at least 14 days prior to commencement of that work; and
- (b) during and after the completion of demolition work, take steps to ensure that-
 - (i) all asbestos and materials containing asbestos are handled and disposed of in accordance with these regulations;
 - (ii) all persons exposed to or likely to be exposed to asbestos are issued with appropriate personal protective equipment and that such equipment is used properly; and
 - (iii) the premises, structure or area are thoroughly checked to ensure that all asbestos waste has been removed.

22. Prohibition.-No person shall -

- (a) use compressed air or permit the use of compressed air to remove asbestos dust from any surface or person;
- (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; or
- (c) apply asbestos by means of spraying or any other similar process or require or permit any other person to apply asbestos by means of such process.

23. 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 (2), 14, 15, 16, 17, 18, 19, 20, 21 or 22 shall be guilty of an offence and liable on conviction to a fine not exceeding R1000 or 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.

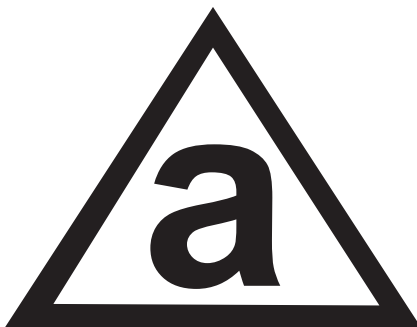
24. Repeal of regulations.-The Asbestos Regulations published under Government Notice No. R.773 of 10 April 1987, as Government notice No. R.1637 of 4 August 1989, are hereby repealed.

25. Short title. -These Regulations shall be called the Asbestos Regulations, 2001.

ANNEXURE 1

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

REGULATION 19 (c) OF THE ASBESTOS REGULATIONS, 2001



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

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ANNEXURES

- Annexure A Minimum details for personal log books (Parts 1 to 10)
- Annexure B Minimum details of the diving operations record (Parts 1 to 8)
- Annexure C Minimum manning levels (Parts 1 to 3)
- Annexure D Notification of diving work

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 regis-

tered 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

DIVING REGULATIONS

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; 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

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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 designat-

ed 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 information:
 - (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 compiled 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 subreg-

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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 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. 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 used
 - 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**
- 2.2.1. Full name of diver
- 2.2.2. Passport and/or identity number of diver
- 2.2.3. Date of medical examination
- 2.2.4. Result of medical examination
- 2.2.5. Medical restriction on diving or compression (if applicable)
- 2.2.6. Date of commencement
- 2.2.7. Date of expiry
- 2.2.8. Space for designated medical practitioner practice stamp, indicating:
 - 2.2.8.1. Initials and surname of designated medical practitioner
 - 2.2.8.2. Address and contact numbers of the designated medical practitioner
 - 2.2.8.3. HPCSA registration number of designated medical practitioner
 - 2.2.8.4. Designation number of medical practitioner
- 2.2.9. Date on which the medical practitioner designation will lapse
- 2.3.0. 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

DIVING REGULATIONS

5.3.	Comments	3.	Qualifications and Certificates	1.9	Next of kin name
5.4.	Assessor's name	3.1.	Date	1.10	Next of kin contact details
5.5.	Assessor's company and position	3.2.	Qualification/certificate	2.	Medical Certificates and Notes
5.6.	Assessor's signature/ stamp	3.3.	Subject	2.11.	Full name of lock attendant
6.	Record of Chamber Dive	3.4.	Awarding body/ organisation	2.12.	Passport and/or identity number of lock attendant
6.1.	Date of chamber dive	3.5.	Course certification reference (if applicable)	2.13.	Date of medical examination
6.2.	Signature of chamber operator	4.	Training Record	2.14.	Result of medical examination
6.3.	Name of diving chamber owner/ contractor	4.1.	Date	2.15.	Medical restriction regarding work (if applicable)
6.4.	Address of diving chamber owner/ contractor	4.2.	Training received	2.16.	Date of commencement
6.5.	Chamber location	4.3.	Training body/organisation	2.17.	Date of expiry
6.6.	Type of chamber	4.4.	Location	2.18.	Space for designated medical practitioner practice stamp, which must indicate:
6.7.	Purpose of chamber dive	4.5.	Training organization stamp	2.18.1.	Initials and surname of designated medical practitioner
6.8.	Maximum depth of chamber dive	5.	Competence Assessment Record	2.18.2.	Address and contact numbers of the designated medical practitioner
6.9.	Time left surface or started pressurisation	5.1.	Date	2.18.3.	HPCSA registration number of designated medical practitioner
6.10.	Bottom time	5.2.	Competence code	2.18.4.	Designation number of medical practitioner
6.11.	Decompression completed at:	5.3.	Comments	2.19.	Date on which the medical practitioner designation will lapse
6.12.	Total time spent in chamber	5.4.	Assessor's name	2.20.	Signature of designated medical practitioner
6.13.	Accumulated chamber operation time	5.5.	Assessor's company and position	3.	Qualifications and Certificates
6.14.	Breathing apparatus used	5.6.	Assessor's signature/ stamp	3.1	Date
6.15.	Breathing mixture used	6.	Record of Dive	3.2	Qualification/certificate
6.16.	Name of decompression schedules used	6.1.	Dive number	3.3	Subject
6.17.	Notes regarding any incident or other illness or injury	6.2.	Date of dive	3.4	Awarding body/organisation
6.18.	Any other remarks	6.3.	Signature of compressed air worker	3.5.	Course certification references(if applicable)
6.19.	Name of diving supervisor	6.4.	Name of diving contractor	4.	Training Record
6.20.	Signature of diving supervisor	6.5.	Address of diving contractor	4.1	Date
6.21.	Date (signature)	6.6.	Worksite location	4.2	Training received
6.22.	Company stamp	6.7.	Purpose of the dive	4.3	Training body/organisation
6.23.	General	6.8.	Maximum depth of dive	4.4	Location
6.23.1.	Page x of xx	6.9.	Time pressurisation started	4.5	Training organization stamp
7.	Cumulative Chamber Operation Experience (hours)	6.10.	Bottom time	5.	Competence Assessment Record
7.1.	Page number from part 6	6.11.	Decompression completed at:	5.1	Date
7.2.	Number of chamber dives operated	6.12.	Decompression schedules used	5.2	Competence code
	ANNEXURE A	6.13.	Accumulated bottom time	5.3	Comments
	MINIMUM DETAIL REQUIRED	6.14.	Accumulated total time under pressure	5.4	Assessor's name
	PERSONNEL LOGBOOKS	6.15.	Breathing mixture used	5.5	Assessor's company and position
	PART 9 - COMPRESSED AIR WORKER'S LOGBOOK	6.16.	Work description, equipment and tools	5.6	Assessor's signature/stamp
1.	Personal Details	6.17.	Notes regarding any decompression incident or other illness or injury	6.	Record of Dive
1.1.	Photograph of hyperbaric worker	6.18.	Name of lock attendant	6.1	Date
1.2.	Full name	6.19.	Signature of lock attendant	6.2	Signature of lock attendant
1.3.	Address	6.20.	Name of hyperbaric operations	6.3	Name of diving contractor
1.4.	Date of birth	6.21.	Signature of hyperbaric operations supervisor	6.4	Address of diving contractor
1.5.	Signature	6.22.	Company stamp	6.5	Worksite location
1.6.	Contact telephone number	6.23.	Notes/remarks	6.6	Purpose of the dive
1.7.	Email address	6.24.	Page x of xx	6.7	Number of compressed air workers
1.8.	Changes in address and contact details	7.	Record of medical Illness or injury	6.8	Maximum depth of dive
1.9.	Next of kin name	7.1.	Date	6.9	Bottom time
1.10.	Next of kin contact details	7.2.	Decompression illness or other occupational illness or injury	6.10	Total pressure time
2.	Medical Certificates and Notes	7.3.	Treatment provided	6.11	Accumulated bottom time
2.1.	Full name of compressed air worker	7.4.	Hyperbaric operations supervisor's name	6.12	Decompression schedules used
2.2.	Passport and/ or identity number of compressed air worker	7.5.	Hyperbaric operations supervisor's signature	6.13	Name of hyperbaric operations supervisor
2.3.	Date of medical examination	7.6.	Company name	6.14	Signature of hyperbaric operations supervisor
2.4.	Result of medical examination	8.	Cumulative Diving Experience	6.15	Company stamp
2.5.	Medical restriction on diving or compression (if applicable)	8.1.	Number of dives	6.16	Notes/remarks
2.6.	Date of commencement	8.2.	Cumulative compressed air work bottom time	7.	Incidents and remarks
2.7.	Date of expiry	8.3.	Cumulative compressed air work total time under pressure	7.1	Incidents and remarks
2.8.	Space for designated medical practitioner practice stamp, which must indicate:		ANNEXURE A	7.2	Diving contractor's stamp
2.8.1.	Initials and surname of designated medical practitioner		MINIMUM DETAIL REQUIRED	7.3	Diving contractor's representative's signature
2.8.2.	Address and contact numbers of the designated medical practitioner		PERSONNEL LOGBOOKS	7.4	Diving contractor's representative's title and name
2.8.3.	HPCSA registration number of designated medical practitioner	1.	Personal Details	8.	Cumulative Lock Attendant experience
2.8.4.	Designation number of medical practitioner	1.1	Photograph of lock attendant	8.1	Number of dives
2.9.	Date on which the medical practitioner designation will lapse	1.2	Full name	8.2	Cumulative compressed air work bottom time
2.10.	Signature of designated medical practitioner	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		

- 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 designated 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 divers on bell-run
21. Maximum depth of dive/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 intervals
30. Oxygen metabolic make-up recorded times
31. Calibration of analysers
32. Toilet and shower flushes and activity
33. Sodasorb/sodalime recorded change-outs
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. sor
9. Name of the lock attendant
10. Signature of the lock attendant
11. Names of compressed air workers
12. Name(s) of the standby compressed air worker(s)
13. Whether it is a repetitive dive or not
14. Description of the work/objectives of the dive
15. Time compression started
16. Time compression ended
17. Duration of compression
18. Maximum depth of dive
19. Time decompression started
20. Arrival time at each decompression stop
21. Depth of each decompression stop
22. Air quality in personnel lock (oxygen and carbon dioxide) during each stop
23. Time leaving each decompression stop
24. Duration of each decompression stop
25. Airlock door open time
26. Actual working time
27. Total time under pressure
28. Breathing mixture used at each depth
29. Decompression schedules used
30. Notes regarding any decompression illness or other illness or injury
31. Name and designation number of designated medical practitioner on standby
32. Remarks
33. Signature of hyperbaric operations supervisor

**ANNEXURE B
DIVING OPERATIONS RECORD
MINIMUM DETAIL REQUIRED
PART 6 - TRAINING OPERATIONS**

1. Course details:
 - 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. Details for each student:
 - 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

DIVING REGULATIONS

- 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

16. locked in and out
17. Time decompression started
18. Decompression completed at
19. Total time spent in chamber
20. Built-in breathing system's breathing mixture
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. Primary gas source pressure (end)
26. Secondary gas source pressure (end)
27. Signature of chamber operator
28. 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 SUP-PLIED AIR/ NITROX	SURFACE SUP-PLIED 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)	<u>12 HOUR OPS</u> 1 x Sat Supervisor 2 x LST's 2 x System's Techs 2 x Sat Divers 2 x Sat Standby Divers	<u>12 HOUR OPS</u> 1 x ROV Supervisor 2 x Pilot <u>24 HOUR OPS</u>
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)	2 x Sat Standby Divers 1 x DMP (on call) <u>24 HOUR OPS</u> 1 x Supt/OCM 2 x Sat Supervisors	2 x ROV Supervisors 4 x Pilot
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)	4 x LST's 2 x System's Techs 4 x Sat Divers 2 x Sat Standby Divers 1 x 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 DIVING
0-8m	2 x divers 1 x supervisor 1 x DMP-2air (on call)	1 x supervisor 1 x diver 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))	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

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.

OR

Diving Contractor

Principle contractor/client/school

Date

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

GNR.2281 of 16 October 1987

[These Regulations were first published in GNR.2281 of 16 October 1987 and subsequently amended by GNR.1754 of 18 August 1989, by GNR.489 of 18 March 1994 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
2. Thermal requirements
3. Lighting
4. Windows
5. Ventilation
6. Housekeeping

7. Noise
8. Precautions against flooding
9. Fire precautions and means of egress
10. Offences and penalties
11. Withdrawal of regulations
12. Short title

Schedule Minimum values of maintained illuminance (measured on the working plane unless otherwise indicated)

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;

[Definition of "equivalent noise level" substituted by definition of "equivalent sound pressure level by GNR.489 of 18 March 1994.]

"**exposed**" means exposed whilst at work, and "**exposure**" has a corresponding meaning; [Definition of "exposed" inserted by G.N.R.489 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 from 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 of 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:

$$\text{Time-Weighted average} = \frac{x_1 t_1 + x_2 t_2 + x_3 t_3 + \dots + x_n t_n}{t_1 + t_2 + t_3 + \dots + t_n}$$

where $x_1, x_2, \dots$, are the observed measurements during the corresponding periods $t_1, t_2, \dots$, minutes, and $t_1 + t_2 + t_3 + \dots + t_n$ 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:

- a nylon freezer suit or equivalent and, where the said temperature is below -34°C, such suit or equivalent shall be of double layer;
- a woolen Balacava or equivalent;
- fur-lined leather gloves or equivalent;
- waterproof outer gloves with knitted woolen or equivalent inners as well as a waterproof apron where wet or thawing substances are handled;
- woolen socks; and
- 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 -

- if practicable, take steps to reduce the said index to below 30; or
- 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 heat-stroke; and

(v) provide the means whereby every such employee can receive prompt first-aid treatment in the event of heat-stroke;

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 -

- 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;
- glare in any workplace is reduced to a level that does not impair vision;
- lighting on rotating machinery in such that the hazard of stroboscopic effects is eliminated; and
- 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) -

- are capable of being activated within 15 seconds of the failure of the lighting prescribed by subregulation (1);
- will last long enough to ensure the safe evacuation of all indoor workplaces;
- are kept in good working order and tested for efficient operation at intervals of not more than three months; and
- 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 -

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

- (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 measures 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 per cent 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 INDICATED)

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

<i>Location/Industry</i>	<i>Place or type of activity</i>	<i>illuminance Lux</i>	
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, cowlings, 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	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

Location/Industry	Place or type of activity	illuminance 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	(vertical illuminance)
	Controls, guages, valves, etc	100	
	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	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

<i>Location/Industry</i>	<i>Place or type of activity</i>	<i>illuminance Lux</i>	
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, galleries and operating platform, 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	100	(vertical)
	(see also OUTDOOR AREAS)		
Fire Stations	Appliance rooms	100	
	External apron	30	
Forging	General	100	
Foundries	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 exhaustor houses	75	
	(see also OUTDOOR AREAS)		
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	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

<i>Location/Industry</i>	<i>Place or type of activity</i>	<i>illuminance Lux</i>	
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	300	
	(see also CLOTHING)		
Hat Making (See also Clothing)	Stiffening, braiding, cleaning, refining.....	200	
	Forming, sizing, pouncing, flanging, finishing, ironing.....	100	
	General working areas.....	100	
	(see also CLOTHING)		
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	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

Location/Industry	Place or type of activity	illuminance 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, tableting, 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	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

<i>Location/Industry</i>	<i>Place or type of activity</i>	<i>illuminance Lux</i>	
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	

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

<i>Location/Industry</i>	<i>Place or type of activity</i>	<i>illumiance Lux</i>	
Textile (Cotton or Linen)	Bale breaking, blowing, carding	100	(vertical)
	Roving, slubbing, spinning (ordinary counts), winding, backling, spreading, cabling	100	
	Warping, slashing, dressing, dyeing, doubling (fancy), spinning (fine counts)	150	
	Heading (drawing in)	500	
	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	(vertical illumiance)
	Spinning	300	
	Winding, twisting, rewinding and coning, quilling, slashing	200	
	Heading (drawing in)	500	
	Weaving, finishing	500	
	Inspection	500	
Textile (Woollen)	Scouring, carbonising, teasing, preparing, raising, brushing, pressing, back-washing, gilling, crabbing and blowing	100	(vertical illumiance)
	Blending, carding, combing (white), tentering, drying, cropping	150	
	Spinning, roving, winding, warping, combing (coloured), twisting	500	
	Weaving:		
	Fine worsteds		
	Medium worsteds, fine woollens	500	
	Heavy woollens	300	
	Burling, mending	200	
	Perching:		
	'Grey'	500	
	Finals	500	
		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 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 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)

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

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 MINISTER 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 MINISTER 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:

$$\frac{\text{Annual salary} \times 1.5}{250 \times 8} \times \text{Number of hours absent due to attendance of court proceeding}$$

- (c) In the event of the MINISTER 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

ENVIRONMENTAL REGULATIONS FOR WORKPLACES

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 *domicilium 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 may 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 MINISTER at
on the..... day of 19

WITNESSES

1.
2.

Signed of behalf of the MINISTER at on the..
..... day of 19

WITNESSES

1.
2.

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
2. Sanitation
3. Facilities for Safekeeping
4. Changing rooms

5. Dining-rooms
6. Prohibition
7. Drinking water
8. Seats

9. Condition of rooms and facilities
10. Offences and penalties
11. Repeal of regulations
12. Short Title

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 sub-regulation (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 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.

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

GNR.1179 of 25 August 1995

[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.]

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
2. Scope of application
3. Information and training
4. Duties of persons who may be exposed to hazardous chemical substances
5. Assessment of potential exposure
6. Air monitoring
7. Medical surveillance
8. Respirator zone
9. Records
- 9A. Handling of hazardous chemical substances
10. Control of exposure to HCS

11. Personal protective equipment and facilities
12. Maintenance of control measures
13. Prohibitions
14. Labelling, packaging, transportation and storage
15. Disposal of hazardous chemical substances
16. Offences and penalties
17. Short title
- Annexure 1. HCS Guidelines
- Annexure 2. Calculation of exposure with regard to the specified reference periods

- Annexure 3. Methods of measurement and calculation for determining the fibre concentrations of manmade mineral fibre
- Annexure 4. Cotton dust
- Annexure 5. Asphyxiants
- Annexure 6. Rubber fume and rubber process dust
- Annexure 7. The definition of grain dust
- Annexure 8. Material safety data sheet

1. Definitions.—(1) In this Schedule a word or expression to which a meaning has been assigned in the Act shall bear the meaning so assigned to it and unless the context otherwise indicates—

“**air monitoring**” means the monitoring of the concentrations of airborne hazardous chemical substances;

“**Asbestos Regulations**” means the *Asbestos Regulations* published by Government Gazette No. R.773 of 10 April 1987 under section 43 (5) of the Act;

“**assessment**” means a programme to determine any risk from exposure to a hazardous chemical substance associated with any hazard thereof at the workplace in order to identify the steps needed to be taken to remove, reduce or control such hazard;

“**BEI**” or “**biological exposure index**” is a reference value intended as a guideline for the evaluation of potential health hazards as listed in Table 3 of Annexure 1 hereby as revised from time to time and listed in the *Government Gazette*;

“**engineering control measures**” means control measures that remove or reduce the exposure of persons at the workplace by means of engineering methods;

“**exposed**” means exposed to a hazardous chemical substance whilst at the workplace and “**exposure**” has a corresponding meaning;

“**EH 42**” means the Guidance Note *EH 42 of the Health and Safety Executive of the United Kingdom: Monitoring Strategies for Toxic Substances* 1989 HSE ISBN 0 11885412 7 as revised from time to time and published in the *Government Gazette*;

“**Facilities Regulations**” means the Facilities Regulations published by Government Notice No. R.2362 of 5 October 1990 under section 43 (5) of the Act;

“**General Administrative Regulations**” means the *General Administrative Regulations* published by Government Notice No. R.2206 of 5 October 1984 under section 43 (5) of the Act;

“**HSC**” or “**hazardous chemical substance**” means any toxic, harmful, corrosive, irritant or asphyxiant substance, or a mixture of such substances for which—

- (a) an occupational exposure limit is prescribed; or
- (b) an occupational exposure limit is not prescribed; but which creates a hazard to health;

“**intake**” includes inhalation, ingestion or absorption through the skin or mucous membranes;

“**Lead Regulations**” means the *Lead Regulations* published by Government Notice No. R.586 of 22 March 1991 under section 43 (5) of the Act;

“**measurement programme**” means a programme according to the monitoring strategy as contemplated in EH 42;

“**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 for a stress factor in the workplace as revised from time to time by notice in the *Government Gazette*;

“**OEL-CL**” or “**occupational exposure limit-control limit**” means the occupational exposure limit for a hazardous chemical substance

as listed in Table 1 of Annexure 1 hereby and “**control limit**” has a corresponding meaning;

“**OEL-RL**” or “**occupational exposure limit-recommended limit**” means the occupational exposure limit for a hazardous chemical substance as listed in Table 2 of Annexure 1 hereby and “**recommended limit**” has a corresponding meaning;

“**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;

“**regional director**” means the regional 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 airborne hazardous chemical substances and which is of a type, or conforms to a standard approved by the Minister;

“**respirator zone**” means an area where the concentration of an airborne hazardous chemical substance exceeds the recommended limit for that substance;

“**SABS 072**” the Code of Practice for the Safe Handling of Pesticides, SABS 072, published by the South African Bureau of Standards (SABS);

“**SABS 0228**” 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**” the Code of Practice for

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

Packaging of Dangerous Goods for Road and Rail Transportation in South Africa, SABS 0229, published by the South African Bureau of Standards (SABS);

2. Scope of application.-(1) Subject to the provisions of sub-regulation (2), these regulations shall apply to an employer or a self employed person who carries out work at a workplace which may expose any person to the intake of an HCS at the workplace.

(2) The provisions of regulations 3 (1), 6 and 7 shall not apply to:

- (a) a self employed person; or
 - (b) a person who visits a workplace as contemplated in subregulation (1).
- (3) The provisions of these regulations shall not apply in the case where the Lead Regulations and Asbestos Regulations apply.

3. Information and training.-(1) An employer shall, before any employee is exposed or may be exposed, 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, as well as thereafter informed and trained at intervals as may be recommended by that health and safety committee, with regard to:

- (a) the contents and scope of these regulations;
- (b) the potential source exposure;
- (c) the potential risks to health caused by exposure;
- (d) the potential detrimental effect of exposure on his or her reproductive ability;
- (e) the measures to be taken by the employers to protect an employee against any risk from exposure;
- (f) the precautions to be taken by an employee to protect himself or herself against the health risks associated with such exposure, including the wearing and use of protective clothing and respiratory protective equipment.
- (g) the necessity, correct use, maintenance and potential of safety equipment, facilities and engineering control measures provided;
- (h) the necessity of personal air sampling and medical surveillance;
- (i) the importance of good housekeeping at the workplace and personal hygiene;
- (j) the safe working procedures regarding the use, handling, storage and labelling of the HCS at the workplace; and
- (k) procedures to be followed in the event of spillages, leakages or any similar emergency situation which could take place by accident.

(2) An employer or self-employed person shall give written instructions of the procedures contemplated in paragraph (k) of subregulation (1) to the drivers of vehicles carrying the HCS.

(3) An employer or a self employed person shall ensure that he himself or she herself or any other person who in any manner assists him or her in the carrying out or the conducting of his or her business, have the necessary information and has undergone sufficient training in order for him or her to identify the potential risks and precautions which should be taken.

4. Duties of persons who may be exposed to hazardous chemical substances.-Every person who is or may be exposed, shall obey a lawful instruction given by or on behalf of the employer or a self employed person, regarding:

- (a) the prevention of an HCS from being released;
- (b) the wearing of personal protective equipment;
- (c) the wearing of monitoring equipment to measure personal exposure;
- (d) the reporting for health evaluations and biological tests as required by these regulations;

- (e) the cleaning up and disposal of materials containing HCS;
- (f) housekeeping at the workplace, personal hygiene and environmental and health practices; and
- (g) information and training as contemplated in regulation 3.

5. Assessment of potential exposure.-(1) An employer or self employed person shall after consultation with the relevant health and safety representative or relevant health and safety committee, cause an immediate assessment to be made and thereafter at intervals not exceeding two years, to determine if any employee may be exposed by any route of intake.

(2) An employer shall inform the relevant health and safety representative or relevant health and safety committee in writing of the arrangements made for the assessment contemplated in sub-regulation (1), give them reasonable time to comment thereon and ensure that the results of the assessment are made available to the relevant representatives or committees who may comment thereon.

(3) When making the assessment, the employer or self employed person shall keep a record of the assessment and take into account such matters as:

- (a) the HCS to which an employee may be exposed;
- (b) what effects the HCS can have on an employee;
- (c) where the HCS may be present and in what physical form it is likely to be;
- (d) the route of intake by which and the extent to which an employee can be exposed; and
- (e) the nature of the work, process and any reasonable deterioration in, or failure of, any control measures.

(4) If the assessment made in accordance with subregulation (3) indicates that any employee may be exposed, the employer shall ensure that monitoring is carried out in accordance with the provisions of regulations 6 and 7 and that the exposure shall be controlled as contemplated in regulation 10.

(5) An employer shall review the assessment required by subregulation (1) forthwith 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 HCS or in the methods, equipment or procedures in the use, handling, control or processing of the HCS,
- and the provisions of subregulations (2) and (3) shall apply.

6. Air monitoring.-(1) Where the inhalation of an HCS is concerned, an employer contemplated in regulation 5 (4) shall ensure that the measurement programme of the airborne concentrations of the HCS 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 or by a person whose ability to do the measurements is verified by an approved inspection authority;
- (d) representative of the exposure of employees to the airborne HCS in accordance with the provisions of subregulation (2); and
- (e) verified in accordance with the provisions of subregulation (3) if the measurements are carried out by a person who is not an approved inspection authority.

(2) In order to comply with the provisions of sub-regulation (1) (d) an employer shall;

- (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 chapters 3 and 4 and Technical Appendix A of the OESSM: Provided that such sample size shall be chosen for the top 10% of the group at the 95% confidence level for an HCS with a control limit and for the top 10% of the group at the 90% confidence level for an HCS with a recommended limit; and

(b) carry out the representative measurements at least every 12 months for an HCS with a control limit and at least every 24 months for an HCS with a recommended limit: Provided that whenever the control limit or recommended limit which has been prescribed for an HCS is exceeded, the provisions of regulation 10 shall apply.

(3) In order to comply with the provisions of sub-regulation (1) (e), an employer shall obtain the service of an approved inspection authority who shall, at intervals not exceeding 24 months-

- (a) verify, by examining the measurement and analysis equipment of the employer and questioning the person referred to in sub-regulation (1) (c), regarding the carrying out of the measurement programme;
- (b) carry out the measurements prescribed by subregulations (1) and (2) for any one group; and
- (c) enter the results of the investigation and measurements as contemplated in paragraphs (a) and (b) respectively in the record required by regulation 9.

7. Medical surveillance.-(1) An employer shall ensure that an employee is under medical surveillance if-

- (a) the employee may be exposed to a substance listed in Table 3 of Annexure 1;
- (b) the exposure of the employee to any substance 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 shall, 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 employees 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 medical practitioner.

(3) An employer shall 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 shall record and investigate the incident contemplated in subregulation (3) in compliance with regulation 8 of the General Administrative Regulations.

8. Respirator zone.—An employer shall ensure:

- (a) that any workplace or part of a workplace under his or her control, where the concentration of an HCS in the air is, or may be, such that the exposure of employees working in that workplace exceeds the recommended 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 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 respirator zone unless he or she is wearing the required personal protective equipment.

9. Records.—(1) An employer shall—

- (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 shall only be made available to 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 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 representatives or relevant health and safety committee;
- (e) keep all records of assessments and air monitoring for a minimum period of 30 years;
- (f) keep all medical surveillance records for a minimum period of 30 years and if the employer ceases activities, all those records shall be handed over or forwarded by registered post to the relevant regional director; and
- (g) keep 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, and the records shall be kept for at least three years.

9A. Handling of hazardous chemical substances.—(1) Subject to section 10 (3) of the Act, every person who manufactures, imports, sells or supplies any hazardous chemical substance for use at work, shall, as far as is reasonably practicable, provide the person receiving such substance, free of charge, with a material safety data sheet in the form of Annexure 8, containing all the information as contemplated in either ISO 11014 or ANSI Z400.1.1993 with regard to—

- (a) product and company identification;
- (b) composition/information on ingredients;
- (c) hazards identification;
- (d) first-aid measures;
- (e) fire-fighting measures;
- (f) accidental release measures;
- (g) handling and storage;
- (h) exposure control/personal protection;
- (i) physical and chemical properties;
- (j) stability and reactivity;
- (k) toxicological information;
- (l) ecological information;

- (m) disposal considerations;
- (n) transport information;
- (o) regulatory information; and
- (p) other information:

Provided that, where it is not reasonably practicable to provide a material safety data sheet, the manufacturer, importer, seller or supplier shall supply the receiver of any hazardous chemical substance with sufficient information to enable the user to take the necessary measures as regards the protection of health and safety.

(2) Every employer who uses any hazardous chemical substance at work, shall be in possession of a copy of Annexure 8 or a copy of sufficient information, as contemplated in subregulation (1).

(3) Every employer shall make Annexure 8 or sufficient information, as contemplated in subregulation (1), available at the request of any interested or affected person.

10. Control of exposure to HCS.—(1) An employer shall 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 recommended limit, the control of the exposure shall 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 recommended 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 control limit, the control of the exposure shall be regarded as adequate if the exposure is at a level as low as is reasonably practicable below that control limit: Provided that in the case of temporary excursions above the control limit, the employer shall 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 as prescribed in regulation 8 (b); and
 - (iv) the provisions of regulation 11 are complied with.
- (2) Where reasonably practicable, the employer shall control the exposure of an employee:
 - (a) by limiting the amount of an HCS used which may contaminate the working environment;
 - (b) by limiting the number of employees who will be exposed or may be exposed;
 - (c) by limiting the period during which an employee will be exposed or may be exposed;
 - (d) by using a substitute for an HCS;
 - (e) by introducing engineering control measures for the control of exposure, which may include the following:
 - (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 HCS;
 - (iii) use of wet methods; and
 - (iv) separate workplaces for different processes;
 - (f) by 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 that procedures shall include written instructions to ensure—
 - (i) that an HCS 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 can be readily identified.

(3) An employer shall ensure that the emission of an HCS into the atmosphere comply with the provisions of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965).

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 shall:

- (a) in the case of an airborne HCS, provide the employee with suitable respiratory protective equipment and protective clothing; and
- (b) in the case of an HCS which can be absorbed through the skin, provide the employee with suitable non-HCS impermeable protective equipment.
- (2) Where respiratory protective equipment is provided, the employer shall ensure:
 - (a) that the relevant equipment is capable of controlling the exposure to below the OEL for the relevant HCS;
 - (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 employees; and
 - (d) that the equipment is kept in good condition and efficient working order.
- (3) An employer shall, as far as is reasonably practicable:
 - (a) issue no 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 only in the place provided therefor.
- (4) An employer 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 an employer, 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:
 - (c) the equipment shall be packed in impermeable containers;
 - (d) the containers shall be tightly sealed and have clear indication thereon that the contents thereof are contaminated; and
 - (e) the relevant contractor shall be fully informed of the requirements of these regulations and the precautions to be taken for the handling of the contaminated equipment.
- (5) Subject to the provisions of subregulation (4) (b) an employer 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 HCS waste as contemplated in regulation 15.
- (6) Subject to the provisions of the Facilities Regulations, an employer shall, where reasonably practicable, provide employees 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 the employees to meet

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

a standard of personal hygiene consistent with the adequate control of exposure, and to avoid the spread of an HCS;

- (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' changerooms if the employer uses or processes an HCS to the extent that the HCS could endanger the health of persons outside of the workplace.

12. Maintenance of control measures.-An employer shall 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 or by a person whose ability to do such measurements and tests is verified by an approved inspection authority.

13. Prohibitions.-No person shall as far as is reasonably practicable:

- (a) use compressed air or permit the use of compressed air to remove particles of an HCS from any surface or person; and
- (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.

14. Labelling, packaging, transportation and storage.-An employer shall, in order to avoid the spread of contamination of an HCS, take steps, as far as is reasonably practicable, to ensure-

- (a) that the HCS in storage or distributed are properly identified, classified and handled in accordance with SABS 072 and SABS 0228;
- (b) that a container or a vehicle in which an HCS is transported is clearly identified, classified and packed in accordance with SABS 0228 and SABS 0229; and
- (c) that any container into which an HCS is decanted, is clearly labelled with regard to the contents thereof.

15. Disposal of hazardous chemical substances.-An employer shall, as far as is reasonably practicable:

- (a) recycle all HCS waste;
- (b) ensure that all collected HCS 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 HCS 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;
- (d) ensure that all HCS waste which can cause exposure, is disposed of only on sites specifically designated for this purpose in terms of the Environmental Conservation Act, 1989 (Act No. 73 of 1989), in such a manner that it does not cause a hazard inside or outside the site concerned;
- (e) ensure that all employees occupied in the collection, transport and disposal of HCS 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 shall 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, 9A, 10, 11, 12, 13, 14 or 15 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 for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

[R. 16 amended by GNR.930 of 2003.]

17. Short title.-These regulations shall be called the Regulations for Hazardous Chemical Substances, 1995.

ANNEXURE 1: HCS GUIDELINES

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

HCS Guidelines

Prevention and control of exposure

1. Exposure of employees to substances 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 Substances (HCS), 1995. Exposure can occur by inhalation, ingestion or absorption through the skin, but inhalation is usually the main route of entry into the body. Tables 1 and 2 of Annexure 1 list the occupational exposure limits, which should be used in determining the adequacy of control of exposure by inhalation, as required by the HCS Regulations.

2. The advice in this document should be taken in the context of the requirements of the HCS Regulations, especially regulation 5 (Assessment of potential exposure) regulation 10 (Control of exposure), regulation 12 (Maintenance of control measures) and regulation 6 (Air monitoring). Substances hazardous to health are defined in regulation 1. There is separate legislation for lead and asbestos and these substances are not covered in detail in this document. This document also does not apply to exposure below ground in mines or exposure to micro-organisms.

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 HCS Regulations. Control by personal protective equipment should be applied only when other means are not reasonably practicable.

Medical surveillance

4. Medical surveillance of employees is often an important addition to the control measures in the workplace, regulation 7 (1) of the HCS Regulations specifies where medical surveillance is appropriate for the protection of the health of employees.

4.1 Medical surveillance is defined in the Regulations to cover the *spectrum* of potential effects of an HCS on an employee, from absorption of the substances through to clinical disease. Medical surveillance may be grouped broadly into-

- (a) biological monitoring, to measure the extent of absorption of an HCS by the employee;
- (b) medical screening, to detect any adverse effects of an HCS on the employee.

4.2 Biological monitoring of exposure

4.2.1 Objectives

Biological monitoring of exposure can be divided into two types of testing-

- (a) Biological monitoring: Measures the bio-chemical concentrations of HCSs and/or their metabolites in biological samples of exposed individuals, e.g. blood lead for inorganic lead exposure, or urinary arsenic

for inorganic arsenic exposure. The aim is to measure the degree of absorption into the body by measuring indicators in representative biological samples, typically urine or blood (usually not related to the target organ).

- (b) Biological effect monitoring: Determines the intensity of biochemical or physiological change due to exposure, e.g. red cell cholinesterase for exposure to organophosphate pesticides, or zinc protoporphyrin (ZPP) for exposure to inorganic lead.

4.2.2 Uses of biological monitoring

Biological monitoring tests are indices of an individual's exposure and they may be a useful tool for the occupational health and safety team. They give information on the overall level of exposure, regardless of whether an HCS has been absorbed by the respiratory, oral, or cutaneous route. Cutaneous absorption can play a significant role in the case of some organic compounds. The amounts absorbed through the skin may be comparable to or even higher than those absorbed via the respiratory tract.

Where appropriate, environmental control measures may thus be supplemented, with biological monitoring. Knowledge of the real individual exposure permits targeted applications of preventive measures.

4.2.3 Important considerations in biological monitoring

- (a) In choosing a test to meet the above objectives, it is important to have an understanding of the relationship between environmental exposure and the concentration of an HCS in biological samples. This includes an understanding of the principles of absorption, biotransformation, distribution and excretion of an HCS.
- (b) In addition, there should be analytical methods available of sufficient sensitivity and specificity to detect concentrations of the substance in urine, blood or exhaled air in the range likely to be encountered in industry.
- (c) The HCSs listed in Table 3 of Annexure 1 are those for which the above criteria have a reasonable chance of being met.

4.2.4 Biological Exposure Indices (BEIs)

BEIs are reference values intended as guidelines for the evaluation of potential health hazards in the practice of industrial hygiene. A BEI represents in theory the level of an HCS or metabolite most likely to be observed in a specimen collected from a healthy worker who has been exposed to an HCS to the same extent as the 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 effects below the BEI.

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.

BEIs apply to eight-hour exposures, five days a week. However, BEIs for differing work schedules may be extrapolated on pharmacokinetic 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 illness.

4.3 Medical Screening

4.3.1 Objectives

- (a) The principle of general medical screening is to detect a disease at an early subclinical or presymptomatic stage in order to take action to reverse these effects or to slow progression of the disease. The abnormalities sought, include pathophysiological or histopathological changes. Such tests are well-established in general preventative medicine, e.g. PAP smears for cervical cancer, cholesterol screening, faecal occult blood for lower bowel cancer, etc.
- (b) In medical surveillance in industry one is interested not only in detecting adverse effects in the individual, but also in the implication of the findings for the effectiveness of workplace control measures. Medical surveillance is thus directed not only at early adverse effects but also at established disease.

4.3.2 Types of examination

- (a) The number of validated screening tests with regard to HCSs is smaller than in general preventive medicine, but is likely to grow in the future. Examples of subclinical tests include urinary cytology for bladder cancer among workers exposed to potential bladder carcinogens, or full blood counts for employees exposed to an HCS toxic for the blood-forming organs.
- (b) Medical surveillance may include simple clinical examination, such as examination of the skin of employees exposed to contact irritants or allergens, or of the nasal septum of employees exposed to chromates.
- (c) Chest x-rays for silicosis are an example of screening for irreversible (although potentially progressive) disease. Lung function testing is well established as a non-specific test for the possible effect of respiratory irritants, sensitisers and fibrogenic agents.

4.4 Designing and implementing a programme of medical surveillance

4.4.1 The following steps should be included in any programme-

- (a) **Risk assessment** to determine the potential exposure to and routes of absorption of an HCS, as required by regulation 5.
- (b) Identification of target-organ toxicity, so as to direct medical screening.
- (c) **Selection of appropriate tests and testing schedule.** Tests should have the desirable operating characteristics of high sensitivity, specificity, reliability and predictive value. 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.
- (d) **Development of action criteria.** These are provided for some HCSs in the form of BEIs in Table 3 of Annexure 1. Criteria for interpreting lung function testing have also been published in the medical literature. However, in many cases, the occupational health practitioners will have to develop pragmatic criteria in the context of the specific workplace.
- (e) **Standardisation of test process.** Quality control needs to be exercised both in the testing site and in the laboratory contracted to carry out analyses. Consistency over time should be sought so as to make longitudinal measurements comparable.
- (f) **Ethical considerations.** 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. An employee must be notified of the results and interpretation of his/her tests and any recommendations made. The confidentiality of personal medical records is laid down by regulation 9.

- (g) **Determination of employees fitness to remain in that job.** [Regulation 7 (3)]. Results may be compared against the action criteria (BEI if relevant), and preferably also the employee's previous results to determine whether individual action needs to be taken. Action may include repeating the test, further medical examination, removal of the employee from further exposure, and notification of the employer. Co-operation 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 control.** An abnormal finding in an employee, or a pattern of findings in a group of employees, may point to inadequate primary control of exposure. 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.
- (i) **Record keeping.** This includes both medical records and exposure information for every employee. While the employer is responsible for recordkeeping in terms of regulation 9, the contents of personal medical records may be accessible to the occupational medicine practitioner, the employee, and any person nominated by the employee in writing.

4.4.2 The onus is on the occupational health practitioner carrying out medical surveillance to be familiar with the latest scientific information regarding the HCS and tests that might be useful. The aim should be to design a programme that is rational, ethical and effective. This may have to be done in the face of incomplete information of uncertainty regarding exposures, toxicity and test performance.

Legal background to exposure limits

5. Two types of occupational exposure limits are defined in regulation 1 of the HCS Regulations. The two types are *occupational exposure limit - control limit* (OEL-CL), and *occupational exposure limit - recommended limit* (OEL-RL), as listed in Tables 1 and 2 of Annexure 1. The key difference between the two types of limits is that one OEL-RL is set at a level at which there is no indication of a risk to health; for an OEL-CL, a residual risk may exist and the level set, takes socio-economic factors into account. Further details are given in paragraphs 8 to 16.

6. Regulation 10 of the HCS Regulations lays down the requirements for the use of an OEL-CL and an OEL-RL for HCS for the purpose of achieving adequate control. Regulation 10 (1) requires that, where there is exposure to a substance for which an OEL-CL is specified in Table 1 of Annexure 1, the control of exposure shall, so far as inhalation of that substance is concerned, be treated as adequate only if the level of exposure is reduced so far as is reasonably practicable and in any case below the OEL-CL.

7. Regulation 10 (1) of the HCS Regulations requires that, where there is exposure to a substance for which an OEL-RL has been approved, the control of exposure shall, so far as inhalation of that substance 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

Advisory council and standing technical committee

8. OEL-RL and OEL-CL are set by the chief inspector on recommendation of the Advisory Council for Occupational Health and Safety (the Advisory Council), following assessment by the Standing Committee No. 7 (TC 7) of the Advisory

Council for Occupational Health and Safety.

9. TC 7 must first consider what type of limit is appropriate, OEL-RL, or OEL-CL, and secondly, at what concentration the limit should be set. Setting an OEL-RL is the first option to be considered and TC 7 comes to a decision based on a scientific judgment of the available information on health effects. If, however, TC 7 decides that an OEL-CL is more appropriate, consideration of the level at which to set the limit passes to the Advisory Council, since it involves socio-economic judgments, balancing risk to health against the cost and effort of reducing exposure.

Following public consultation, new OEL-CLs and OEL-RLs are listed in Table 1 and Table 2 of Annexure 1 respectively with the approval of the chief inspector.

The indicative criteria

10. An OEL-RL can be assigned to a substance, if all three of the following criteria are complied with:

There is a no-risk at the exposure limit

Criterion 1: The available scientific evidence allows for the identification, with reasonable certainty, of a concentration averaged over a reference period, at which there is no indication that the substance is likely to be injurious to employees if they are exposed by inhalation day after day to that concentration.

Likely excursions above the exposure limit are unlikely

Criterion 2: Exposure to concentrations higher than that derived under criterion 1 and which could reasonably occur in practice, is unlikely to produce serious short or long-term effects on health over the period of time it might reasonably be expected to take to identify and remedy the cause of excessive exposure.

Compliance is reasonably practicable

Criterion 3: The available evidence indicates that compliance with an OEL-RL, as derived under criterion 1, is reasonably practicable.

11. A substance which does not meet criteria 1, 2 and 3, can be assigned an OEL-CL and must meet either of the following criteria:

Criterion 4: The available evidence on the substance does not satisfy criterion 1 and/or 2 for an OEL-RL and exposure to the substance has, or is liable to have, serious health implications for workers; or

Criterion 5: Socio-economic factors indicate that although the substance meets criteria 1 and 2 for an OEL-RL, a numerically higher value is necessary if the controls associated with certain uses are to be regarded as reasonably practicable.

Setting an OEL-RL

12. Criterion 1 sets out the fundamental basis for establishing such a limit: The existence of a threshold above which there may be evidence of significant effects on health but below which, on existing knowledge, there are thought to be no adverse effects.

13. Criterion 2 is necessary in order to take account of HCS Regulation 10 (1) of the HCS Regulations whereby exposures above an OEL-RL are allowed provided the employer identifies the reasons for exceeding the standard and takes steps to reduce exposure to that OEL-RL as soon as is reasonably practicable. Clearly, it is necessary to take account of the likelihood and probable extent of cases in deciding whether an OEL-RL is appropriate. The health effects to be taken into account include sensory and other effects such as the slowing of reflexes which might result in the impairment of safety.

14. Criterion 3 takes account of whether industry can reasonably comply with the exposure limit derived under the first criterion. There is no purpose in setting an OEL-RL which plainly cannot be achieved in practice. Note that industry's ability

ty to comply, influences the decision of whether to set an OEL-RL, but does not influence the level at which that OEL-RL is set.

Setting an OEL-CL

15. To be assigned an OEL-RL, a substance must meet all the first three criteria; if it does not, then it can be considered for an OEL-CL. To be assigned an OEL-CL, there should be serious implications for the health of workers exposed to the substance. Serious health implications include both the risk of serious health effects to a small population of workers and the risk of relatively minor health effects to a large population. In practice, an OEL-CL has been most often allocated to carcinogens and to other substances for which no threshold of effect can be identified and about which there is no doubt about the seriousness of the effects of exposure.

16. An OEL-CL and an OEL-RL, therefore, differ not only in their legal status, but also in the way in which they are set. For an OEL-RL the only consideration in setting the limits is the protection of the health of the employee; for an OEL-CL this is still the primary consideration but socio-economic factors are also taken into account.

17. The indicative criteria, then, provide the framework within which the discussions at the various stages of limit-setting can be conducted.

Applying occupational exposure limits

General

18. The lists of occupational exposure limits given in Table 1 and Table 2 of Annexure 1, unless otherwise stated, relate to personal exposure to substances hazardous to health in the air of the workplace.

Units of measurement

19. In occupational exposure limits, concentrations of gases and vapours in air are usually expressed in parts per million (ppm), a measure of concentration by volume, as well as in milligrams per cubic metre of air (mg m^{-3}), a measure of concentration by mass. In converting from ppm to mg m^{-3} a temperature of 25°C and an atmospheric pressure of 101.325 kPa are used. Concentrations of airborne particles (fume, dust, etc.) are usually expressed in mg m^{-3} . In the case of dust, the limits in the tables refer to the *total inhalable* fraction unless specifically indicated as referring to the *respirable* fraction (see paragraph 36). In the case of a man-made mineral fibre, the limit is expressed as fibres per millilitre of air (fibres ml^{-1}).

Occupational exposure limits - control limits: OEL-CL (table 1)

20. An OEL-CL is the maximum concentration of an airborne substance, 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 1 of Annexure 1.

21. Regulation 19 (1) of the HCS Regulations, when read in conjunction with the Act, imposes a duty on the employer to take all reasonable precautions and to exercise all due diligence to ensure that exposure is kept as far below an OEL-CL as is reasonably practicable.

22. To comply with this duty, in the case of substances with a 8-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-CL is not exceeded. Such a monitoring programme need 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-CL. For substances assigned a short-term limit, such value should never be exceeded.

23. The assessment should also be used to determine the extent to which it is reasonably practicable to reduce exposure further below an OEL-CL as required by regulation 10 (1) in as-

sessing reasonable practicability, the nature of the risk presented by the substance in question should be weighed against the cost and the effort involved in taking measures to reduce the risk. (Also see the definition of "reasonably practicable" as defined in the Act.)

Occupational exposure limit-recommended limit: OEL-RL (table 2)

24. An OEL-RL is the concentration of an airborne substance, 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.

25. For a substance, 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 employers 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.

26. Control of an OEL-RL as prescribed in regulation 10 (1) (a) can always be regarded as adequate control of that substance for the purpose of the HCS Regulations, so far as exposure from inhalation is concerned. However, due to the variations in process control and the fluctuations in substance concentrations in the workplace, it will be prudent for employers to reduce exposure below an OEL-RL as 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

27. The pattern of effects due to exposure to substances hazardous to health varies considerably depending on the nature of the substance and the exposure. Some effects require prolonged or accumulated exposure. The long-term (8-hour time weighted average) exposure limit is intended to control such effects by restricting the total intake by inhalation over one or more workshifts. Other effects may be seen after brief exposures which have occurred once or repeatedly. Short-term limits (usually 15 minute) may be applied to such substances. Where long-term limits also apply, the short-term limits restrict the magnitude of excursion above the average concentration during longer exposures. For those substances 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 excursions in exposure. With some other substances, brief exposure may be critical and the exposure limit necessary to prevent these excursions will also control any other effects. A separate long-term limit is not considered necessary in such cases and the short-term limit applies throughout the shift.

28. 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 applies to any 15 minute period throughout the working shift.

Limitations to the application of exposure limits

29. The exposure limits relate to personal exposure with the exception of the annual OEL-CL for

vinyl chloride which should be recorded as the time-weighted average of vinyl chloride in the atmosphere of a working place over a period of one year (see Annexure 2) and the OEL-RL for cotton dust is not a personal exposure standard, but a static air standard (see Annexure 4).

30. The limits cannot readily be extrapolated to evaluate or control non-occupational exposure, e.g. levels of contamination in the neighbourhood close to an industrial plant. OELs only apply to persons at work. Employers should also take into account their duties under the Environmental Protection Act. The OELs are also only approved for use where the atmospheric pressure is between 85 kPa and 101,325 kPa. This covers the normal range of meteorological variations and slightly pressurised workplaces such as cleaning rooms, but not the higher pressures that may be encountered in, for example, tunnelling or underwater hyperbaric chambers. Such situations require special assessments.

31. Occupational exposure limits, as set out in Tables 1 and 2 of Annexure 1, are intended to be used for normal working conditions in workplaces. Employers should also take into account their duties and the provisions of the Environmental Conservation Act. 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 HCS 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.

32. 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

33. The HCS Regulations and the occupational exposure limits in this publication do not apply to exposure to substances hazardous to health in mines.

Lead and asbestos

34. Work with asbestos or lead is not subject to the HCS Regulations. The exposure limits for various types of asbestos and lead are specified in the Asbestos Regulations and the Lead Regulations.

Pesticides

35. Substances used as active ingredients in pesticides are listed under their chemical names and/or their common (ISO) 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

36. The general approach necessary to control occupational exposure to dusts is as follows: not all dusts have been assigned occupational exposure limits but the lack of such limits should not be taken to 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 m^{-3} 8-hour time-weighted average total inhalable dust and 5 mg m^{-3} time-weighted average respirable dust. Such, or greater, dust concentrations should be taken as the *substantial concentrations*. A *substantial* concentration of dust should be taken as a concentration of 10 mg m^{-3} , 8-hour time-weighted average, of respirable dust, where there is no indication of the need for a lower value, and as such they are referred to as

substances hazardous to health.

Total inhalable dust and respirable dust

37. Total inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. *Respirable dust* approximates to the fraction which penetrates to the gas exchange region of the lung. A fuller definition is given at the end of Table 2 of Annexure 1 (Abbreviations).

38. Where dusts contain components which have their own assigned occupational exposure limits, all the relevant limits should be complied with.

Fume

39. Where a separate OEL has been set for *fume*, it 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

40. In general, for most substances 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 substances such as phenol, aniline and certain pesticides (marked in the Tables with an SK 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 result in little or no warning and it is necessary to take special precautions to prevent skin contact when handling these substances. Where the properties of the substances 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

41. Certain substances may cause sensitisation of the respiratory tract if inhaled or skin contact occurs. Respiratory sensitisers can cause asthma, rhinitis, or extrinsic allergic alveolitis. Skin sensitisers cause allergic contact dermatitis. Substances which cause skin sensitisation 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 sensitizer.

42. 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 substances, the spread of contamination by sensitisers to other working areas should also be prevented, as far as is reasonably practicable.

43. The *Sen* notation (marked in the Tables with a *Sen* notation) has been assigned only to those sensitisers that may cause sensitisation by inhalation. Remember that other substances not contained in these Tables can act as respiratory sensitisers.

Other factors

44. Working conditions which impose additional stress on the body, such as exposure to ultra-violet radiation, high temperatures, pressures and humidity, may increase the toxic response to a substance. In such cases, specialist advice may be necessary to evaluate the effect of these factors.

Mixed Exposures

General

45. The majority of OELs listed in Tables 1 and 2 of Annexure 1 are for single compounds or for substances containing a common element or radical, e.g. *tungsten and compounds*, and *isocyanates*. A few of the limits relate to substances 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 substances, or from work with several individual substances, simultaneously or successively, in a workshift. 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

46. The ways in which the constituent substances of a mixed exposure interact, vary considerably. Some mixed exposures involve substances 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 substances that act on the same organs, or by similar mechanisms, so that the effects reinforce each other and the substances 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 substance potentiates another, causing it to act in a way which it would not do alone.

Assessment and control

47. 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.

48. Where mixed exposures occur, the first step is to ensure adequate control of exposure for each individual substance. However, the nature and amount of the other substances in a mixture can influence the level to which it is reasonably practicable to reduce exposure to a substance subject to an OEL-CL. When limits for specific mixtures have been established, they should be used only where they are applicable, and in addition to any relevant individual limits. They should not be extended to inappropriate situations. It is then necessary to assess whether further control is needed to counteract any increased risk from the substances acting in conjunction. Expert assessments for some particular mixed exposures may be available and can be used as guidelines in similar cases. In other cases, close examination of the toxicological data will be necessary to determine which of the main types of interaction (if any) are likely for the particular combination of substances concerned. The various types should be considered in the following order:

- Synergistic substances:** 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 most strict control. They are also the most difficult to assess and wherever there is reason to suspect such interaction, specialist advice should be obtained;
- Additive substances:** 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- $C_1/L_1 + C_2/L_2 + C_3/L_3 + \dots > 1$ where C_1, C_2 , etc. are the time-weighted average (TWA) concentrations of constituents in air and L_1, L_2 , etc. are the corresponding exposure limits. The use of this formula is only applicable where the additive substances have been assigned OELs, and L_1, L_2 , etc. relate to the same reference period in the list of approved OELs. Where the sum of the C/L fractions does not exceed one, the exposure is considered not to exceed the national OELs. If one of the constituents has been assigned an OEL-CL, then the additive effect should be taken into account in deciding the extent to which it is reasonably practicable to further reduce exposure; and

- Independent substances:** 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.

49. The above steps provide basic protocol for assessment of mixed exposures. It is open to persons responsible for control of exposure to treat all nonsynergistic 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

50. Further information on monitoring airborne contaminants is given in paragraphs 52 and 53. 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 48 (a) and (b). However, if one of the components has been assigned an OEL-CL, the level of the exposure to that substance 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

51. Several factors that complicate the assessment and control of exposure to individual substances will also affect cases of mixed exposures and will require similar special consideration. Such factors include-

- exposure to a substance for which there is no established limit or for which an OEL-CL has been set;
- the relevance of factors such as alcohol, medication, smoking and additional stressors;
- exposure of the skin to one or more substances that can be absorbed by this route, as well as by inhalation; and
- substances in mixture may mutually affect the extent of their absorption, as well as their health effects, at a given level of exposure.

Monitoring exposure

52. Regulation 5 (4) of the HCS Regulations imposes a duty on the employer to monitor the exposure of employees to substances hazardous to health.

53. Details of routine sampling strategies for individual substances are outside the scope of this document. However, advice is available in EH 42, which provides practical guidance on monitoring substances hazardous to health in air.

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 1
OCCUPATIONAL EXPOSURE LIMITS - CONTROL LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES
[Table 1 substituted by GR.683 of 27 June 2008.]

Substance	Formula	TWA OEL-CL		Short Term OEL-CL		1995
		ppm	mg/m ³	ppm	mg/m ³	
Acrylamide	CH ₂ =CHCONH ₂	-	0.3	-	-	Sk
Acrylonitrile	CH ₂ =CHCN	2	4	-	-	Sk
Arsenic & compounds, except arsine (as As)	As	-	0.1	-	-	
Asbestos	See Asbestos Regulations					
Benzene	C ₆ H ₆	5	16	-	-	
Bis (chloromethyl) ether (BCME)	ClCH ₂ OCH ₂ Cl	0.001	0.005	-	-	New
Buta-1,3-diene	CH ₂ =CHCH=CH ₂	10	22	-	-	
2-Butoxyethanol	C ₄ H ₉ OCH ₂ CH ₂ OH	25	120	-	-	Sk
Cadmium & cadmium compound except cadmium oxide fume and Cadmium sulphide pigments (as Cd)	Cd	-	0.05	-	-	
Cadmium Oxide fumes (as Cd)	CdO	-	0.05	-	0.05	
Cadmium Sulphide pigments (respirable dust Cd)	CdS	-	0.04	-	-	
Carbon Disulphide	CS ₂	10	30	-	-	Sk
Chromium (IV) compounds (as Cr)	Cr		0.05			
1,2 Dibromoethane (ethylene dibromide)	BrCH ₂ CH ₂ Br	0.5	4	-	-	Sk
Dichloromethane	CH ₂ Cl ₂	100	350	-	-	
2,2'Dichloro-4,4'methylene dianiline (MbOCA)	CH ₃ (C ₆ H ₃ ClNH ₂) ₂		0.005	-	-	Sk
2-Ethoxyethanol	C ₂ H ₅ OCH ₂ CH ₂ OH	10	37	-	-	Sk
2-Ethoxyethyl acetate	C ₂ H ₅ OCH ₂ CH ₂ OOCCH ₃	10	54	-	-	Sk
Ethylene oxide	CH ₂ CH ₂ O	5	10	-	-	
Formaldehyde	HCHO	2	2.5	2	2.5	
Grain dust	See Annexure 7	-	10	-	-	Sen
Hydrogen cyanide	HCN	-	-	10	10	Sk
Isocyanate all (as NCO)		-	0.02	-	0.07	Sen
Lead and compounds	See the Lead Regulations					
2-Methoxyethanol	CH ₃ OCH ₂ CH ₂ OH	5	16	-	-	Sk
2-Methoxyethyl acetate	CH ₃ COOCH ₂ CH ₂ OCH ₃	5	24	-	-	Sk
Nickel	Ni	-	0.5	-	-	
Nickel, inorganic compounds (as Ni)	Ni					
Soluble compounds		-	0.1	-	-	
Insoluble compounds		-	0.5	-	-	
Rubber process dust	See Annexure 6	-	8	-	-	
Rubber fume		-	0.6	-	-	
Silica, crystalline respirable dust	SiO ₂	-	0.1	-	-	
Styrene	C ₆ H ₅ CHCH ₂	100	420	250	1050	
1,1,1-Trichloroethane	CH ₃ CCl ₃	350	1900	450	2450	
Trichloroethylene	CCl ₂ =CHCl	100	535	150	802	Sk
**Vinyl chloride	CH ₂ =CHCl	7	-	-	-	
Vinylidene chloride	CH ₂ =CCl ₂	10	40	-	-	
Wood dust (hard wood)		-	5	-	-	Sen

** Vinyl chloride is also subject to an overriding annual TWA OEL-CL of 3 ppm.

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
Acetaldehyde	CH ₃ CHO	100	180	150	270	
Acetic acid	CH ₃ COOH	10	25	15	37	
Acetic anhydride	(CH ₃ CO) ₂ O	-	-	5	20	
Acetone	CH ₃ COCH ₃	750	1780	1500	3560	
Acetonitrile	CH ₃ CN	40	70	60	105	
o-Acetylsalicylic Acid	CH ₃ COOC ₆ H ₄ COOH	-	5	-	-	
Acrylaldehyde (Acrolein)	CH ₂ =CHCHO	0.1	0.25	0.3	0.8	
Acrylic acid	CH ₂ =CHCOOH	10	30	20	60	
Aldrin (ISO)	C ₁₂ H ₈ Cl ₆	-	0.25	-	0.75	Sk
Allyl Alcohol	CH ₂ =CHCH ₂ OH	2	5	4	10	Sk
Allyl Chloride	CH ₂ =CHCH ₂ Cl	1	3	2	6	
Allyl 2,3-epoxypropyl ether	CH ₂ =CHCH ₂ OCH ₂ CHCH ₂ O	5	22	10	44	Sk
Allyl glycidyl ether (AGE)	CH ₂ CHCH ₂ OCH ₂ CHCH ₂ O	5	22	10	44	Sk
Aluminium - Alkyl compounds		-	2	-	-	
* Aluminium metal	Al	-	10	-	-	
total inhalable dust		-	5	-	-	
respirable dust		-	5	-	-	
* Aluminium oxides	Al ₂ O ₃ , Al(OH) ₃ and AlOOH	-	10	-	-	
total inhalable dust		-	5	-	-	
respirable dust		-	5	-	-	
Aluminium salts, soluble		-	2	-	-	
Aminodimethyl-benzene	(CH ₃) ₂ C ₆ H ₃ NH ₂	2	10	10	50	Sk
2-Aminoethanol	NH ₂ CH ₂ CH ₂ OH	3	8	6	15	
2-Aminopyridine	NH ₂ C ₅ H ₄ N	0.5	2	2	8	
Ammonia	NH ₃	25	17	35	24	
Ammonium Chloride, fumes	NH ₄ Cl	-	10	-	20	
Ammonium Sulphamate	NH ₄ SO ₃ NH ₄	-	10	-	20	
n-Amyl Acetate	CH ₃ COOC ₅ H ₁₁	100	530	150	800	
sec-Amyl Acetate	CH ₃ COOCH(CH ₃)C ₃ H ₇	-	-	150	800	
Aniline						
Anisidines, o- and p-isomers	NH ₂ C ₆ H ₄ OCH ₃	0.1	0.5	-	-	Sk
Antimony & compounds (as Sb)	Sb	-	0.5	-	-	
Arsine	AsH ₃	0.05	0.2	-	-	
Asphalt, petroleum fumes		-	5	-	10	
Asprin	CH ₃ COOC ₆ H ₄ COOH	-	5	-	10	
Atrazine (ISO)	C ₆ H ₄ CIN ₅	-	10	-	-	
Azinphos-methyl (ISO)	(CH ₃ O) ₂ PSSCH ₂ (C ₇ H ₄ N ₃ O)	-	0.2	0.6	-	Sk
Aziridine	CH ₂ CH ₂ NH	-	10	-	-	
γ-BHC (ISO)	C ₆ H ₅ Cl ₆	-	0.5	-	1.5	Sk
Barium compounds, soluble (as Ba)	Ba	-	0.5	-	-	
Barium Sulphate, respirable dust	BaSO ₄	-	2	-	-	
Benomyl (ISO)	C ₁₄ H ₁₈ N ₄ O ₃	-	10	-	15	
Benzenethiol	C ₆ H ₅ SH	0.5	2	-	-	
Benzene- 1,2,4-tricarboxylic acid 1,2-anhydride	C ₆ H ₄ O ₅	-	0.04	-	-	Sen
p-Benzoquinone	C ₆ H ₄ O ₂	0.1	0.4	0.3	1.2	
Benzoyl Peroxide	(C ₆ H ₅ CO) ₂ O ₂	-	5	-	-	
Benzyl butyl phthalate	C ₆ H ₅ CH ₂ COOC ₆ H ₄ COOC ₄ H ₉	-	5	-	-	
Benzyl chloride	C ₆ H ₅ CH ₂ Cl	1	5	-	-	
Beryllium	Be	-	0.002	-	-	
Biphenyl	(C ₆ H ₅) ₂	0.2	1.5	0.6	4	
2,2-Bis(p-methoxy-phenyl)-1,1,1-trichloroethane						
Bis (2,3-epoxypropyl) ether	(OCH ₂ CHCH ₂) ₂ O	0.1	0.6	-	-	
Bis(2-ethylhexyl phthalate)	C ₆ H ₄ (COOCH ₂ CH(C ₂ H ₅)C ₄ H ₉) ₂	-	5	-	10	
2,2-Bis (p-methoxy-phenyl)-1,1,1-trichloroethane	C ₁₆ H ₁₅ C ₃ O ₂	-	10	-	-	
Bismuth Telluride	Bi ₂ Te ₃	-	10	-	20	
Bismuth Telluride - seleniumdoped	Bi ₂ Te ₃	-	5	-	10	
Borates, (tetra) sodium salts anhydrous	Na ₂ B ₄ O ₇	-	1	-	-	

* The OEL-RL for aluminum does not include exposure to aluminum coated with mineral oil, or to fume arising from aluminum welding processes.

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
decahydrate	Na ₂ B ₄ O ₇ ·10H ₂ O	-	5	-	-	
pentahydrate	Na ₂ B ₄ O ₇ ·5H ₂ O	-	1	-	-	
Bornan-2-one	B ₂ O ₃	2	12	3	18	
Boron Oxide	B ₂ O ₃	-	10	-	20	
Boron tribromide	BBr ₃	-	-	1	10	
Boron trifluoride	BF ₃	-	-	1	3	
Bromacil (ISO)	C ₉ H ₁₃ BrN ₂ O ₂	1	10	2	20	
Bromine	Br ₂	0.1	0.7	0.3	2	
Bromine pentafluoride	BrF ₅	0.1	0.7	0.3	2	
Bromochloromethane	CH ₂ BrCl	200	1050	250	1300	
Bromoethane	C ₂ H ₅ Br	200	890	250	1110	
Bromoethylene	CH ₂ =CHBr	5	20	-	-	
Bromoform	CHBr ₃	0.5	5	-	-	Sk
Bromomethane	CH ₃ Br	5	20	15	60	Sk
Bromotrifluoromethane	CF ₃ Br	1000	6100	1200	7300	
Butane	C ₄ H ₁₀	600	1430	750	1780	
Butan-1-ol	C ₄ H ₉ OHCH ₃	-	-	50	150	Sk
Butan-2-ol	CH ₃ COC ₂ H ₅	100	300	150	450	
Butan-2-one	CH ₃ CH=CHCHO	200	590	300	885	
trans-But-2-enal	CH ₃ COO(CH ₂) ₃ CH ₃	2	6	6	18	
Butyl acetate	CH ₃ COOCH(CH ₃)CH ₂ CH ₃	150	710	200	950	
sec-Butyl acetate	CH ₃ COOC(CH ₃) ₂	200	950	250	1190	
tert-Butyl acetate	C ₇ H ₁₂ O ₂	200	950	250	1190	
Butyl Acrylate	C ₇ H ₁₂ O ₂	10	55	-	-	
n-Butyl alcohol	C ₄ H ₉ OH	-	-	50	150	Sk
sec-Butyl alcohol	CH ₃ CH ₂ CHOHCH ₃	100	300	150	450	
tert-Butyl alcohol	(CH ₃) ₃ COH	100	300	150	450	
n-Butylamine	C ₄ H ₉ NH ₂	-	-	5	15	Sk
Butyl benzyl phthalate	C ₆ H ₅ CH ₂ COOC ₆ H ₄ COOC ₄ H ₉	-	5	-	-	
n-Butyl chloroformate	ClCO ₂ C ₄ H ₉	1	5.6	-	-	
Butyl-2,3-epoxy-propyl ether						
n-Butyl glycidyl ether (BGE)	C ₄ H ₉ OCH ₂ CHCH ₂ O	25	135	-	-	
Butyl-2,3-epoxy-propyl ether	C ₄ H ₉ OCH ₂ CHCH ₂ O	25	135	-	-	
Butyl lactate	C ₇ H ₁₄ O ₃	5	25	-	-	
2-sec-Butylphenol	C ₂ H ₅ (CH ₃)CHC ₆ H ₄ OH	5	30	-	-	Sk
Caesium hydroxide	CsOH	-	2	-	-	
Calcium carbonate	CaCO ₃	-	10	-	-	
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Calcium cyanamide	CaNCN	-	0.5	-	1	
Calcium hydroxide	Ca(OH) ₂	-	5	-	-	
Calcium oxide	CaO	-	2	-	-	
Calcium silicate		-	10	-	-	
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Camphor, synthetic	C ₁₀ H ₁₆ O	2	12	3	18	
Caprolactam	NH(CH ₂) ₅ CO	-	1	-	3	
Caprolactam vapour	NH(CH ₂) ₅ CO	5	20	10	40	
dust						
vapour						
Captan (ISO)	C ₁₀ H ₇ C ₄ NO ₂ S	-	0.1	-	-	Sk
Captan (ISO)	C ₉ H ₈ C ₄ NO ₂ S	-	5	-	15	
Carbaryl (ISO)	C ₁₀ H ₇ OCONHCH ₃	-	-	-	-	
Carboforan (ISO)	C ₁₂ H ₁₅ NO ₃	-	3.5	-	7	
Carbon black	C	-	3.5	-	7	
Carbon dioxide	CO ₂	5000	9000	15000	27000	
Carbon monoxide	CO	50	55	300	330	
Carbon tetrabromide	CBBr ₄	0.1	1.4	0.3	4	
Carbon tetrachloride	CCl ₄	2	12.6	-	-	Sk
Carbonyl chloride	COCl ₂	-	0.4	-	-	Sk
Catechol	C ₆ H ₄ (OH) ₂	5	20	-	-	
Cellulose						

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
total inhalable dust		-	10	-	20	
respirable dust		-	5	-	20	
Cement						
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Chlordane (ISO)	C ₁₀ H ₆ Cl ₈	-	0.5	-	2	Sk
Chlorinated biphenyls (42% chlorine)	C ₁₂ H ₇ Cl ₃ (approx)	-	1, 0.5	-	2	
Chlorinated biphenyls (54% chlorine)	C ₆ H ₂ Cl ₃ C ₆ H ₃ Cl ₂	-	1, 0.5	-	1	
Chlorine	Cl ₂	0.5	1.5	1	3	
Chlorine dioxide	ClO ₂	0.1	0.3	0.3	0.9	
Chlorine trifluoride	ClF ₃	-	-	0.1	0.4	
Chloroacetaldehyde	ClCH ₂ CHO	-	-	1	3	
2-Chloroacetophenone	C ₆ H ₅ COCH ₂ Cl	0.05	0.3	-	-	
Chloroacetyl Chloride	ClCH ₂ COCI	0.05	0.2	-	-	
Chlorobenzene	C ₆ H ₅ Cl	50	230	-	-	
Chlorobromomethane	CH ₂ BrCl	200	1050	250	1300	
2-Chlorobuta-1,3-diene	CH ₂ =CCICH=CH ₂	10	36	-	-	Sk
Chlorodifluoromethane	CHClF ₂	1000	3500	-	-	
1-Chloro-2,3-epoxy-propane	OCH ₂ CHCH ₂ Cl	2	8	5	20	Sk
Chloroethane	C ₂ H ₅ Cl	1000	2600	1250	3250	
2-Chloroethanol	ClCH ₂ CH ₂ OH	-	-	1	3	Sk
Chloroethylene	CH ₂ =CHCl	7	-	-	-	
Chloroform	CHCl ₃	2	9.8	-	-	Sk
Chloromethane	CH ₃ Cl	50	105	100	210	
1-Chloro-4-nitro-benzene	ClC ₆ H ₄ NO ₂	-	1	-	2	Sk
Chloropentafluoroethane	CClF ₂ CF ₃	1000	6320	-	-	
Chloropicrin	CCl ₃ NO ₂	0.1	0.7	0.3	2	
beta-Chloroprene	CH ₂ =CCICH=CH ₂	10	36	-	-	Sk
3-Chloropropene	CH ₂ =CHCH ₂ Cl	1	3	2	6	
Chlorosulphonic acid	HSO ₃ Cl	-	1	-	-	
a-Chlorotoluene	C ₆ H ₅ CH ₂ Cl	1	5	-	-	
2-Chlorotoluene	C ₇ H ₇ Cl	50	250	-	-	
2-Chloro-6-(trichloro-methyl) pyridine	C ₆ H ₃ Cl ₃ N	-	10	-	20	
Chloropyrifos (ISO)	C ₉ H ₁₁ Cl ₃ NO ₃ PS	-	0.2	-	0.6	Sk
Chromium	Cr	-	0.5	-	-	
Chromium (II) compounds (as Cr)	Cr	-	0.5	-	-	
Chromium (III) compounds (as Cr)	Cr	-	0.5	-	-	
Coal dust						
respirable dust		-	2	-	-	
Coal tar pitch volatiles (as cyclohexane solubles)		-	0.14	-	-	
Cobalt and compounds (as Co)	Co	-	0.1	-	-	
Copper	Cu					
fume		-	0.2	-	-	
dusts and mists (as Cu)		-	1	-	2	
Cotton dust	See Annexure 4	-	0.5	-	-	
Cresols, all isomers	CH ₃ C ₆ H ₄ OH	5	22	-	-	Sk
Cristobalite, respirable dust	SiO ₂					
Crotonaldehyde	CH ₃ CH=CHCHO	2	6	6	18	
Cryofluorane (INN)	(INN) CClF ₂ CClF ₂	1000	7000	1250	8750	
Cumene	C ₆ H ₅ CH(CH ₃) ₂	25	120	75	370	Sk
Cyanamide	H ₂ N ₂ CN	-	2	-	-	
Cyanides, except hydrogen cyanide,cyanogen &cyanogen chloride, (as-CN)	CN	-	5	-	-	Sk
Cyanogen	(CN) ₂	10	20	-	-	
Cyanogen chloride	CICN	-	-	0.3	0.6	
Cyclohexane	C ₆ H ₁₂	100	340	300	1030	
Cyclohexanol	C ₆ H ₁₁ OH	50	200	-	-	Sk
Cyclohexanone	C ₆ H ₁₀ O	25	100	100	400	Sk
Cyclohexene	C ₆ H ₁₀	300	1015	-	-	
Cyclohexylamine	C ₆ H ₁₁ NH ₂	10	40	-	-	Sk
Cyclonite (RDX)	C ₃ H ₆ N ₆ O ₆	-	1.5	-	3	Sk
Cyhexatin (ISO)	(C ₆ H ₁₁) ₃ SnOH	-	5	-	10	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
2,4D (ISO)	$C_6H_3Cl_2OCH_2COOH$	-	10	-	20	
DDM	$H_2NC_6H_4CH_2C_6H_4NH_2$	0.1	0.8	0.5	4	
DDT	$C_{14}H_9Cl_5$	-	1	-	3	
DDVP	$(CH_3O)_2POOCHCCl_2$	0.1	1	-	3	Sk
2,4-DES	$C_8H_7Cl_2NaO_5S$	-	10	-	20	
DMDT	$C_{16}H_{15}Cl_3O_2$	-	10	-	-	
Derris, commercial	$C_{23}H_{22}O_8$	-	5	-	10	
Diacetone alcohol	$CH_3COCH_2C(CH_3)_2OH$	50	240	75	360	
Dialkyl 79 phthalate	$C_6H_4(COOC_7H_{15-19})_2$	-	5	-	-	
Dialkyl phthalate	$C_6H_4(COOCH_2CHCH_3)_2$	-	5	-	-	
2,2'-Diaminodi-ethylamine	$(NH_2CH_2CH_2)_2NH$	1	4	-	-	Sk
4,4'-Diaminodiphenyl-methane (DADPM)	$H_2NC_6H_4CH_2C_6H_4NH_2$	0.1	0.8	0.5	4	
1,2-Diaminoethane	$NH_2CH_2CH_2NH_2$	10	25	-	-	
Diammonium peroxodisulphate (measured as S2O8)	$(NH_4)_2S_2O_8$					
Diatomaceous earth, natural respirable dust						
Diazinon - (ISO)	$C_{12}H_{21}N_2O_3PS$	-	0.1	-	0.3	Sk
Diazomethane	CH_2N_2	0.2	0.4	-	-	
Dibenzoyl peroxide	$(C_6H_5CO)_2O_2$	-	5	-	-	
Dibismuth tritelluride						
Dibismuth tritelluride, selenium doped						
Diborane	B_2H_6	0.1	0.1	-	-	
Doboron trioxide						
Dibrom	$C_4H_7Br_2Cl_2O_4P$	-	3	-	6	
1,2-Dibromo-2,2-dichloroethyl dimethyl	$C_4H_7Br_2Cl_2O_4P$	-	3	-	6	
Dibromodifluoro-methane	CBr_2F_2	100	860	150	1290	
Dibutyl hydrogen phosphate	$(n-C_4H_9O)_2(OH)PO$	1	5	2	10	
Di-n-butyl phosphate	$(n-C_4H_9O)_2(OH)PO$	1	5	2	10	
Dibutyl phthalate	$C_6H_4(CO_2C_4H_9)_2$	-	5	-	10	
6,6'-Di-tert-butyl-4,4'-thiodi-m-cresol	$C_{22}H_{30}O_2S$	-	10	-	20	
Dichloroacetylene	$ClC\equiv CCl$	-	-	0.1	0.4	
1,2-Dichlorobenzene	$C_6H_4Cl_2$	-	-	50	300	
1,4-Dichlorobenzene	$C_6H_4Cl_2$	25	150	50	300	
		75	450	-	-	
Dichlorodifluoro-methane	CCl_2F_2	1000	4950	1250	6200	
1,3-Dichloro 5,5-dimethylhydantoin	$C_8H_6Cl_2N_2O_2$	-	0.2	-	0.4	
Dichlorodiphenyltrichloroethane	$C_{14}H_9Cl_5$	-	1	-	3	
1,1-Dichloroethane	CH_3CHCl_2	200	810	400	1620	
1,2-Dichloroethane	CH_2ClCH_2Cl	10	40	15	60	
1,1-Dichloroethylene	$CH_2=CCl_2$	10	40	-	-	
1,2-Dichloroethylene, cis:trans isomers 60:40	$ClCH=CHCl$	200	790	250	1000	
Dichlorofluoromethane	$CHCl_2F$	10	40	-	-	
2,4-Dichlorophenoxyacetic acid	$C_8H_3Cl_2OCH_2COOH$	-	10	-	20	
1,3-Dichloropropene cis and trans isomers	$CHCl=CHCH_2Cl$	1	5	10	50	Sk
Dichlorotetra-fluoroethane	$CClF_2CClF_2$	1000	7000	1250	8750	
Dichlorvos (ISO)	$(CH_3O)_2POOCH=CCl_2$	0.1	1	0.3	3	Sk
Dicyclohexyl phthalate	$C_6H_4(COOC_6H_{11})_2$	-	5	-	-	
Dicyclopentadiene	$C_{10}H_{12}$	5	30	-	-	
Dicyclopenta dienyliiron	$C_{10}H_{10}Fe$	-	10	-	20	
Dieldrin (ISO)	$C_{12}H_8Cl_6O$	-	0.25	-	0.75	Sk
Diethanolamine	$HO(CH_2)_2NH(CH_2)_2OH$	3	15	-	-	
Diethylamine	$(C_2H_5)_2NH$	10	30	25	75	
2-Diethylaminoethanol	$(C_2H_5)_2NCH_2CH_2OH$	10	50	-	-	Sk
Diethylene glycol	$(HOCH_2CH_2)_2O$	23	100	-	-	
Diethylamine triamine	$(NH_2CH_2CH_2)_2NH$	1	4	-	-	Sk
Diethyl ether	$C_2H_5OC_2H_5$	400	1200	500	1500	
Di-(2-ethylhexyl) phthalate	$C_6H_4(COOC_2H_5CH_2(C_2H_5)_2)_2$	-	5	-	10	
Diethyl ketone	$C_2H_5COC_2H_5$	200	700	250	875	
Diethyl phthalate	$C_6H_4(COOC_2H_5)_2$	-	5	-	10	
Difluorochloromethane	$CHClF_2$	1000	3500	-	-	
Diglycidyl ether (DGE)	$(OCH_2CHCH_2)_2O$	0.1	0.6	-	-	
o-Dihydroxybenzene	$C_6H_4(OH)_2$	5	20	-	-	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued

OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
m-Dihydroxybenzene	C ₆ H ₄ (OH) ₂	10	45	20	90	
p-Dihydroxybenzene	C ₆ H ₄ (OH) ₂	-	2	-	4	
1,2-Dihydroxyethane	CH ₂ OHCH ₂ OH	-	-	-	-	
particulate	-	-	10	-	60	
vapour	-	-	10	-	125	
Diisobutyl ketone	((CH ₃) ₂ CHCH ₂) ₂ CO	25	150	-	-	
Diisobutyl phthalate	C ₆ H ₄ (COOCH ₂ CH(CH ₃) ₂) ₂	-	5	-	-	
Diisodecyl phthalate	(C ₁₀ H ₂₁ CO ₂) ₂ C ₆ H ₄	-	5	-	-	
Diisononyl phthalate	C ₆ H ₄ (COOC ₉ H ₁₉) ₂	-	5	-	-	
Diisooctyl phthalate	C ₆ H ₄ (CO ₂ C ₈ H ₁₇) ₂	-	5	-	-	
Diisopropylamine	(CH ₃) ₂ CHNHCH(CH ₃) ₂	5	20	-	-	Sk
Diisopropyl ether	(CH ₃) ₂ CHOCH(CH ₃) ₂	250	1050	310	1320	
Di-linear 79 phthalate	C ₆ H ₄ (COOC ₇₋₉ H ₁₅₋₁₉) ₂	-	5	-	-	
Dimethoxymethane	CH ₂ (OCH ₃) ₂	1000	3100	1250	3880	
NN-Dimethyl-acetamide	CH ₃ CON(CH ₃) ₂	10	36	20	71	Sk
Dimethylamine	(CH ₃) ₂ NH	10	18	-	-	
NN-Dimethylaniline	C ₆ H ₅ N(CH ₃) ₂	5	25	10	50	Sk
1,3-Dimethylbutyl acetate	CH ₃ CO ₂ CH(CH ₃)CH ₂ CH(CH ₃) ₂	50	300	100	600	
NN-Dimethyl-ethylamine	C ₂ H ₅ (CH ₃) ₂ N	10	30	15	45	
Dimethylformamide	HCON(CH ₃) ₂	10	30	20	60	Sk
2,6-Dimethylheptan-4-one	((CH ₃) ₂ CHCH ₂) ₂ CO	25	150	-	-	
Dimethyl phthalate	C ₆ H ₄ (COOCH ₃) ₂	-	5	-	10	
Dimethyl sulphate	(CH ₃) ₂ SO ₄	0.1	0.5	0.1	0.5	Sk
Dinitrobenzene all isomers	C ₆ H ₄ (NO ₂) ₂	0.15	1	0.5	3	Sk
Dinitro-o-cresol	CH ₃ C ₆ H ₃ (OH)(NO ₂) ₂	-	0.2	-	0.6	Sk
2,4-Dinitrotoluene	CH ₃ C ₆ H ₃ (NO ₂) ₂	-	1.5	-	5	Sk
Dinonyl phthalate	C ₆ H ₄ (COOC ₉ H ₁₉) ₂	-	5	-	-	
Di-sec-octyl phthalate	C ₆ H ₄ (COOCH ₂ CH(C ₂ H ₅)-C ₄ H ₉) ₂	-	5	-	10	
1,4-Dioxane, tech. grade	OCH ₂ CH ₂ OCH ₂ CH ₂	25	90	100	360	Sk
Dioxathion (ISO)	C ₁₂ H ₂₆ O ₆ P ₂ S ₂	-	0.2	-	-	Sk
Diphenyl	(C ₆ H ₅) ₂	0.2	1.5	0.6	4	
Diphenylamine	(C ₆ H ₅) ₂ NH	-	10	-	20	
Diphenyl ether (vapour)	C ₆ H ₅ OC ₆ H ₅	1	7	-	-	
Diphosphorus pentasulphide	-	-	-	-	-	
Dipotassium peroxodisulphate (measured as S2O8)	K ₂ S ₂ O ₈	-	1	-	-	
Diquat dibromide (ISO)	C ₁₂ H ₁₂ Br ₂ N ₂	-	0.5	-	1	
Disodium disulphite	Na ₂ S ₂ O ₅	-	-	-	-	
Disodium peroxodisulphate (measured as S2O8)	Na ₂ S ₂ O ₈	-	1	-	-	
Disodium tetraborate	-	-	-	-	-	
anhydrous	Na ₂ B ₄ O ₇	-	1	-	-	
decahydrate	Na ₂ B ₄ O ₇ ·10H ₂ O	-	5	-	-	
pentahydrate	Na ₂ B ₄ O ₇ ·5H ₂ O	-	1	-	-	
Disulfoton (ISO)	(C ₂ H ₅ O) ₂ PSCH ₂ CH ₂ SC ₂ H ₅	-	0.1	-	0.3	
Disulphur dichloride	S ₂ Cl ₂	-	-	1	6	
Disulphur decafluoride	S ₂ F ₁₀	0.025	0.25	0.075	0.75	
2,6-Ditertiary-butyl-paracresol	(C ₄ H ₉) ₂ CH ₃ C ₆ H ₂ OH	-	10	-	-	
Diuron (ISO)	C ₉ H ₁₀ Cl ₂ N ₂ O	-	10	-	-	
Divanadium pentoxide (as V)	V ₂ O ₅	-	-	-	-	
total inhalable dust	-	-	0.5	-	-	
fume and respirable dust	-	-	0.05	-	-	
Divinylbenzene	C ₈ H ₄ (CHCH ₂) ₂	10	50	-	-	
Dusts	see paragraph 36 of Annexure 1	-	-	-	-	
Emery	-	-	-	-	-	
total inhalable dust	-	-	-	-	-	
respirable dust	-	-	10	-	-	
Endosulfan (ISO)	C ₉ H ₆ Cl ₆ O ₃ S	-	0.1	-	0.3	Sk
Endrin (ISO)	C ₁₂ H ₄ Cl ₆ O	-	0.1	-	0.3	Sk
Enflurane	CHFClCF ₂ OCF ₂ H	20	150	-	-	
Epichlorohydrin	OCH ₂ CHCH ₂ Cl	2	8	5	20	Sk
1,2-Epoxy-4-epoxyethyl-cyclohexane	C ₆ H ₁₀ O ₂	10	60	-	-	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m³	ppm	mg/m³	
2,3-Epoxypropyl isopropyl ether	$C_3H_7OCH_2CHCH_2O$					
Ethane-1,2-diol	CH_2OHCH_2OH					
particulate		-	10	-	125	
vapour		-	60	-	125	
Ethanethiol	C_2H_5SH	0.5	1	2	3	
Ethanol	C_2H_5OH	1000	1900	-	-	
Ethanolamine	$NH_2CH_2CH_2OH$	3	8	500	1500	
Ether	$C_2H_5OC_2H_5$	400	1200	-	-	
Ethyl acetate	$CH_3COOC_2H_5$	400	1400	-	-	
Ethyl acrylate	$CH_2=CHCOOC_2H_5$	5	20	15	60	Sk
Ethyl alcohol	C_2H_5OH	1000	1900	-	-	
Ethylamine	$C_2H_5NH_2$	10	18	-	-	
Ethyl amyl ketone	$CH_3CH_2COCH_2CH_2CH_2CH_2CH_3$	25	130	-	-	
Ethylbenzene	$C_6H_5C_2H_5$	100	435	125	545	
Ethyl bromide	C_2H_5Br	200	890	250	1110	
Ethyl butyl ketone	$CH_3CH_2CO(CH_2)_3CH_3$	50	230	75	345	
Ethyl chloride	C_2H_5Cl	1000	2600	1250	3250	
Ethyl chloroformate	$ClCO_2C_2H_5$	1	4.4	-	-	
Ethylene chlorohydrin	$ClCH_2CH_2OH$	-	-	1	3	Sk
Ethylenediamine	$NH_2CH_2CH_2NH_2$	10	25	-	-	
Ethylene dibromide	$BrCH_2CH_2Br$	0.5	4	-	-	Sk
Ethylene dichloride	CH_2ClCH_2Cl	10	40	15	60	
Ethylene dinitrate	$CH_2NO_3CH_2NO_3$	0.2	1.2	0.2	1.2	Sk
Ethylene glycol	CH_2OHCH_2OH					
particulate		-	10	-	125	
vapour		-	60	-	125	
Ethylene glycol dinitrate (EGDN)	$CH_2NO_3CH_2NO_3$	0.2	1.2	0.2	1.2	Sk
Ethylene glycol monobutyl ether	$C_4H_9OCH_2CH_2OH$	25	120	-	-	Sk
Ethylene glycol monoethyl ether	$C_2H_5OCH_2CH_2OH$	10	37	-	-	Sk
Ethylene glycol monoethyl ether acetate	$C_2H_5OCH_2CH_2OOCCH_3$	10	54	-	-	Sk
Ethylene glycol monomethyl ether acetate	$CH_3COOCH_2CH_2OCH_3$	5	24	-	-	Sk
Ethylene glycol monomethyl ether	$CH_3OCH_2CH_2OH$	5	16	-	-	Sk
Ethyleneimine	CH_2CH_2NH	0.5	1	-	-	Sk
Ethylene oxide	CH_2CH_2O	5	10	-	-	
Ethyl ether	$C_2H_5OC_2H_5$	400	1200	500	1500	
Ethyl formate	$HCOOC_2H_5$	100	300	150	450	
2-Ethylhexyl chloroformate	$ClCO_2(C_2H_5)_2CH_2CH(CH_2)_3CH_3$	1	7.9	-	-	
Ethylidene dichloride	CH_3CHCl_2	200	810	400	1620	
Ethyl mercaptan	C_2H_5SH	0.5	1	2	3	
4-Ethylmorpholine	$C_6H_{13}NO$	5	23	20	95	Sk
Ethyl silicate	$Si(OC_2H_5)_4$	10	85	30	255	
Fenchlorphos (ISO)	$(CH_3O)_2PSOC_6H_4Cl_3$	-	10	-	-	
Ferbam (ISO)	$((CH_3)_2NCSS)_3Fe$	-	10	-	20	
Ferrocene	$C_{10}H_{10}Fe$	-	10	-	20	
Flourides (as F)	F	-	2.5	-	-	
Flourine	F_2	-	-	1	1.5	
Flourochloromethane	$CHCl_2F$	10	40	-	-	
Flourotrichloromethane	CCl_3F	1000	5600	1250	7000	
Formamide	$HCONH_2$	20	30	30	45	
Formic Acid	$HCOOH$	5	9	-	-	
2-Furaldehyde (Furfural)	$OCH=CHCH=CCH_2OH$	5	20	15	60	Sk
Furfuryl alcohol						
Germane	GEH_4					
Germanium tetrahydride	GeH_4	0.2	0.6	0.6	1.8	
Glutaraldehyde	$OCH(CH_2)_3CHO$	-	-	0.2	0.7	
Glycerol, mist	$CH_2OHCH_2OHCH_2OH$	-	10	-	-	
Glycerol trinitrate	$CH_2NO_3CH_2NO_3CH_2NO_3$	0.2	2	0.2	2	Sk
Glycol monoethyl ether	$C_2H_5OCH_2CH_2OH$	10	37	0.2	2	Sk
Graphite	C					

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued

OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Guthion	(CH ₃ O) ₂ PSSCH ₂ (C ₇ H ₄ N ₃ O)	-	0.2	0.6	-	Sk
Gypsum	CaSO ₄ ·2H ₂ O	-	-	-	-	
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Halothane	CHBrCl-CF ₃	10	80	-	-	
γ-HCH (ISO)	C ₆ H ₅ Cl ₆	-	0.5	-	1.5	Sk
Hafnium	Hf	-	0.5	-	1.5	
Heptachlor						
n-Heptane	C ₇ H ₁₆	400	1600	500	2000	
Heptan-2-one	CH ₃ (CH ₂) ₄ COCH ₃	50	240	-	-	
Heptan-3-one	CH ₃ CH ₂ CO(CH ₂) ₃ CH ₃	50	230	75	345	
γ-Hexachlorocyclo-hexane (γ-HCH)	C ₆ H ₅ Cl ₆	-	0.5	-	1.5	Sk
Hexachloroethane	CCl ₃ CCl ₃					
vapour		5	50	-	-	
total inhalable dust		5	10	-	-	
respirable dust		5	5	-	-	
Hexahydro-1,3,5-trinitro-1,3,5-triazine	C ₃ H ₆ N ₆ O ₆	-	1.5	-	3	Sk
Hexane all isomers except n-Hexane	C ₆ H ₁₄	500	1800	1000	3600	
n-Hexane	C ₆ H ₁₄	20	70	-	-	
1,6-Hexanolactam	NH(CH ₂) ₅ CO					
vapour		5	20	10	40	
dust		5	1	10	3	
Hexan-2-one	C ₃ H ₇ COCH ₃	5	20	-	-	Sk
Hexone	(CH ₃) ₂ CHCH ₂ COCH ₃	50	205	75	300	Sk
Hexylene glycol	(CH ₃) ₂ COHCH ₂ CHOHCH ₃	25	125	25	125	
Hydrazine	NH ₂ NH ₂	0.1	0.1	-	-	Sk
Hydrazoic acid (as vapour)	HN ₃	-	-	0.1	-	
Hydrogen bromide	HBr	-	-	3	10	
Hydrogen chloride	HCl	-	-	5	7	
Hydrogenfluoride (as F)	HF	-	-	3	2.5	
Hydrogen peroxide	H ₂ O ₂	1	1.5	2	3	
Hydrogen selenide (as Se)	H ₂ Se	0.05	0.2	-	-	
Hydrogen sulphide	H ₂ S	10	14	15	21	
Hydroquinone	CH ₃ COCH ₂ C(CH ₃) ₂ OH	-	2	-	4	
4-Hydroxy-4-methyl-pentan-2-one	CH ₂ CHCOOCH ₂ CHOHCH ₃	50	240	75	360	
2-Hydroxypropyl acrylate		0.5	3	-	-	Sk
2,2'-Iminodiethanol	HO(CH ₂) ₂ NH(CH ₂) ₂ OH	3	15	-	-	
2,2'-Iminodi(ethylamine)	(NH ₂ CH ₂ CH ₂) ₂ NH	1	4	-	-	Sk
Indene	C ₉ H ₈	10	45	15	70	
Indium compounds (as In)	In	-	0.1	-	0.3	
Iodine	I ₂	-	-	0.1	1	
Iodoform	CHI ₃	0.6	10	1	20	
Iodomethane	CH ₃ I	5	28	10	56	Sk
Iron oxide, fumes (as Fe)	Fe ₂ O ₃	-	5	-	10	
Iron pentacarbonyl	Fe(CO) ₅	0.01	0.08	-	-	
Iron salts soluble (as Fe)	Fe	-	1	-	2	
Isoamyl acetate	CH ₃ COOCH ₂ CH ₂ CH(CH ₃) ₂	100	525	125	655	
Isoamyl alcohol	(CH ₃) ₂ CHCH ₂ CH ₂ OH	100	360	125	450	
Isoamyl methyl ketone	CH ₃ COCH ₂ CH ₂ CH(CH ₃) ₂	50	240	75	360	
Isobutyl acetate	CH ₃ COOCH ₂ CH(CH ₃) ₂	150	700	187	875	
Isobutyl alcohol	(CH ₃) ₂ CHCH ₂ OH	50	150	75	225	
Isobutyl methyl ketone	(CH ₃) ₂ CHCH ₂ COCH ₃	50	205	75	300	Sk
Isoflurane	CF ₃ CHClOCHF ₂	50	380	-	-	
Isooctyl alcohol (mixed isomers)	C ₈ H ₁₇ OH	50	270	-	-	
Isopentyl acetate	CH ₃ COOCH ₂ CH ₂ CH(CH ₃) ₂	100	525	125	655	
Isophorone	C ₉ H ₁₆ O	-	-	5	25	
Isophorone diisocyanate (IPDI)	(IPDI)	-	0.2	-	0.7	Sen
Isopropyl acetate	CH ₃ COOCH(CH ₃) ₂	-	-	200	840	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
Isopropyl alcohol	(CH ₃) ₂ CHOH	400	960	500	1225	Sk
Isopropyl benzene	C ₆ H ₅ CH(CH ₃) ₂	25	120	75	370	
Isopropyl chloroformate	ClCO ₂ CH(CH ₃) ₂	1	5	-	-	
Isopropyl ether	(CH ₃) ₂ CHOCH(CH ₃) ₂	250	1050	310	1320	
Isopropyl glycidyl ether (IGE)	C ₃ H ₇ OCH ₂ OCHCH ₂	50	240	75	360	
Ketene	CH ₂ CO	0.5	0.9	1.5	3	
Limestone						
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Lindane	C ₆ H ₅ Cl ₆	-	0.5	-	1.9	Sk
Liquified petroleum gas (LPG)	Mixture: C ₃ H ₆ : C ₃ H ₈ : C ₄ H ₈ : C ₄ H ₁₀	1000	1800	1250	2250	
Lithium hydride	LiH	-	0.025	-	-	
Lithium hydroxide	LiOH	-	-	-	1	
MBOCA	CH ₂ (C ₆ H ₃ CINH ₂) ₂	-	0.005	-	-	Sk
MDA	H ₂ NC ₆ H ₄ CH ₂ C ₆ H ₄ NH ₂	0.1	0.8	0.5	4	
MDI		-	0.02	-	0.07	Sen
Magnesite						
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Magnesium oxide (as Mg)	MgO	-	5, 10	-	10	
fume and respirable dust						
respirable dust						
Malathion (ISO)	C ₁₀ H ₁₆ O ₆ PS ₂	-	10	-	-	Sk
Maleic anhydride	C ₄ H ₂ O ₃	0.25	1	-	-	
Manganese and compounds (as Mn)	Mn	-	5	-	-	
Manganes, fume (as Mn)	Mn	-	1	-	3	
Manganese cyclopentadienyl tricarbonyl	C ₅ HC ₅ -Mn(CO) ₃	-	0.1	-	0.3	Sk
Manganese tetroxide	Mn ₃ O ₄	-	1	-	-	
*Man-made mineral fibre	See Annexure 3	-	-	-	-	
Marble						
Total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Mequinol (INN)	CH ₃ OC ₆ H ₄ OH	-	5	-	-	
Mercaptoacetic acid	C ₂ H ₄ O ₂ S	1	5	-	-	
Mercur alkyls (as Hg)	Hg	-	0.01	-	0.03	Sk
Mercury & compounds, except mercury alkyls (as Hg)	Hg	-	0.05	-	0.15	
Mesityl oxide	CH ₃ COCH=C(CH ₃) ₂	15	60	25	100	
Methacrylic acid	CH ₂ =C(CH ₃)COOH	20	70	40	140	
Methacrylonitrile	CH ₂ =C(CH ₃)CN	1	3	-	-	Sk
Methanethiol	CH ₃ SH	0.5	1	-	-	
Methanol	CH ₃ OH	200	260	250	310	Sk
Methomyl (ISO)	C ₆ H ₁₀ N ₂ O ₂ S	-	2.5	-	-	Sk
Methoxychlor (ISO)	C ₁₆ H ₁₅ Cl ₃ O ₂	-	10	-	-	
1-Methoxypropan-2-ol	CH ₃ OCH ₂ CHOHCH ₃	100	360	300	1080	Sk
Methyl acetate	CH ₃ COOCH ₃	200	610	250	760	
Methyl acrylate	CH ₂ =CHCOOCH ₃	10	35	-	-	Sk
Methylal	CH ₃ (OCH ₃) ₂	1000	3100	1250	3880	
Methyl alcohol	CH ₃ OH	200	260	250	310	Sk
Methylamine	CH ₃ NH ₂	10	12	-	-	
Methyl-n-amy-l-ketone	CH ₃ (CH ₂) ₄ COCH ₃	50	240	-	-	
N-Methyl aniline	C ₆ H ₅ NHCH ₃	0.5	2	-	-	Sk
Methyl bromide - Skin	CH ₃ Br	5	20	15	60	Sk
3-Methylbutan-1-ol	(CH ₃) ₂ CHCH ₂ CH ₂ OH	100	360	125	450	
1-Methylbutyl acetate	CH ₃ COOCH(CH ₃)C ₃ H ₇	-	-	150	800	
Methyl n-butyl ketone	CH ₃ (CH ₂) ₃ COCH ₃	5	20	-	-	Sk
Methyl chloride	CH ₃ Cl	50	105	100	210	
Methyl chloroform	CH ₃ CCl ₃	350	1900	450	2450	
Methyl 2-cyanoacrylate	CH ₂ =C(CN)COOCH ₃	2	8	4	16	
Methylcyclohexane	C ₇ H ₁₄	400	1600	500	2000	
Methylcyclohexanol	CH ₃ C ₆ H ₁₁ OH	50	235	75	350	Sk

* The OEL-RL for man-made mineral fibre is set at 2 fibres m⁻³, 8 hour TWA when measured by the AIA RTM1 method.

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued

OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	Notes
2-Methylcyclo-hexanone	$\text{CH}_3\text{CHCO}(\text{CH}_2)_3\text{CH}_2$	50	230	75	345	Sk
Methylcyclo-pentadienyl manganese, tricarbonyl (as Mn)	$\text{C}_5\text{H}_5\text{-Mn}(\text{CO})_3$ $(\text{CH}_3)_2\text{C}_5\text{H}_4\text{-Mn}(\text{CO})_3$	-	0.1	-	0.6	
2-Methyl-4,6-dinitrophenol	$\text{CH}_3\text{C}_6\text{H}_2(\text{OH})(\text{NO}_2)_2$	-	0.2	-	0.6	Sk
4,4'-Methylenebis-2-chloroaniline) (MbOCA)	$\text{CH}_2(\text{C}_6\text{H}_3\text{ClNH}_2)_2$	-	0.005	-	-	Sk
Methylene chloride	CH_2Cl_2	100	350	250	780	
4,4'-Methylene-diphenyl diisocyanate (MDI)	(MDI)	-	0.02	-	0.07	
4,4'-Methylene dianiline (MDA)	$\text{CH}_2\text{C}_6\text{H}_4\text{NH}_2$	0.1	0.8	0.5	4	
Methyl ethyl ketone (MEK)	$\text{CH}_3\text{COC}_2\text{H}_5$	200	590	300	885	
Methyl ethyl ketone peroxides (MEKP)	$\text{C}_8\text{H}_{18}\text{O}_6$	-	-	0.2	1.5	
Methyl formate	HCOOCH_3	100	250	150	375	
5-Methylheptan-3-one	$\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3\text{CH}_2\text{CH}_3$	25	130	-	-	
5-Methylhexan-2-one	$\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$	50	240	75	360	
Methyl iodide	CH_3I	5	28	10	56	Sk
Methyl isoamyl ketone	$\text{CH}_3\text{COCH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$	50	240	75	360	
Methyl isobutyl carbinol	$\text{CH}_3\text{CHOHCH}_2\text{CH}(\text{CH}_3)_2$	25	100	40	160	Sk
Methyl isobutyl ketone (MIBK)	$(\text{CH}_3)_2\text{CHCH}_2\text{COCH}_3$	50	205	75	300	Sk
Methyl isocyanate	-	-	0.02	-	0.07	Sen
Methyl mercaptan	CH_3SH	0.5	1	-	-	
Methyl methacrylate	$\text{CH}_2=\text{C}(\text{CH}_3)\text{COOCH}_3$	100	410	125	510	
Methyl parathion	$\text{C}_8\text{H}_{10}\text{NO}_3\text{PS}$	-	0.2	-	0.6	Sk
4-Methylpentan-2-ol	$\text{CH}_3\text{CHOHCH}_2\text{CH}(\text{CH}_3)_2$	25	100	40	160	Sk
4-Methylpentan-2-one	$(\text{CH}_3)_2\text{CHCH}_2\text{COCH}_3$	50	205	75	300	Sk
4-Methylpent-3-and-2-one	$\text{CH}_3\text{COCH}=\text{C}(\text{CH}_3)_2$	15	60	25	100	
4-Methyl-m-phenylene diisocyanate	-	-	0.02	-	0.07	Sen
2-Methylpropan-1-ol	$(\text{CH}_3)_2\text{CHCH}_2\text{OH}$	50	150	75	225	
2-Methylpropan-2-ol	$(\text{CH}_3)_3\text{COH}$	100	300	150	450	
Methyl propyl ketone	$\text{CH}_3\text{COC}_3\text{H}_7$	200	700	250	875	
1-Methyl-2-pyrrolidone	$\text{CH}_3\text{N}(\text{CH}_2)_2\text{CO}$	100	400	-	-	
Methyl silicate	$(\text{CH}_3\text{O})_4\text{Si}$	1	6	5	30	
a-Methyl styrene	$\text{C}_6\text{H}_5\text{C}(\text{CH}_3)=\text{CH}_2$	-	-	100	480	
Methylstyrene, all isomers except a-methylstyrene	$\text{CH}_3\text{C}_6\text{H}_4\text{CH}=\text{CH}_2$	100	480	150	720	
N-Methyl-N, 2,4,6-tetranitroaniline	$(\text{NO}_2)_3\text{C}_6\text{H}_2\text{N}(\text{NO}_2)\text{CH}_3$	-	1.5	-	3	Sk
Mevinphos (ISO)	$\text{C}_7\text{H}_{13}\text{O}_6\text{P}$	0.01	0.1	0.03	0.3	Sk
Mica	-	-	-	-	-	
total inhalable dust	-	-	10	-	-	
respirable dust	-	-	1	-	-	
Molybdenum compounds (as Mo)	Mo	-	5	-	10	
soluble compounds	-	-	-	-	-	
insoluble compounds	-	-	10	-	20	
Monochloroacetic acid	$\text{ClCH}_2\text{CO}_2\text{H}$	0.3	1	-	-	Sk
Morpholine	$\text{C}_4\text{H}_9\text{NO}$	20	70	30	105	Sk
Naled (ISO)	$\text{C}_4\text{H}_7\text{Br}_2\text{Cl}_2\text{O}_4\text{P}$	-	3	-	6	Sk
Naphthalene	C_{10}H_8	10	50	15	75	
1,5-Napthylene diisocyanate	-	-	0.02	-	0.07	Sen
Nickel carbonyl	$\text{Ni}(\text{CO})_4$	-	-	0.1	0.24	
Nickel, organic compounds (as Ni)	Ni	-	1	-	3	
Nicotine	$\text{C}_{10}\text{H}_{14}\text{N}_2$	-	0.5	-	1.5	Sk
Nitrapyrin	$\text{C}_6\text{H}_5\text{C}_4\text{N}$	-	10	-	20	
Nitric acid	HNO_3	2	5	4	10	
Nitric oxide	NO	25	30	35	45	
4-Nitroaniline	$\text{NO}_2\text{C}_6\text{H}_4\text{NH}_2$	-	6	-	-	Sk
Nitrobenzene	$\text{C}_6\text{H}_5\text{NO}_2$	1	5	2	10	Sk
Nitroethane	$\text{C}_2\text{H}_5\text{NO}_2$	100	310	-	-	
Nitrogen dioxide	NO_2	3	5	5	9	
Nitrogen monoxide	NO	25	30	35	45	
Nitrogen trifluoride	NF_3	10	30	15	45	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	Notes
Nitroglycerine	$\text{CH}_2\text{NO}_2\text{CHNO}_3\text{CH}_2\text{NO}_3$	0.2	2	0.2	2	Sk
Nitromethane	CH_3NO_2	100	250	150	375	
1-Nitropropane	$\text{C}_3\text{H}_7\text{NO}_2$	25	90	-	-	
2-Nitropropane	$\text{CH}_3\text{CH}(\text{NO}_2)\text{CH}_3$	10	36	20	72	
Nitrotoluene, all isomers	$\text{CH}_3\text{C}_6\text{H}_4\text{NO}_2$	5	30	10	60	Sk
Nitrous oxide	N_2O	100	180	-	-	
Octachloronaphthalene	C_{10}Cl_8	-	0.1	-	0.3	Sk
n-Octane	$\text{CH}_3(\text{CH}_2)_6\text{CH}_3$	300	1450	375	1800	
Orthophosphoric acid	H_3PO_4	-	1	-	3	
Osmium tetroxide (as Os)	OsO_4	0.0002	0.002	0.0006	0.006	
Oxalic acid	COOHCOOH	-	1	-	2	
Oxalonitrile	$(\text{CN})_2$	10	20	-	-	
2,2'-Oxydiethanol	$(\text{HOCH}_2\text{CH}_2)_2\text{O}$	23	100	-	-	
Ozone	O_3	0.1	0.2	0.3	0.6	
PCBs		-	-	-	-	
Chlorinated biphenyls (42% chlorine)	$\text{C}_{12}\text{H}_7\text{Cl}_3$ (approx)	-	-	-	-	
Chlorinated biphenyls (42% chlorine)	$\text{C}_6\text{H}_2\text{Cl}_2\text{C}_6\text{H}_3\text{Cl}_3$	-	2	-	6	
Paraffin wax, fume		-	0.1	-	-	
Paraquat dichloride	$(\text{CH}_3(\text{C}_5\text{H}_4\text{N}^+)\text{CH}_3)(\text{Cl}^-)_2$	-	0.1	-	-	
respirable dust		-	-	-	-	
Parathion (ISO)	$(\text{C}_2\text{H}_5\text{O})_2\text{PSOC}_6\text{H}_4\text{NO}_2$	-	0.1	-	0.3	Sk
Parathion-methyl (ISO)	$\text{C}_8\text{H}_{10}\text{NO}_3\text{PS}$	-	0.2	-	0.6	Sk
Pentacarbonyliron (as Fe)	$\text{Fe}(\text{CO})_5$	0.01	0.08	-	-	
Pentachlorophenol	$\text{C}_6\text{Cl}_5\text{OH}$	-	0.5	-	1.5	Sk
Pentaerythritol	$\text{C}(\text{CH}_2\text{OH})_4$	-	10, 5	-	20	
total inhalable dust		-	-	-	-	
respirable dust		-	-	-	-	
Pentane all somers	C_5H_{12}	600	1800	750	2250	
Pentan-2-one	$\text{CH}_3\text{COC}_2\text{H}_5$	200	700	250	875	
Pentan-3-one						
Pentyl acetate	$\text{CH}_3\text{COOC}_5\text{H}_{11}$	100	530	150	800	
Perchloroethylene	$\text{CCl}_2=\text{CCl}_2$	50	335	150	1000	
Perchloryl flouride	ClO_3F	3	14	6	28	
Phenacetyl chloride	$\text{C}_6\text{H}_5\text{COCH}_2\text{Cl}$	0.05	0.3	-	-	
Phenol	$\text{C}_6\text{H}_5\text{OH}$	5	19	10	38	Sk
p-Phenylenediamine	$\text{C}_6\text{H}_4(\text{NH}_2)_2$	-	0.1	-	-	Sk
Phenyl-2,3-epoxypropyl ether	$\text{C}_6\text{H}_5\text{OCH}_2\text{CHCH}_2\text{O}$	1	6	-	-	
Phenylethylene	$\text{C}_6\text{H}_5\text{CH}=\text{CH}_2$	100	420	250	1050	
Phenyldiazine	$\text{C}_6\text{H}_5\text{NHNH}_2$	5	20	10	45	Sk
2-Phenylpropene	$\text{C}_6\text{H}_5\text{C}(\text{CH}_3)=\text{CH}_2$	-	-	100	480	
Phorate (ISO)	$\text{C}_7\text{H}_{17}\text{O}_2\text{P}_{\text{S}_3}$	-	0.05	-	0.2	Sk
Phosdrin	$\text{C}_7\text{H}_{13}\text{O}_6\text{P}$	0.01	0.1	0.03	0.3	Sk
Phosgene	COCl_2	0.1	0.4	-	-	
Phosphine	PH_3	-	-	0.3	0.4	
Phosphorus, yellow	P_4	-	0.1	-	0.3	
Phosphorus pentachloride	PCl_5	0.1	1	-	-	
Phosphorus pentasulphide	P_2S_5	-	1	-	3	
Phosphorus trichloride	PCl_3	0.2	1.5	0.5	3	
Phosphoryl trichloride	POCl_3	0.2	1.2	0.6	3.6	
Phthalic anhydride	$\text{C}_6\text{H}_4(\text{CO}_2)_2\text{O}$	1	6	4	24	Sen
Picloram (ISO)	$\text{C}_6\text{H}_3\text{Cl}_3\text{N}_2\text{O}_2$	-	10	-	20	
Picric acid	$\text{HOC}_6\text{H}_2(\text{NO}_2)_3$	-	0.1	-	0.3	Sk
Piperazine dihydrochloride	$\text{C}_4\text{H}_{10}\text{N}_{2,2}\text{HCl}$	-	5	-	-	
Piperidine	$\text{C}_5\text{H}_{11}\text{N}$	1	3.5	-	-	Sk
Plaster of Paris	$(\text{CaSO}_4)_2\text{H}_2\text{O}$	-	-	-	-	
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Platinum metal	Pt	-	5	-	-	
Platinum salts, soluble (as Pt)	Pt	-	0.002	-	-	Sen
Polychlorinated biphenyls (PCBs)	See PCB's	-	-	-	-	
Polyvinyl chloride (PVC)		-	-	-	-	
total inhalable dust		-	10	-	-	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
respirable dust		-	5	-	-	
Portland cement		-	10	-	-	
total inhalable dust		-	5	-	-	
respirable dust		-	-	-	2	
Potassium hydroxide	KOH	-	-	-	2	
Propane-1,2-diol	CH ₃ CHOHCH ₂ OH					
total (vapour and particulates)	CH ₃ CH ₂ CH ₂ OH	150	470	-	-	
particulates		150	10	-	-	
n-Propanol	(CH ₃) ₂ CHOH	200	500	250	625	Sk
Propan-1-ol						
Propan-2-ol						
Propargyl alcohol	HCCCH ₂ OH	200	500	250	625	Sk
Propionic acid	CH ₃ CH ₂ COOH	400	980	500	1225	Sk
Propoxur (ISO)	H ₃ CNHCOOC ₆ H ₄ OCH ₂ (CH ₃) ₂	1	2	3	6	Sk
n-Propyl acetate	CH ₃ COOC ₃ H ₇	10	30	15	45	
Propylene dinitrate	CH ₂ NO ₃ CHNO ₃ CH ₃	-	0.5	-	2	
Propylene glycol	CH ₃ CHOHCH ₂ OH	200	840	250	1050	
total (vapour and particulates)						
particulates						
Propylene glycol dinitrate (PGDN)	CH ₂ NO ₃ CHNO ₃ CH ₃	0.2	1.2	0.2	1.2	Sk
Propylene glycol monomethyl ether	CH ₃ OCH ₂ CHOHCH ₃	100	360	300	1080	Sk
Prop-2-yn-1-ol	HC≡CCH ₂ OH	1	2	3	6	Sk
Pulverised Fuel Ash						
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Pyrethrins (ISO)		5	-	10	-	
Pyridine	C ₅ H ₅ N	5	15	10	30	
2-Pyridylamine	NH ₂ C ₅ H ₄ N	-	5	-	10	
Pyrocatechol	C ₆ H ₄ (OH) ₂	0.5	2	2	8	
		5	20	-	-	
Quartz, crystalline	SiO ₂					
respirable dust		-	0.4	-	-	
Quinone	C ₆ H ₄ O ₂	0.1	0.4	0.3	1.2	
RDX	C ₃ H ₆ N ₆ O ₆	-	1.5	-	3	Sk
Resorcinol	C ₆ H ₄ (OH) ₂	10	45	20	90	
Rhodium (as Rh)	Rh					
metal fume and dust		-	0.1	-	0.3	
soluble salts		-	0.001	-	0.003	
Ronnel	(CH ₃ O) ₂ PSOC ₆ H ₂ Cl ₃	-	10	-	-	
Rosin core solder pyrolysis		-	0.1	-	0.3	Sen
products as formaldehyde						
Rotenone (ISO)	C ₂₃ H ₂₂ O ₆	-	5	-	10	
Rouge						
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Selenium and compounds	Se	-	0.1	-	-	
except hydrogen selenide (as Se)						
Silane	SiH ₄	0.5	0.7	1	1.5	
Silica, amorphous	SiO ₂					
total inhalable dust		-	6	-	-	
respirable dust		-	3	-	-	
Silica, fused	SiO ₂					
respirable dust		-	0.1	-	-	
Silicon	Si					
Total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Silicon carbide	SiC					
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Silicon tetrahydride	SiH ₄	0.5	0.7	1	1.5	
Silver	Ag	-	0.1	-	-	
Silver compounds (as Ag)	Ag	-	0.01	-	-	
Sodium azide	NaN ₃	-	-	-	0.3	
Sodium 2-(2,4-dichlorophenoxy) ethyl sulphate	C ₈ H ₇ Cl ₂ NaO ₃ S	-	10	-	20	
Sodium fluoroacetate	CH ₂ FCOONa	-	0.05	-	0.15	Sk

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

TABLE 2 - continued
OEL-RL: OCCUPATIONAL EXPOSURE LIMITS - RECOMMENDED LIMITS FOR HAZARDOUS CHEMICAL SUBSTANCES

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	
Sodium hydrogen-sulphite	NaHSO ₃	-	5	-	-	
Sodium hydroxide	NaOH	-	-	-	2	
Sodium metabisulphite	Na ₂ S ₂ O ₅	-	5	-	-	
Starch		-	-	-	-	
Total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Stibine	SbH ₃	0.1	0.5	0.3	0.1	
Strychnine	C ₂₁ H ₂₂ N ₂ O ₃	-	0.15	-	0.45	
Styrene	C ₆ H ₅ CHCH ₂	100	420	250	1050	
Subtilisins (proteolytic enzymes as 100% pure crystalline enzyme)		-	0.00006	-	0.00008	
Sucrose	C ₁₂ H ₂₂ O ₁₁	-	10	-	20	
Sulfotep (ISO)	(C ₂ H ₅) ₄ P ₂ S ₂ O ₅	-	0.2	-	-	Sk
Sulphur dioxide	SO ₂	2	5	5	15	
Sulphur hexafluoride	SF ₆	1000	6000	1250	7500	
Sulphuric acid	H ₂ SO ₄	-	1	-	-	
Sulphur monochloride	S ₂ Cl ₂	-	-	1	6	
Sulphur pentachloride	S ₂ F ₁₀	0.025	0.25	0.075	0.75	
Sulphur tetrafluoride	SF ₄	0.1	0.4	0.3	1	
Sulphuryl difluoride	SO ₂ F ₂	5	20	10	40	
2,4,5-T (ISO)	C ₈ H ₅ Cl ₃ O ₃	-	10	-	20	
TDI		-	0.02	-	0.07	Sen
TEDP	(C ₂ H ₅) ₄ P ₂ S ₂ O ₅	-	0.2	-	-	Sk
TEPP (ISO)	(C ₂ H ₅) ₄ P ₂ O ₇	0.004	0.05	0.01	0.2	Sk
TNT	CH ₃ C ₆ H ₂ (NO ₂) ₃	-	0.5	-	-	Sk
Talc		-	-	-	-	
total inhalable dust		-	10	-	-	
respirable dust		-	1	-	-	
Tantalum	Ta	-	5	-	10	
Tellurium & compounds, except hydrogen telluride (as Te)	Te	-	0.1	-	-	
Terphenyls, all isomers	C ₁₈ H ₁₄	-	-	0.5	5	
1,1,2,2-Tetrabromo-ethane	CHBr ₂ CHBr ₂	0.5	7	-	-	Sk
Tetrabromomethane	CBr ₄	0.1	1.4	0.3	4	
Tetracarbonylnickel (as Ni)	Ni(CO) ₄	-	-	0.1	0.24	
1,1,1,2-Tetrachloro-2,2-difluoroethane	CCl ₃ CClF ₂	100	834	100	834	
1,1,2,2-Tetrachloro-1,2-difluoroethane		100	834	100	834	
Tetrachloroethene	CCl ₂ CCl ₂	50	335	150	1000	
Tetrachloromethane	CCl ₄	2	12.6	-	-	Sk
Tetrachloronaphthalene, all isomers	C ₁₀ H ₆ Cl ₄	-	2	-	4	
O,O,O',O'-Tetraethyl dithiopyrophosphate	(C ₂ H ₅) ₄ P ₂ S ₂ O ₅	-	0.2	-	-	Sk
O,O,O',O'-Tetraethyl pyrophosphate	(C ₂ H ₅) ₄ P ₂ O ₇	0.004	0.05	0.01	0.2	Sk
Tetraethyl orthosilicate	Si(OC ₂ H ₅) ₄	10	85	30	255	
Tetrafluorodichloro-ethane	CClF ₂ CClF ₂	1000	7000	1250	8750	
Tetrahydrofuran	(C ₂ H ₄) ₂ O	200	590	250	735	
Tetramethyl orthosilicate	(CH ₃ O) ₄ Si	1	6	5	30	
Tetramethyl succinonitrile	C ₈ H ₁₂ N ₂	0.5	3	2	9	Sk
Tetrasodium pyrophosphate	Na ₄ P ₂ O ₇	-	5	-	-	Sk
Tetryl	(NO ₂) ₃ C ₆ H ₂ N(NO ₂)CH ₃	-	1.5	-	3	Sk
Thallium, soluble compounds (as Tl)	Tl	-	0.1	-	-	Sk
4,4'-Thiobis(6-tert-butyl-m-cresol)	C ₂₂ H ₃₀ O ₂ S	-	10	-	20	
Thioglycolic acid	C ₂ H ₄ O ₂ S	1	5	-	-	
Thionyl chloride	SOCl ₂	-	-	1	5	
Thiram (ISO)	(CH ₃) ₂ NCS ₂ CS ₂ N(CH ₃) ₂	-	5	-	10	
Tin, compounds, inorganics except SnH ₄ , (as Sn)	Sn	-	2	-	4	
Tin, compounds, organic except Cyhexatin (ISO), (as Sn)	Sn	-	0.1	-	0.2	Sk
Titanium dioxide	TiO ₂	-	-	-	-	
total inhalable dust		-	10	-	-	
respirable dust		-	5	-	-	
Toluene	C ₆ H ₅ CH ₃	50	188	150	560	Sk
Toluene diisocyanate (TDI)		-	0.02	-	0.07	Sen
p-Toluenesulphonyl chloride	CH ₃ C ₆ H ₄ SO ₂ Cl	-	-	-	5	
1,4,7-Tri-(aza)-heptane	(NH ₂ CH ₂ CH ₂) ₃ OH	1	4	-	-	Sk

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

Substance	Formula	TWA OEL-RL		Short Term OEL-RL		1995
		ppm	mg/m ³	ppm	mg/m ³	Notes
Tribromomethane	CHBr ₃	0.5	5	-	-	Sk
Tributyl phosphate, all isomers	(C ₄ H ₉) ₃ PO ₄	-	5	-	5	
Tricarbonyl (eta-cyclopentadienyl) manganese (as Mn)	(C ₅ H ₅) ₃ Mn(CO) ₃	-	0.1	-	0.3	Sk
Tricarbonyl (methylcyclopenta-dienyl) manganese (as Mn)	(CH ₃)C ₅ H ₄) ₃ Mn(CO) ₃	-	0.2	-	0.6	Sk
Trichloroacetic acid	CCl ₃ COOH	1	5	-	-	
1,2,4-Trichlorobenzene	C ₆ H ₃ Cl ₃	5	40	5	40	
1,1,1-Trichlorobis (chlorophenyl) ethane	C ₁₄ H ₉ Cl ₅	-	1	-	3	
1,1,2-Trichloroethane	CH ₂ ClCHCl ₂	10	45	20	90	Sk
Trichlorofluoro-methane	CClF ₃	1000	5600	1250	7000	
Trichloromethane	CHCl ₃	2	9.8	-	-	
Trichloronitromethane	CCl ₃ NO ₂	0.1	0.7	0.3	2	
2,4,5-Trichlorophenoxyacetic acid	C ₈ H ₅ Cl ₃ O ₃	-	10	-	20	
1,2,3-Trichloropropane	CH ₂ ClCHClCH ₂ Cl	50	300	75	450	Sk
1,1,2-Trichloro-trifluoroethane	CCl ₂ FCClF ₂	1000	7600	1250	9500	
Tri-o-cresyl phosphate	(CH ₃ C ₆ H ₄ O) ₃ PO	-	0.1	-	0.3	
Tricyclohexyltin hydroxide	(C ₆ H ₁₁) ₃ SnOH	-	5	-	10	
Tridymite, respirable dust	SiO ₂	-	0.4	-	-	
Triethylamine	(C ₂ H ₅) ₃ N	10	40	15	60	
Trifluorobromo-methane	CF ₃ Br	1000	6100	1200	7300	
Trimanganese tetraoxide	Mn ₃ O	-	1	-	-	
Trimellitic anhydride	C ₈ H ₄ O ₅	-	0.04	-	-	Sen
Trimethylamine	(CH ₃) ₃ N	10	24	15	36	
Trimethylbenzene, all isomers or mixtures	C ₆ H ₃ (CH ₃) ₃	25	123	-	-	
3,5,5-Trimethyl-cyclohex-2-enone	C ₉ H ₁₄ O	-	-	5	25	
Trimethyl phosphite	(CH ₃ O) ₃ P	2	10	-	-	
2,4,6-Trinitrophenol	HOOC ₆ H ₂ (NO ₂) ₃	-	0.1	-	0.3	Sk
2,4,6-Trinitrotoluene	CH ₃ C ₆ H ₂ (NO ₂) ₃	-	0.5	-	-	Sk
Triphenyl phosphate	(C ₆ H ₅) ₃ PO ₄	-	3	-	6	
Tripoli, respirable dust	SiO ₂	-	0.4	-	-	
Tri-o-tolyl phosphate	(CH ₃ C ₆ H ₄ O) ₃ PO	-	0.1	-	0.3	
Tungsten & compounds (as W)	W	-	5	-	10	
soluble		-	1	-	3	
insoluble		-	1	-	3	
Turpentine	C ₁₀ H ₁₆	100	560	150	840	
Uranium compounds, natural	U	-	0.2	-	0.6	
soluble (as U)		-	0.2	-	0.6	
Vanadium pentoxide	V ₂ O ₅	-	0.5	-	-	
total inhale dust		-	0.05	-	-	
fume and respirable dust		-	0.05	-	-	
Vinyl acetate	CH ₃ COOCHCH ₂	10	30	20	60	
Vinyl benzene	C ₆ H ₅ CH=CH ₂	100	420	250	1050	
Vinyl bromide	CH ₂ =CHBr	5	20	-	-	
		5	15	-	-	
		0.1	0.4	-	-	
4-Vinyl cyclohexene dioxide	C ₆ H ₁₀ O ₂	10	60	-	-	
Vinyl toluene, all somers	C ₆ H ₅ C(CH ₃)CH ₂	-	-	100	480	
Warfarin (ISO)	C ₁₉ H ₁₆ O ₄	-	0.1	-	0.3	
White spirit		100	575	125	720	
Xylene,o-,m-,p- or mixed isomers	C ₆ H ₄ (CH ₃) ₂	100	435	150	650	Sk
Xylidine, all isomers	(CH ₃) ₂ C ₆ H ₃ NH ₂	2	10	10	50	Sk
Yttrium	Y	-	1	-	3	
Zinc chloride, fume	ZnCl ₂	-	1	-	2	
Zinc distearate	Zn(C ₁₈ H ₃₅ O ₂) ₂	-	10, 5	-	20	
total inhalable dust		-	10, 5	-	20	
respirable dust		-	5	-	10	
Zinc oxide fumes	ZnO	-	5	-	10	
Zirconium and compounds (as Zr)	Zr	-	5	-	10	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

Abbreviations

1. OEL - CL Occupational Exposure Limit - Control Limit.
OEL - RL Occupational Exposure Limit - Recommended Limit.
2. ppm Parts per million.
3. mg/m³ Milligrams per cubic meter.
4. SK Skin absorption.
5. Sen Capable of causing respiratory sensitisation.
6. ISO International Standards Organisation.

Note

- (a) The concentration of "respirable dust" shall be determined from the fraction passing a size selector with an efficiency that will allow/
- (i) 100% particles of 1 µm aerodynamic diameter,
 - (ii) 50% particles of 5µm aerodynamic diameter,
 - (iii) 20% particles of 6µm aerodynamic diameter,
 - (iv) 0% of particles of 7µm aerodynamic diameter and larger to pass through the size selector.
- (b) For asphyxiant substances, see Annexure 5.

TABLE 3
BIOLOGICAL EXPOSURE INDICES (BEI)

			1995
CHEMICAL DETERMINANT	SAMPLING TIME	BEI	Notation
ANILINE			
Total p-aminophenol in urine	End of shift	50mg/g creatinine	C
Methemoglobin in blood	During or end of shift	1,5% of hemoglobin	B,C,D
ARSENIC AND SOLUBLE COMPOUNDS INCLUDING ARSINE			
Inorganic arsenic metabolites in urine	End of workweek	50µg/g creatinine	B
BENZENE			
Total phenol in urine	End of shift	50mg/g creatinine	B,C
Benzene in exhaled air:	Prior to next shift		
mixed-exhaled		0,08ppm	D
end-exhaled		0,12ppm	D
CADMIUM			
Cadmium in urine	Not critical	10µg/g creatinine	B
Cadmium in blood	Not critical	10µg/l	B
CARBON DISULFIDE			
2-Thioltiazolidine-4-carboxylic acid in urine	End of shift	5mg/g creatinine	
CARBON MONOXIDE			
Carboxyhemoglobin in blood	End of shift	less than 8% of hemo-globin	B,C
Carbon monoxide in end-exhaled air	End of shift	less than 40ppm	B,C
CHLOROBENZENE			
Total 4-chlorocatechol in urine	End of shift	150mg/g creatinine	C
Total p-clorophenol in urine	End of shift	25mg/g creatinine	C
CHROMIUM (VI),			
Water soluble fume	Increase during shift	10µg/g creatinine	B
Total chromium in urine	End of shift at end of workweek	30µg/g creatinine	B
N,N-DIMETHYLFORMAMIDE (DMF)			
N-Methylformamide in urine	End of shift	40mg/g creatinine	B
ETHYL BENZENE			
Mandelic acid in urine	End of shift at end of workweek	1,5g/g creatinine	A
Ethyl benzene in end-exhaled air			D
FLUORIDES			
Fluorides in urine	Prior to shift	3mg/g creatinine	B,C
	End of shift	10mg/g creatinine	B,C
FURFURAL			
Total furoic acid in urine	End of shift	200mg/g creatinine	B,C
n-HEXANE			
2,5-Hexanedione in urine	End of shift	5mg/g creatinine	C
n-Hexane in end-exhaled air			
MERCURY			
Total inorganic mercury in urine	End of shift	35µg/g creatinine	B
Total inorganic mercury in blood	End of shift at end of workweek	15µg/l	B
METHEMOGLOBIN INDUCERS			
Methemoglobin in blood	During or end of shift	1,5% of hemoglobin	B,C,D
METHANOL			
Methanol in urine	End of shift	15mg/l	B,C
Formic acid in urine	Before shift at end of work-week	80mg/g creatinine	B,C
METHYL CHLOROFORM			
Methyl chloroform in end-exhaled air	Prior to the last shift of work-week	40ppm	
Trichloroacetic acid in urine	End of workweek	10mg/l	C,D

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

CHEMICAL DETERMINANT	SAMPLING TIME	BEI	1995
			Notation
Total trichloroethanol in urine	End of shift at end of workweek	30mg/l	C,D
Total trichloroethanol in blood	End of shift at end of workweek	1mg/l	C
METHYL ETHYLKETONE MEK in urine	End of shift	2mg/l	-
METHYL ISOBUTYL KETONE MIBK in urine	End of shift	2mg/l	-
NITROBENZENE Total p-nitrophenol in urine	End of shift at end of workweek	5mg/g creatinine	C
Methemoglobin in urine ORGANOPHOSPHORUS CHOLINESTERASE INHIBITORS Cholinesterase activity in red cells	End of shift Discretionary	1,5% of hemoglobin 70% of individual's baseline	B,C,D B,C,D
PARATHION Total p-nitrophenol in urine Cholinesterase activity in red cells PENTACHLOROPHENOL Total PCP in urine	Discretionary End of shift at end of workweek	70% of individual's baseline 5mg/g creatinine	B,C,D C,D
Free PCP in plasma	Discretionary	70% of individual's baseline	B,C,D
PERCHLOROETHYLENE Perchloroethylene in end-exhaled air	Prior to the last shift of workweek	10ppm	-
Perchloroethylene in blood	Prior to the last shift of workweek	1mg/l	-
Trichloroacetic acid in urine PHENOL	End of workweek	7mg/l	C,D
Total phenol in urine STYRENE	End of shift	250mg/g creatinine	B,C
Mandelic acid in urine	End of shift	800mg/g creatinine	C
Phenylglyoxylic acid in urine	Prior to next shift	300mg/g creatinine	C
	End of shift	240mg/g creatinine	B,C
	Prior to next shift	100mg/g creatinine	B,C
Styrene in venous blood	End of shift	0.55mg/l	D
TOLUENE Hippuric acid in urine	End of shift	2.5mg/g creatinine	B,C
Toluene in venous blood	End of shift	1mg/l	D
o-Cresol in urine	End of shift	1mg/g creatinine	C
TRICHLOROETHYLENE Trichloroacetic acid in urine	End of workweek	100mg/g creatinine	C
Trichloroacetic acid and trichloroethanol in urine	End of shift at end of workweek	300mg/g creatinine	C
Free trichloroethanol in blood	End of shift at end of workweek	4mg/l	C
Trichloroethylene in end-exhaled air XYLENE		D	
Methylhippuric acid in urine	End of shift	1,5mg/g creatinine	-
	Last four hours of shift	2mg/min	-

Notations

"A" notation: This notation indicates that an identifiable population group might have an increased susceptibility to the effect of the chemical, thus leaving it unprotected by the recommended BEI.

"B" notation: This notation indicates that the determinant is usually present in a significant amount in biological specimens collected from subjects who have not been occupationally exposed. Such background levels are included in the BEI value.

"C" notation: This notation indicates that the determinant is non-specific, since it is observed after exposure to some other chemicals. These non-specific tests are preferred because they are easy to use and usually offer a better correlation

with exposure than specific tests. In such instances, a BEI for a specific less quantitative biological determinant is recommended as a confirmatory test.

"D" notation: This notation indicates that the biological determinant is an indicator of exposure to the chemical, but the quantitative interpretation of the measurement is ambiguous (semiquantitative). These biological determinants should be used as a screening test if a quantitative test is not practical or a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.

Annexure 2

CALCULATION OF EXPOSURE WITH REGARD TO THE SPECIFIED REFERENCE PERIODS

Calculation of exposure with regard to the specified reference periods

This Annexure reproduces the approved method for the calculation of exposure in relation to the 8-hour, short-term and one-year reference periods.

1. The 8-hour reference period

1.1. 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 8 hours [the 8-hour time weighted average (TWA) exposure].

1.2. The 8-hour TWA may be represented mathematically by:

$$\frac{C_1 T_1 + C_2 T_2 + \dots + C_n T_n}{8}$$

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

Where C_1 is the occupational exposure value (concentration) and T_1 is the associated exposure time in hours in any 24-hour period.

Examples

(a) The operator works for 7h20 min. on a process in which he is exposed to a substance hazardous to health. The average exposure during that period is measured as 0.12 mg/m³.

The 8-hour TWA therefore is-

$$\frac{7h20 \text{ min}(7.33h) \text{ at } 0.12 \text{ mg m}^{-3}}{40 \text{ min } (0.67h) \text{ at } 0 \text{ mg m}^{-3}}$$

That is-

$$\frac{(0.12 \times 7.33 + (0 \times 0.67))}{8} = 0.11 \text{ mg m}^{-3}$$

(b) The operator works for eight hours on a process in which he is exposed to a substance hazardous to health. The average exposure during that period is measured as 0.15 mg/m³.

The 8-hour TWA therefore is -

$$\frac{0.15 \times 8}{8} = 0.15 \text{ mg m}^{-3}$$

(c) 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:

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

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.

The 8-hour TWA therefore is-

$$\frac{(0.32 \times 2.5) + (0.07 \times 2) + (0.20 \times 2) + (0.10 \times 1.5) + (0 \times 1.25)}{8} = 0.19 \text{ mg m}^{-3}$$

(d) An operator works for 8 hours during the night shift on a process in which he is intermittently exposed to a substance 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 8-hour TWA. This data should be based on direct measurements, estimates based on data already available or reasonable assumptions.

Working Task Exposure period mg m⁻³

22:00 to 24:00	Helping in 1,10 (known to be workshop exposure of full time group in workshop)
24:00 to 01:00	Cleaning else- 0 (assumed) where in factory
01:00 to 04:00	Working in can 0 (assumed) teen
04:00 to 06:00	Cleaning up 0.21 (assumed) after breakdown in workshop

The 8-hour TWA therefore is-

$$\frac{(0.10 \times 2) + (0.21 \times 2) + (0 \times 4)}{8} = 0.078 \text{ mg m}^{-3}$$

2. The short-term reference period

Exposure should be recorded as the average over the specified short-term reference period and should normally be determined by sampling over that period.

Example where the short-term reference period

is 15 minutes.

(a) Exposure period is less than 15 minutes:

The sampling result should be averaged over 15 minutes. For example, if a 5-minute sample produces a level of 600ppm and is immediately followed by a period of zero exposure, then the 15-minute average exposure will be 200ppm:

(b) Exposure period is 15 minutes or longer. 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.

3. The one-year reference period for vinyl chloride

Exposure should be recorded as the time-weighted average of vinyl chloride in the atmosphere of a working area over a period of one year. At enclosed vinyl chloride polymerisation plants, continuous or permanent sequential sampling methods must be used. Where discontinuous measurements are made, the frequency of measurements and the number per year should be such that it is possible to state with a statistical confidence coefficient of at least 95% that the true mean annual concentration did not exceed the annual maximum exposure limit. Only periods of plant operation including, where necessary, maintenance time should be taken into account.

Annexure 3

METHODS OF MEASUREMENT AND CALCULATION FOR DETERMINING FIBRE CONCENTRATIONS OF MANMADE MINERAL FIBRE

1. The method must determine the exposure of employees by sampling in the breathing zone of the employee exposed.

2. Fibre means a particle with a length > 5 µm, an average diameter < 3 µm, and a ratio of length to diameter > 3 to 1, which can be seen using the system specified in paragraph 3.

3. Fibres shall be counted in accordance with AIA RTM1.

4. The results shall be regularly tested by quality assurance procedures to ensure that the results are in satisfactory agreement with the average of results, obtained by approved inspection authorities (AIA) participating in a national quality assurance scheme, using the method specified in paragraphs 1 to 3 above.

Annexure 4

COTTON DUST

1. The OEL for cotton dust is 0.5 mg m⁻³ total dust less fly, 8-hour TWA. This figure is not a personal exposure limit but a background air standard determined by using static samplers. This OEL-RL applies to dust from the processing and 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; and

(b) dust from bleached or dyed cotton.

2. Under the HCS Regulations, assessors must satisfy themselves that the assessment takes account of people who work intensively with the material e.g. at bale opening, waste handling, maintenance of dust extraction equipment and cleaning procedures, and who are therefore likely to be exposed to dust.

3. Where the OEL-RL does not apply, exposure should be kept below both 10 mg m⁻³ 8-hour TWA total inhalable dust and 5 mg/m³ 8-hour TWA respirable dust, determined by a personal sampling method.

Annexure 5

ASPHYXIANTS

1. 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 18% 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 owing to their collecting in pits, confined spaces and other low-lying areas where ventilation is likely to be poor.

2. Many asphyxiants present a fire or explosion risk. The concentration 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.

3. Although asphyxiants are listed in Table 2 of Annexure 1, they are not substances hazardous to health for the purpose of the HCS Regulations.

Annexure 6

RUBBER FUME AND RUBBER PROCESS DUST

1. 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.

2. The limit relates to cyclohexane soluble material determined by the method described in *Rubber fume in air, measured as total particulates and cyclohexane soluble material*.

3. 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. Otherwise, where a substance with an OEL is present in a mixed dust, the OEL for that substance will apply, in addition to the rubber process dust limit.

4. Methods for personal sampling and measurement of total inhalable dusts are available in General method for the gravimetric determination of respirable and total inhalable dust and Rubber fume in air measures as total particulates and cyclohexane soluble material.

Annexure 7

THE DEFINITION OF GRAIN DUST

1. 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.

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HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

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12. EH28
13. EH40
14. EH42
15. EH44
16. EH56 |
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LIST OF MATERIAL

1. Guidance note S20
2. HS(G)61

Annexure 8: MATERIAL SAFETY DATA SHEET

[Annexure 8 added by GNR.930 of 2003.]

MATERIAL SAFETY DATA SHEET	No: Date issued: Page of
COMPANY DETAILS	
Name: Address: Tel:	Emergency telephone no.: Telex: Fax:
1) Product and Company Identification: (Page 1 may be used as an emergency safety data sheet)	
Trade name : Chemical family : Chemical name: Synonyms:	Chemical abstract no. : NIOSH no.: Hazchem code: UN no.:
2) Composition:	
Hazardous components: EEC classification: R Phrases:	
3) Hazards Identification:	
Main hazard: Flammability: Chemical hazard: Biological hazard: Reproductive hazard: Eye effects: eyes Health effects - skin: Health effects - ingestion: Health effects - inhalation: Carcinogenicity: Mutagenicity: Neurotoxicity:	
4) First-aid Measures:	
Product in eye: Product on skin: Product ingested: Product inhaled:	
5) Fire-fighting Measures:	
Extinguishing media: Special hazards: Protective clothing:	
6) Accidental Release Measures:	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

MATERIAL SAFETY DATA SHEET	No: Date issued: Page of
Personal precautions: Environmental precautions: Small spills: Large spills:	
7) Handling and Storage:	
Suitable material: Handling/storage precautions:	
8) Exposure Control/Personal Protection:	
Occupational exposure limits: Engineering control measures: Personal protection - respiratory: Personal protection - hand: Personal protection - eye: Personal protection - skin: Other protection:	
9) Physical and Chemical Properties:	
Appearance: Odour: pH: Boiling point: Melting point: Flash point: Flammability: Autoflammability: Explosive properties: Oxidizing properties: Vapour pressure: Density: Solubility - water: Solubility - solvent: Solubility - coefficient Neurotoxicity:	
10) Stability and Reactivity:	
Conditions to avoid: Incompatible materials: Hazardous decomposition products:	
11) Toxicological Information:	
Acute toxicity: Skin and eye contact: Chronic toxicity: Carcinogenicity: Mutagenicity: Neurotoxicity: Reproductive hazards:	
12) Ecological Information:	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

MATERIAL SAFETY DATA SHEET	No: Date issued: Page of
Aquatic toxicity - fish: Aquatic toxicity - daphnia: Aquatic toxicity - algae: Biodegradability: Bio-accumulation: Mobility: German wgt:	
13) Disposal Considerations:	
Disposal methods: Disposal of packaging:	
14) Transport Information:	
UN no. Substance identity no. ADR/RID class: ADR/RID item no. ADR/RID hazard identity no.: IMDG - shipping name: MDG - class: IMDG - packaging group: IMDG - marine pollutant: IMDG - EMS no. IMDG - MFAG label no.: IATA - shipping name: IATA - class: IATA - subsidiary risk(s): ADN - class: UK - description: UK - emergency action class: UK - classification: Tremcard no.:	
15) Regulatory Information:	
EEC hazard classification: Risk phases: Safety phases: National legislation:	
16) Other Information:	

GNR.1180 of 25 August 1995: Withdrawal of restriction as to employment in certain processes, issued in terms of section 24 (3) of the Factories, Machinery and Building Work, 1941

Under and by virtue of the powers vested in me by section 21 (3) of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I, Tito Titus Mboweni, Minister of Labour, hereby withdraw the restrictions stipulated in the Notice under section 24 (3) of the Factories, Machinery and Building Work Act, 1941 (Act no. 22 of 1941), as published under Government Notice No. 1230, dated 14 June 1946

T T MBOWENI
Minister of Labour
GNR.683 of 27 June 2008: Amendment of the Occupational Exposure Control Limit for Silica in Table 1 of Hazardous Chemical Substances

Regulations.

DEPARTMENT OF LABOUR

Under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I Membathisi Mphumzi Shepherd Mdladlana, Minister of Labour, hereby -

1. amend the Occupational Exposure Control Limit for Silica in Table 1 of Hazardous Chemical Substance Regulations from 0,4mg/m³ to 0,1mg/m³;
2. require all industries handling, manufacturing and producing silica dust to submit bi-annual reports starting from 1 January 2009 indicating the following -
 - Number of samples taken and analyzed
 - Composition of dust
 - Concentration of the constituents; and
 - weather you are complying with the

new Occupational Exposure Limit for silica, if not, what steps are implemented to comply with the exposure limit within six months of this notice being gazetted

GN 66 of 5 February 2010: Occupational Exposure Limit for silica in Table 1 of the Hazardous Chemical Substances Regulations

OCCUPATIONAL EXPOSURE CONTROL LIMIT FOR AIRBORNE RESPIRABLE SILICA - 0.1MG/M³

On the 27th June 2008, Mr Membathisi Mphumzi Shepherd Mdladlana, Minister of Labour, published a Government Notice No. R. 683, amending the Occupational Exposure Control Limit for Silica in Table 1 of the Hazardous Chemical Sub-

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

stances Regulations from 0,4mg/m³ to 0,1mg/m³.

All industries handling, manufacturing and producing products that may cause exposure to silica dust are required to submit annual reports indicating the following:

- Number of samples taken and analyzed

- Composition of dust
 - Concentration of the constituents; and
 - Whether companies are complying with the current Occupational Exposure Limit for silica, if not, what steps are implemented to comply with the exposure limit?
- (Submission of crystalline silica dust air monitoring reports amended from bi-annual to annual

reporting by Government Notice R408 of 2013)

The Department of Labour is hereby publishing the silica dust data collection guiding document and the silica exposure compliance tool to be used by industries in reporting the required information.

DEPARTMENT OF LABOUR

Private Bag X117, PRETORIA, 0001. Laboria House, 215 Schoeman Street, PRETORIA
Tel (012) 309 4000, Fax: (012) 320 5129, www.labour.gov.za

SILICA DUST DATA COLLECTION GUIDING DOCUMENT

1. PURPOSE

The Department of Labour has reduced the occupational exposure limit of silica crystalline respirable dust from 0.4mg/m³ to 0.1mg/m³. There is presently no system in place for the industry to report to the Department of Labour whether industries comply with the new occupational exposure limit. The purpose of collecting silica exposure compliance information will enable the DOL to collect the following information--

- National Profile of all the industries that have the potential to expose the employees to respirable silica dust.
- To determine the level of exposure to respirable silica dust.
- Number of employees exposed.
- The AIA performing the monitoring and evaluation.

2. REPORTING MECHANISM

The data must be sent directly to Head Office via e-mail to: Jabu.Mhlophe@labour.gov.za

3. SAMPLING

Sampling must be done according to the national and international recognized standards.

4. FREQUENCY OR REPORTING

Data must be sent on the 31 July and 31 January of every year.

5. CONFIDENTIALITY

All information received will be confidential and it will not be shared with any other person or entity, except with the written consent from the company concerned.

DEPARTMENT OF LABOUR

Private Bag X117, PRETORIA, 0001. Laboria House, 215 Schoeman Street, PRETORIA
Tel (012) 309 4000, Fax: (012) 320 5129, www.labour.gov.za

SILICA EXPOSURE COMPLIANCE TOOL

COMPANY	
Company registered name	
Company registration number	
Company VAT number	
"Trading as" name	
Name of CEO	
National Identity number of CEO	
Name of Managing Director	
National Identity number of Managing Director	
Company postal address	
Company physical address	
HYGIENIST	
Name of responsible occupational hygienist	
National Identity number of responsible occupational hygienist	
Qualifications of responsible Occupational Hygienist	
Level of registration with SAIOH	
SAIOH registration number of responsible Occupational Hygienist	

HAZARDOUS CHEMICAL SUBSTANCES REGULATIONS

Does the company make use of an AIA? If the answer is yes then complete the following:	
Name of company	
AIA registration number	
Date of registration as an AIA	
Company postal address	
Company physical address	
SILICA EXPOSURE MONITORING	
Does the company handle, manufacture or produce any silica or silica containing substances? If yes, describe	
What are the main activities related to the handling or manufacturing of materials (tasks)	
Describe the area in the production process where the samples were taken	
Sampling methods used?	
Has a silica exposure baseline assessment been conducted?	
How many samples were taken in the process of the baseline assessment?	
Does the company have a formal silica exposure management program?	(If the answer is yes, please attach a copy)
Is silica exposure monitoring conducted on an annual basis as prescribed by HCS Regulations?	
Total number of employees exposed to silica dust.	
What is the maximum exposure level?	
Number of employees exposed to levels <10% of OEL	
Number of employees exposed to levels <50% of OEL	
Number of employees exposed to levels >100% of OEL	
Has a copy of the most recent silica exposure assessment report signed by the accredited occupational hygienist been attached?	
Does the company have in its possession MSDS for all silica containing substances?	
Does the company comply with the new OEL of 0,1 mg/ms?	

GNR.408 of 7 June 2013: Amendment of the submission period of the crystalline silica air monitoring reports as per requirements in Government Gazette No. R.683, 27 June 2008
(Government Gazette 36548)
DEPARTMENT OF LABOUR

Under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), I Mildred Nelisiwe Oliphant, Minister of Labour, hereby-

1. Amend the submission of crystalline silica dust air monitoring reports from

bi-annual reporting to annual reporting to be in line with the provisions of Regulation 10 (2) (b) of the Hazardous Chemical Substances.

2. This notice will be effective as from the 1st January 2014.

LEAD REGULATIONS

GNR.236 of 28 February 2002

(These regulations were 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
2. Scope of application
3. Exposure to airborne lead
4. Information and training
5. Duties of persons who may be exposed
6. Assessment of potential exposure
7. Air monitoring
8. Medical surveillance
9. Respirator zone

10. Records
11. Control of exposure to lead
12. Personal protective equipment and facilities
13. Cleanliness of premises and plant
14. Maintenance of control measures
15. Prohibitions
16. Labelling, packaging, transportation and storage
17. Disposal of lead waste

18. Offences and penalties
19. Repeal of regulations
20. Short title

ANNEXURE A [Regulation 8(2)(b)(i)]
ANNEXURE B [Regulation 8(2)(b)(ii)]
ANNEXURE C [Regulation 8(d)]
ANNEXURE D [Regulation 8(3)(b)]

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: De-

partment 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 sub-regulation (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 matters contemplated in subregulation (1) at least every year or at more frequent intervals 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 carried 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 exposure at the workplace, are given adequate information, 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 material that has the potential of causing environmental 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 subregulation (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 assessment, give them reasonable time to comment thereon and ensure that the results of the assessment are made available to them for comment.

(3) When making the assessment contemplated 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 carried 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 protoporphyrin (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 than [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 as is reasonably practicable 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-employed 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)]

<i>Blood lead µg/100 ml</i>	<i>Maximum intervals between blood lead measurements</i>
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)]

<i>Urinary lead µg/litre</i>	<i>Maximum intervals between urinary lead measurements</i>
Under 120	6 weeks
120 - 149	1 week
150 and over	At the discretion of the occupational medicine practitioner

NOISE-INDUCED HEARING LOSS REGULATIONS

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

- Definitions
- Scope of application
- Exposure to noise
- Information and training
- Duties of persons who may be exposed to noise

- Assessment of potential noise exposure
- Noise monitoring
- Medical surveillance
- Noise zone
- Control of noise exposure
- Record

- Hearing protective equipment
- Maintenance of control measures
- Offences and penalties
- Withdrawal 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:

- Otorhinolaryngologist (ear, nose and throat specialist);
 - speech therapist and audiologist; or
 - 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-

- The content and scope of these regulations;
- the potential sources of exposure to noise;
- the potential risks to health and safety caused by exposure to noise;
- the measures taken by the employer to protect an employee against the detrimental effects of exposure to noise;
- 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;
- the necessity, correct use, maintenance and limitations of hearing protectors, facilities and engineering control measures provided;
- 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;
- the noise-rating limit for hearing conservation and its meaning;
- the procedures for reporting, correcting and replacing defective personal hearing protectors and for engineering noise control measures; and
- 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 SABS 083;
- (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 SABS 083; 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

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that action is taken, as soon as is reasonably 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 em-

ployee;

- (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 neces-

sary 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.

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OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

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
2. Scope of application
3. Revolving machinery
4. Circular saws
5. Band saws and band knives
6. Wood planing machines
7. Wood moulding and mortising machines
8. Sanding machines
9. Grinding machines
10. Shears, guillotines and presses
11. Slitting machines

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

12. Mixing, agitating and similar machines
13. Rolls and calendars
14. Washing machines, centrifugal extractors, etc.
15. Air compressors
16. Refrigeration and air conditioning installations
17. Transportation plants
18. Lifting machines, hand-powered lifting devices and lifting tackle
19. Approval and registration of lifting machin-

ery entity
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;

20. Approval and registration of training providers
21. Withdrawal of approval and registration of lifting machinery entity or training provider
22. Offence and penalties
23. Repeal of regulations and transitional provisions
24. Short title and commencement

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.

"**calendar 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, print-

ing 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(rail-way 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, ditches, 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 work-places to be so guarded as to prevent a broken belt, rope or chain from falling and so in-

juring 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

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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)

(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 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 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 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 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) 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

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- (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.
- (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
- 10 for natural-fibre ropes;
 - seven for man-made fibre ropes or woven webbing;
 - 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;
 - five for steel chains; and
 - 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 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

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; LMI No.; 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:

GOVERNMENT NOTICE

No. R 2015
DEPARTMENT OF LABOUR

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 INCORPORATION OF SAFETY STANDARDS

I, NeHsiwe 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.

Minister of labour
/~101-0/S'

SCHEDULE

Safety standards of South Africa:

"EN 14502-1", Cranes: equipment for lifting of persons, Part 1: Suspended baskets.
u1S09927c1", Crane inspections - Part 1: General.

"National Code of Practice for Training Providers of Lifting Machine Operators" published under Government Notice No. R. of 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 crane-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: Incorpora-

DRIVEN MACHINERY REGULATIONS

tion 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 rope-ways.

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 Of 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 speed 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 exceeding 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 Ex-

emption 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 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 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 Machinery 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: Withdrawal 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 Machinery Regulation published under the Government Notice r.1075 of 21 December 2011

T.LAMATI
Chief Inspector

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

- O 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

- 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.
- 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 / 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.

- 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.
- 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.

- 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.
- Copies of all assessment papers and practical test marking sheets are required to be kept for each certificate of competence issued for audit purposes.
- 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:
 - 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;
 - The organisation has a clearly defined policy for the resolution of conflict that may arise;
- 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.
- 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
- 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.
- 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:
 - 'Whilst in the employment of the Client'; or
 - '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



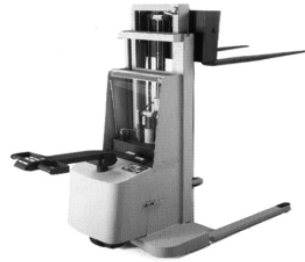
CODE F3
Counterbalanced Lift Truck
Up to rated capacity of 15000 kg



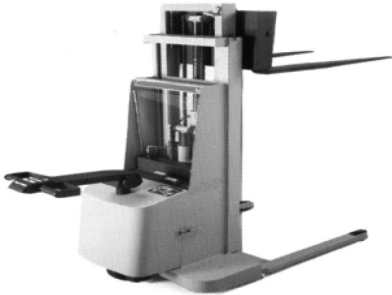
CODE F4
Counterbalanced Lift Truck
Above rated capacity
of 15000kgs



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)



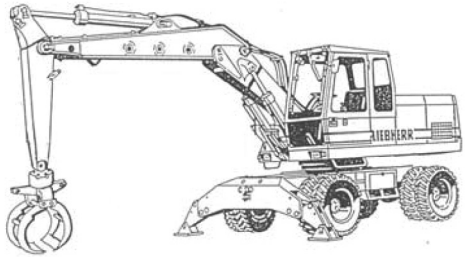
CODE F9
Order Picker Lift Truck
For All Racking Levels Including High-Rise (NA/WA)



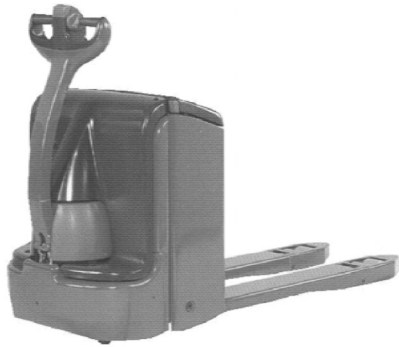
CODE F10
Side Loader Lift Truck
Capacity as Specified on the Certificate



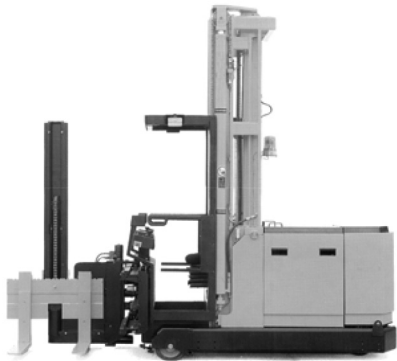
CODE F11
Rough Terrain/Eartmoving/ Agriculture Equipment
with Lift Truck Attachments



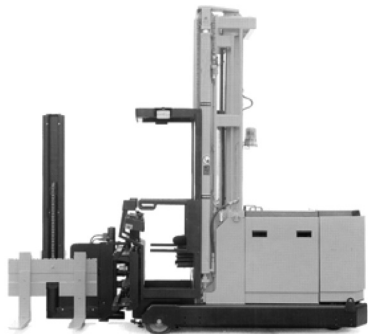
CODE F11
Rough Terrain/Eartmoving/ Agriculture Equipment
with Lift Truck Attachments



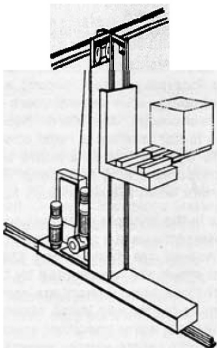
CODE F12
Pallet Lift Truck Battery Operated



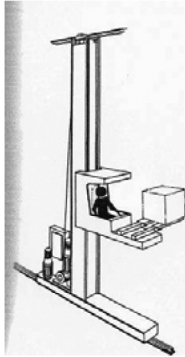
CODE F13
VNA Lift Truck Non-Elevating Cab
Service all levels



CODE F14
VNA Lift Truck Elevating Cab
Service all levels



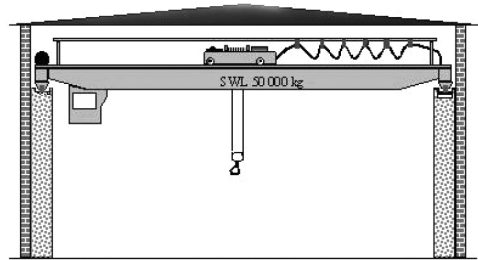
CODE F15
Railmounted Stacker Lift Truck
Non-elevating cab



CODE F16

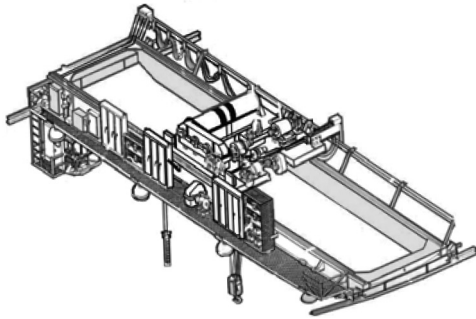
Railmounted Stacker Lift Truck

Elevating cab



CODE C30

Overhead Crane Pendant and
Radio Controlled



CODE C31

Overhead Crane Cab Controlled



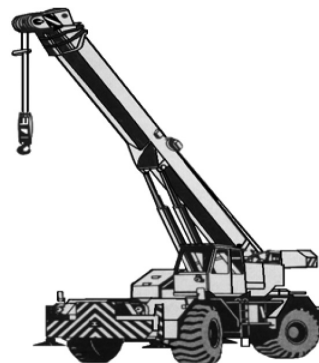
CODE C32

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



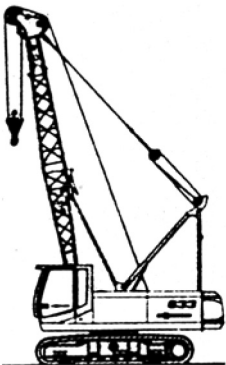
CODE C36

Hydraulic Crane Pickup and Carry above
50 000 kg capacity



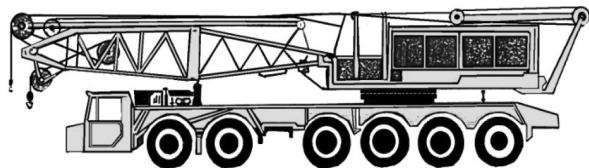
CODE C37

Lattice Boom Mobile Truck Crane up to
50 000 kg capacity



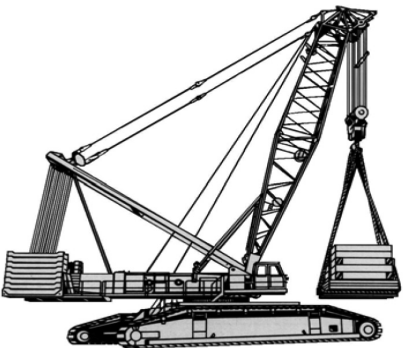
CODE C38

Lattice Boom Mobile Crawler Crane up to
50 000 kg capacity



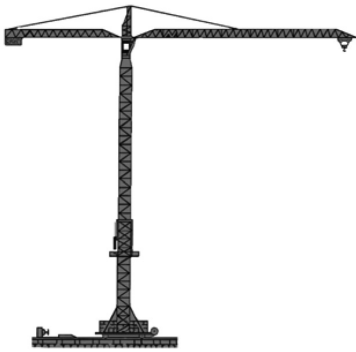
CODE C39

Lattice Boom Mobile Truck Crane above
50 000 kg capacity as stated on the
certificate



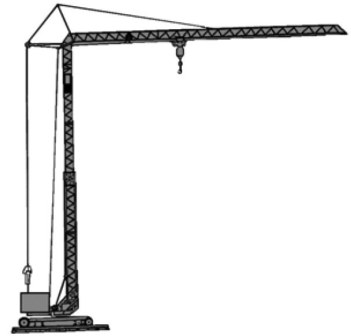
CODE C40

Lattice Boom Mobile Crawler Crane above
50 000 kg capacity as stated on the
certificate



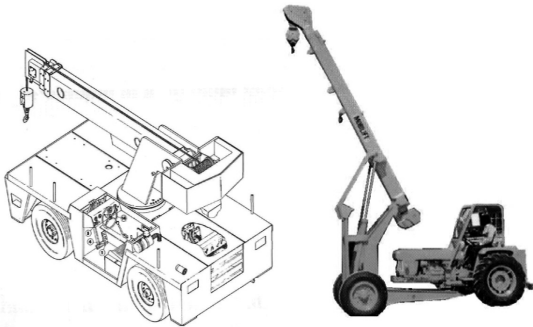
CODE C41

Tower Crane : Top Slewing



CODE C42

Tower Crane : Bottom Slewing



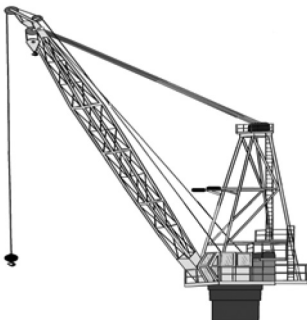
CODE C43

Mobile Hydraulic Crane up to 15000kg
Capacity



CODE C44

Sugar Cane Crane



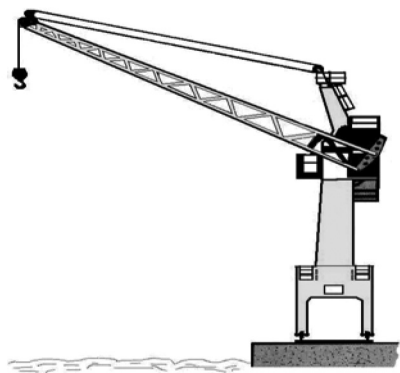
CODE C45

Ships Crane



CODE C46

Telescopic Boom Handler



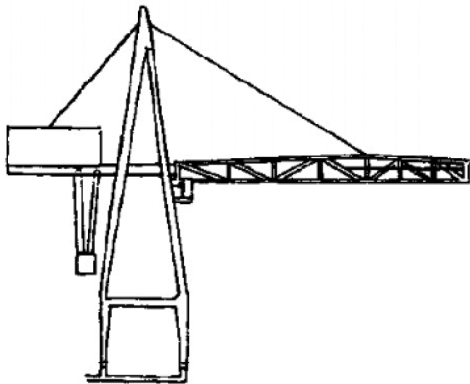
CODE C47
Wharf Side Crane : (Railmounted)



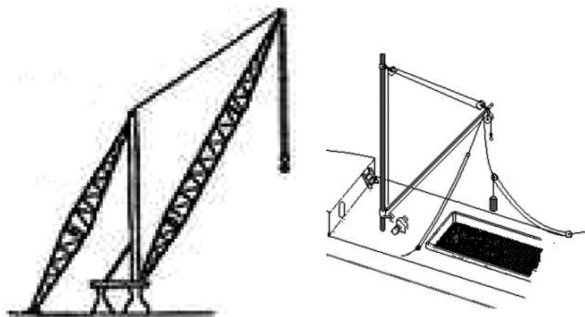
CODE C48
Reach Stacker



CODE C49
Straddle Carrier



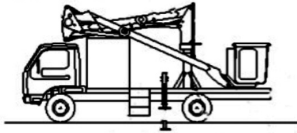
CODE C50
Cantilever Container Crane



CODE C51
Scotch Derrick Crane (Ship mounted)

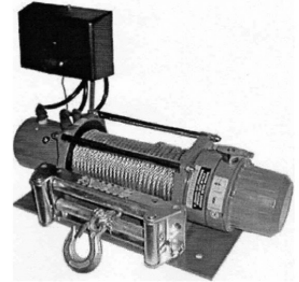
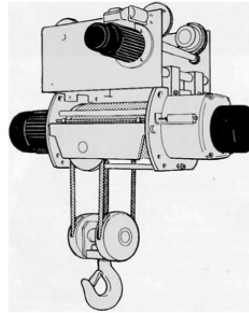


CODE C52
Rail Mounted Gantry Crane



CODE C53

Mobile Elevated Work Platforms



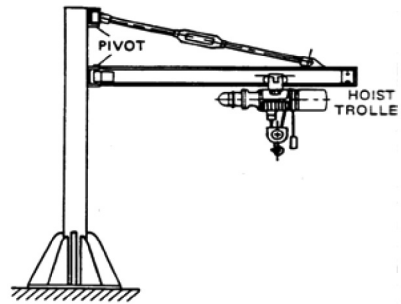
CODE C54

Hoist, & Winches



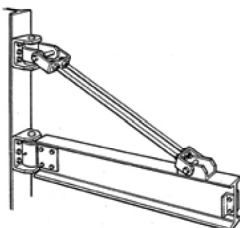
CODE C55

Rubber Tyred Gantry Crane



CODE C54

Pillar Mounted Jib Crane



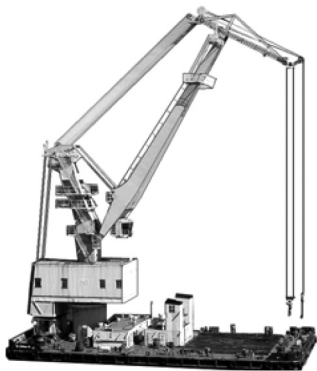
CODE C58

Wall Mounted Jib Crane



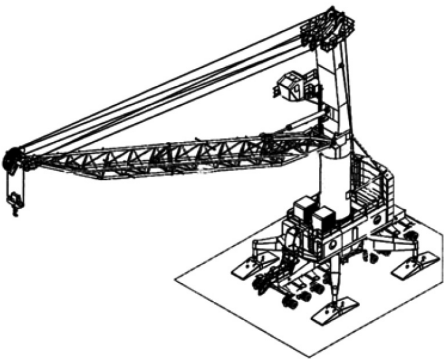
CODE C56

Side Loader Container



CODE C57

Floating Crane



CODE C59

Wharfside Jib Crane (Rubber Tyred)

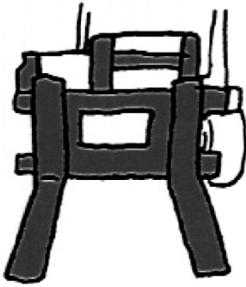


CODE C60

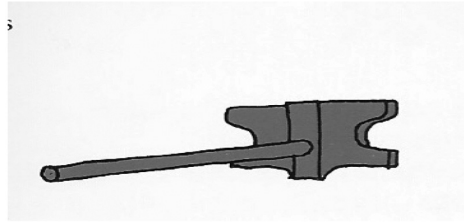
Side Boom Crane

(Editorial Note: Images as per original Government Gazette.)

LIFT TRUCK ATTACHMENTS



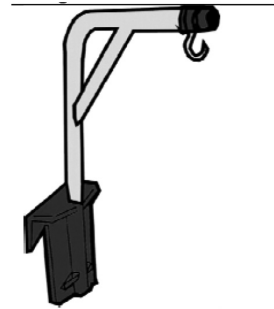
A Side- Shift



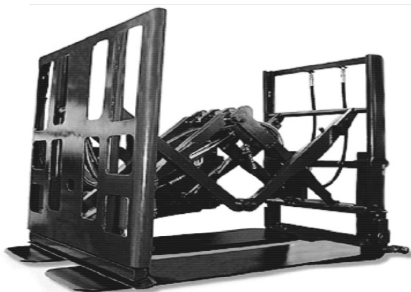
B Single POLE



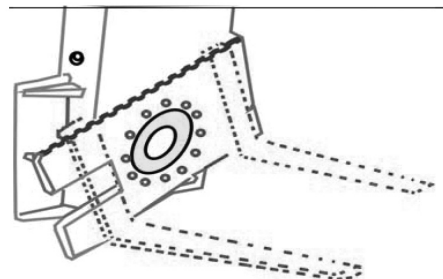
C Carton or Paper Roll Clamp



D Crane Hook



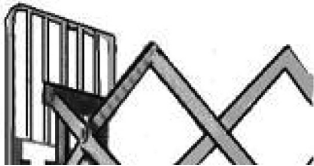
E Push Pull Slipsheet Equipment



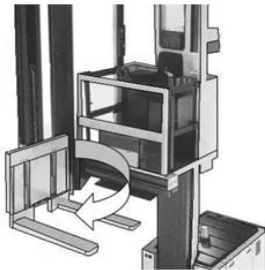
F Load Rotator



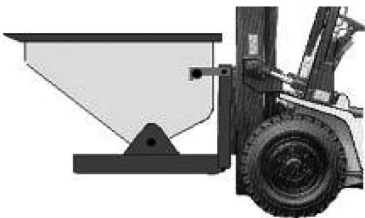
G Wire Guidance System



H Load Extender Pantograph



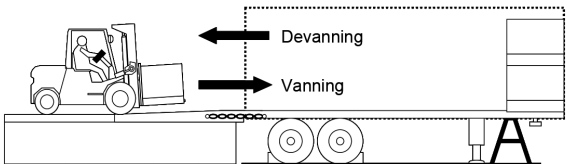
I Rotating Mast



J Tilting Bucket



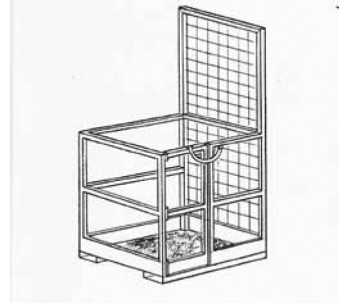
K Tandem Forks



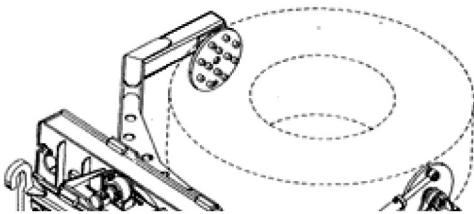
L Container Vanning and Devanning



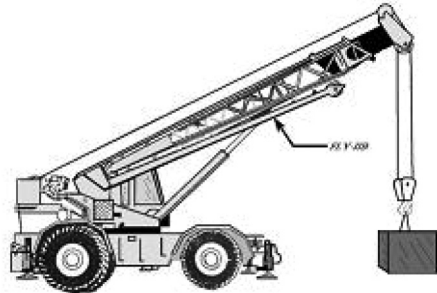
L Container Handling



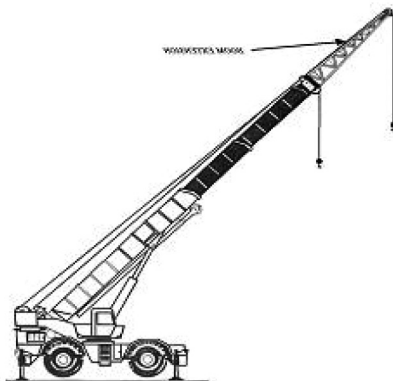
M Lifting Cradle (Personnel Cage)



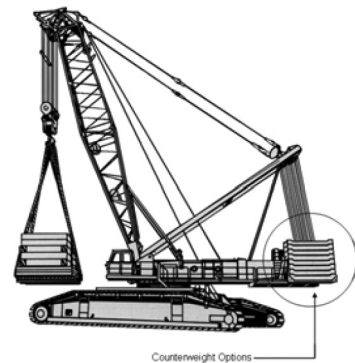
N Earthmoving Tyre Handling



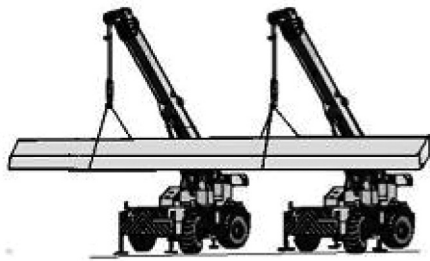
O Fly-jib (Lattice)



P Boom Extension (Hydraulic)



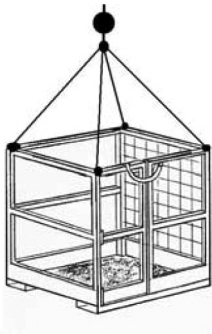
Q Counterweight Options



R Tandem Lifts



S Special Categories



T Lifting Cradle (Personnel Cage)



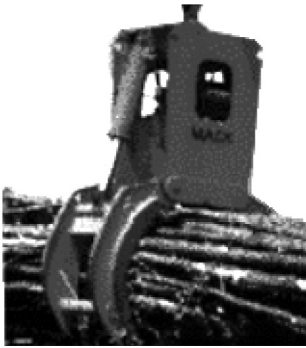
U Rail Mounted Crane



V Steam Driven Crane



W Container Spreader



X Grable / grapple

X Grable / grapple



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
2. Supervision of machinery
3. Safeguarding of machinery
4. Operation of machinery
5. Working on moving or electrically alive machinery
6. Devices to start and stop machinery
7. Reporting of incidents in connection with

- machinery
 8. Notifiable substances
 9. Information regarding regulations
 10. Offences and penalties
 11. Repeal of regulations
 12. Short title
- Schedule A: Notifiable substances [regulation 8]

- Schedule B: Notice regarding notifiable substances [regulation 8]
- Schedule C: Notice in respect of boilers under regulation 9 (2)
- Schedule D: Notice in respect of machinery other than a boiler under regulation 9 (2)

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 operation and 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 particular 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 subregulation (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 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 shiftman, 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 shiftman.

(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 shiftman.

(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]

GENERAL MACHINERY REGULATIONS

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 threat-

ens 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 REGULA- TION 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 work-

ing 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
2. Scope of application
3. Permission to install and use
4. Design and construction
5. Particulars of lifts, escalators and passenger

- conveyors
6. Inspections and tests
7. Maintenance
8. Record keeping
9. Approved inspection authority

10. Offences and penalties
11. Repeal of regulations and savings
12. Short title and commencement
- Annexure 1 Notice of installation of a lift/escalator/passenger conveyor

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 power or a material hoist;

“**machine compartment**” means the room, well or pit where the 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;

LIFT, ESCALATOR AND PASSENGER CONVEYOR REGULATIONS

- (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 compe-

tent 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 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 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.

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 regulation 6 (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

LIFT, ESCALATOR AND PASSENGER CONVEYOR REGULATIONS

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
Inspector

Date
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 10360": the standard for the maintenance and repair of electric and hydraulic powered lifts, escalators and passenger conveyers 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 50081-1": the specification for electric lifts, safety rules for the construction and installation of lifts, published by the South African Bureau of Standards;

"SANS 50081-2": the specification for hydraulic lifts, safety rules for the construction and installation of hydraulic lifts, published by the South African Bureau of Standards.

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
2. Issuing of certificates
3. Suspension or cancellation of certificates
4. Substitution of lost, damaged or destroyed certificates

5. Commission of Examiners
6. Qualifying examination
7. Acceptance as candidate
8. Withdrawal of regulations
9. Short title

- Annexure 1 Mechanical engineer's certificate of competency
- Annexure 2 Electrical engineer's certificate of competency

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 in 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 uncanceled 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:

REGULATIONS CONCERNING THE CERTIFICATE OF COMPETENCY

- (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 ex-

amination 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 uncanceled 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 Govern-

ment 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 July 2009.]

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
2. Scope of application
3. General requirements
4. Duties of manufacturers
5. Duties of importers and suppliers
6. Duties of users
7. Approval and duties of approved inspection authority
8. Registration of a steam generator

9. Pressure equipment marking
10. Pressure and safety accessories
11. Inspection and test
12. Risk-based inspection
13. Repair and modifications
14. Records
15. Access
16. Door interlocks
17. Gas reticulation equipment and systems

18. Transportable gas containers
19. Fire extinguishers
20. Offences and penalties
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22. Short title
- Annexure 1. Certificate of conformity for gas installations
- Annexure 2. Registration of a steam generator

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 unreinforced 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 than 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 sub-

ject 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 uncanceled 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;

PRESSURE EQUIPMENT REGULATIONS

- (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 -

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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 – CO₂ 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
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 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

These notes are intended to help users, manufacturers, approved inspection authorities and importer 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.

INTRODUCTION

PURPOSE

These guidance notes are intended to help users, manufacturers, approve inspection authorities and importers of Pressure Equipment to understand the content, as well as to assist with the interpretation and implemetation 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 9Act 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

PRESSURE EQUIPMENT REGULATIONS

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 the person;

Notes:

None

"certificate" means a written declaration of conformance to these Regulations;

Notes:

None

"construction" includes material, 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;

Notes:

(a) Saturated steam and superheated steam is also classified as dangerous substances.

"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 extinguishers" 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 Cat 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) Reticulation is defined in the Regulations.

(b) A refrigeration system is a gas 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;

Notes:

None

"manufacturer" means any person who has overall control and is responsible for the construction of pressure equipment;

Notes:

None

"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:

None

"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 Regulations.

"pressure accessory" means the device with an operational function having pressure bearing housing;

Notes:

(a) Some examples include but are not limited to: pressure gauges, level gauges, valves, strainers and magnetic level indicators.

"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) Storage vessels (tanks) with the design pressure equal to or greater than 50kPa gauge are regulated by the Regulations

(b) Transportable gas container is not a pressure vessel, but has its own definition in the Regulations.

(c) Process heating equipment for other than steam or hot-water generation such as fired heaters in the chemical and similar process plants shall be defined as pressure vessels
"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)

"repair" means restoration to original standard by the application of heat and 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:

None

"re-rating" means any change in the design parameters of a 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 the general operating pressure of no more than 200kPa to the ultimate points of consumption;

Notes:

(a) This does not include the transmission or distribution systems.

(b) Definitions out of the Gas Act, 2001: "transmission" means the bulk transportation of gas by pipeline supplied between a source of supply and a distributor, reticulator, storage company or eligible customer, or any other activity incidental thereto, and "transmit" and "transmitting" has corresponding meanings.

(c) Definition out of the Gas Act, 2001: "distribution" means the distribution of bulk gas supplies and the transportation thereof by pipelines with the general operating pressure of more than 2 bar gauge (200kPa) and less than 15 bar gauge (1500kPa) or by pipelines with such other operating pressure as the Gas Operator may permit according to criteria prescribed by regulation to points of ultimate consumption or to the reticulation systems, and any other activity incidental thereto, and "distribute" and "distributing" has corresponding meanings.

"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 electricity 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 repairs 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 the design pressure equal to or greater than 50kPa are included in the Regulations.

“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 0,5litres 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 Regulations.
(e) Mobile 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 the 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 in 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. 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 the 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;
 - (f) 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 standards in SANS 347 may be used as if they were incorporated in Vessels under Pressure Regulations
(c) The intention of 2 (3) 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) Pressure Equipment that was regulated under VUP may be repaired and modified under the rules of the VUP.
(g) Existing equipment that are not regulated under VUP could not fall within the scope of the PER does not need to comply to PER provided that a modification will not classify a vessel as a vessel under pressure(as defined in the VUP) according to the Vessels Under Pressure Regulations. If the vessel is now classified as a vessel under pressure(as defined in the VUP) after the modification, the vessel needs to comply as PER requirements.
(h) Equipment categorized as SEP as per the relevant SANS 347 graphs are excluded but shall be manufactured to SEP rules as required in SANS 347
(i) PER does not regulate external pressure(vacuum)
(j) PER only regulate pressure equipment with a design pressure equal to or greater than 50kPa irrespective of any contradictory definition given in the Regulations
(k) Pressurised road tankers, rail tankers, intermediate bulk containers (IBCs), ISO container and multi element gas containers are regulated in the Regulations
(l) Equipment manufactured prior to 23 October 1992 and which are 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 current regulations is not a requirement
(m) Hydraulic and pneumatic cylinders, or actuators meeting the requirements of sub-regulation 2 (3) (d) are not regulated
(n) Pressure equipment categorised as SEP (sound engineering practise) in SANS 347 are not regulated

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 VUP rules not to be categorised provided full AIA involvement is maintained during repairs or modifications as was required under the VUP rules (typical of module G approach)
(b) The relevant health and safety standards are not listed in section 44 of the Act but in Annex a in SANS 347 and the schedule under the PER
(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

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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.

Notes:

- (a) The certificate of manufacture must declare conformance to the Pressure Equipment Regulations. The certificate of manufacture is 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, manufacture's data report and declaration of conformity.

REGULATION 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.

Notes:

- (a) The importer is the entity which imports pressure equipment for the use/or resale in South Africa. The importer must be a juristic person in RSA.
- (b) The importer of pressure equipment into the RSA resumes the liability of the manufacturer and must declare conformance to the PER. This conformity assessment review shall be countersigned by an AIA as applicable. The AIA shall not verify conformity assessment reviews for imported pressure vessels, steam generators and assemblies for category 2 equipment and higher. Category 1 equipment and below does not require conformity assessment review by the AIA.
- (c) 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.

- (d) The permit referenced in PER 5 (3) is applicable to fire extinguishers in accordance with SANS 1475.
- (e) Importer shall verify that the foreign inspection bodies meet the requirements of regulation 7 (3) with respect to ISO 17020 accreditation and scope of accreditation together with the applicable health and safety standard'

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 intention was that in PER 6 (2) (e) a "gas system" should be a "gas reticulation system".
- (c) The certificate required in PER 6 (2) (d) above is the pre- commissioning inspection certificate as required in PER 11 (1) (a)
- (d) 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 IPE.
- (e) For transportable gas containers 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).
- (f) In respect of 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 these Regulations under section 44 of the Act and SANS 347 Appendix A.
- (g) In respect to the duties of the user in relation to privately owned transportable gas containers up to and including 150l water capacity, the certificate of manufacture referred to in 6 (2) (b) may be retained by the importer or the Supplier.

ferred to in 6 (2) (b) may be retained by the importer or the Supplier.

- (h) For transportable gas container which are privately owned the certificate of manufacture remains with the manufacturer. The owner may request the certificate of manufacture from the manufacturer/importer).

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 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 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 these Regulations within its scope of accreditation and the relevant health and safety standard.

Notes:

- (a) Regulation 7 (4) states that 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. The intent was that such certification

cation is deemed to be meeting the requirements of the Health and Safety Standard, however any additional requirements if the PER, e.g. Marking shall also be complied with. This may require an application of an additional name plate meeting the PER requirements e.g. units of measure and categorisation. Equipment is to be categorised for future repair, modification and in-service inspection requirements. Equipment manufacture by an ASME accredited manufacturer or that are CE marked in Accordance with the Health and Safety Standard do not need to comply to the requirement in SANS 347 for approval by a Professional Engineer.

- (b) Locally manufactured pressure equipment by an ASME accredited manufacturer meets the requirements of regulation 7 (4). See additional requirements of Note (a) above
- (c) Foreign inspection bodies with applicable scope of work will be accepted with or without ISO 17020 accreditation until 31 December 2011. From 1 January 2010 all foreign inspection bodies shall be accredited to ISO 17020. If these requirements are met no submission to IDO for approval is required. NBIC authorised agencies are approved unconditionally. The importer shall verify compliance to regulation 5 guide note (e) when conducting the conformity assessment review on imported pressure equipment. For pressure equipment where an 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 regulation 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).

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 uncanceled 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 aff-

fixed 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 information.
- (b) The AIA shall verify compliance to the PER for Category 2 and higher imported pressure vessel, steam generators and assemblies.
- (c) Re-certification of a steam generator or pressure vessel is required where the equipment is unidentified due to the unavailability of required documentation, nameplate and data, unknown or unconfirmed history or where equipment that was imported does not meet the requirements of Occupational Health and Safety Act or the Minerals Act as applicable at time of manufacture or import. A duplicate nameplate may be applied by the user if all information required in the nameplate is available and can be positively linked to the vessel such as hard stamping evidence of serial number or equipment number and shall be verified by an AIA.
- (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.

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) Sub regulation 10 (1) allows the user to use system protection where the health and safety standard allow it and sub 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 Regulation of the time of commissioning of the equipment. For example pressure equipment manufactured under the VUP can have system protection as allowed by the PER.

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 inspection and tests, means that the person performing the inspection is present during the pressure test required by sub regulation and performs the internal and external inspections
- (c) Sub regulation 11 (1) (b) requires the manufacturers 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 catastrophic incident. 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 sub regulation 11 (1) (d) is to provide two routes for extension of in-service inspections for equipment not subject to deterioration processes: For deterioration mechanisms resulting in predictable material loss only, the extension may be granted based in proven history to a maximum of 9 years (the corrosion allowance may not be consumed within 20 years); and for all other deterioration mechanisms Regulation 12 applies. This extension may not be granted by the in-service inspection authority.
- (g) In sub regulation 11 (1) (e) the competent person, as defined in GMR 1, shall be a 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.
- (h) As per sub regulation 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 Regulation 12.
- (i) Pressure and safety accessories do not need to be attached during the in-service inspection and tests but are required in the 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.
- (j) Non-flammable gas such as air may be used in lieu of inert gas for pneumatic testing.
- (k) SAQCC CP Boiler and SAQCC CP Vessel inspectors have to do inspection under control of the quality control system of an AIA for in-service inspection. Freelance inspectors are not allowed to inspect equipment as from the 1 April 2011.
- (l) Equipment that were previously exempted from inspection and testing under VUP rules such as in refrigeration plant and gas installation 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. 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.

(Editorial Note: Wording as per original Government Gazette.)

- (m) The intent of the pre-commission inspection by the AIA is to verify that the user is in full compliance with the PER prior to commissioning of the pressure equipment among other, compliance to PER 10, 15 etc. It is not the intention that complex equipment such as heat exchangers etc. be split or stripped to perform internal inspections but rather to verify where pressure equipment, while being transported, erected or worked on was not damaged, that no unauthorised hot work was performed without AIA verification etc. Internal inspection will typically be required where on site internal work is being performed such as installation of internal etc. Safety and pressure accessories susceptible to damage during the pressure test need not to be fitted during the pressure test.
- (n) Existing equipment regulated under VUP Regulation may retain the existing inspection interval until the first inspection after the PER came in effect. Thereafter full compliance to the inspection interval requirements of the PER shall be adhered to including the implementation of RBI.
- (o) PER 11 (2) also applies to PER 11 (1) (a)
- (p) Where reference is made in the Regulation 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 9.
- (q) Pressure equipment categorised as SEP (sound engineering practice) in SANS 347 are not regulated.

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 for certification bodies and ISO 17021 applies to inspection bodies. The function 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 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.

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. Existing equipment regulated under VUP rules need to be categorised provided full AIA involvement is maintained during repairs and modification (module G approach).
- (b) AIA to supervise, if applicable any pressure equipment requiring re-certification. See regulation 9 for re-certification criteria.
- (c) Pressure Equipment previously excluded under the VUP Regulations is excluded from these requirements. See note (g) under regulation 2 for further clarification.
- (d) Pressure equipment compliant to the standards enforced at the time of manufacture i.e name plate stamped by AIA but without documentation of construction details, may be modified after calculations and necessary verifications and tests has been performed in accordance with an appropriate health and safety standards.

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 as defined for the period of use. 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 assume the role of the manufacturer in PER 14 and shall maintain or make available relevant records and information as required in lieu of the original manufacturer.
- (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).

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) 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

PRESSURE EQUIPMENT REGULATIONS

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 regulation 17 is to ensure safety in the general light industrial and domestic gas market applications where the competence is needed for correct material and component selection, installation and commissioning as currently fulfilled by the SAQCC-Gas Installers Certification Scheme. This scheme assures quality of installations. For refineries, pipeline systems and gas storage facilities installation, compliances are verified by Approved Inspection Authorities to typical process piping Health and Safety standards.
- (b) "health and safety standard incorporated into these Regulations under section 44 of "the Act" – also see SANS 347 Appendix A.
- (c) The definition of the gas systems in these Regulations all treat 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 to gas reticulation systems as defined in the PER.
- (d) The definition of the gas system in these Regulations also treats Nitrogen as a dangerous gas and shall be categorised in accordance with SANS 347. Nitrogen used for process equipment for blanketing purposes does not have to be inspected and certified by an Authorised Person for the gas reticu-

lation system as defined in the PER.

- (e) An Authorised Person shall only issue a certificate of conformity for reticulation systems (pressure below 200kPa). For all other gas systems or gas installations an Approved Inspection Authority shall issue a certificate of conformity according to SANS 347 where applicable.

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) The inspection and test for the transportable gas container shall be carried out by an approved testing station
- (b) Proof of accreditation from an accepted Accreditation Body is needed for approval of a testing station by the DOL.
- (c) Transportable gas containers smaller than 0.5 litres are not regulated but shall be manufactured to a relevant health and safety standard.
- (d) Additional Health and Safety Standards are also listed in SANS 347.

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 sub regulation (4), 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 extinguishers 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. 1951, dated 4 October 1996, is hereby repealed.

Notes:

None

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) *The authorised person is a person who holds a valid SAQCC CP certification for either pressure vessels or steam generators as applicable*
- (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 _____

PRESSURE EQUIPMENT REGULATIONS

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

- Physical address of installation _____
- Type of steam generator _____
- Name of manufacturer _____
- Country of origin _____
- Year of manufacture _____
- Manufacturer's _____ serial _____ num-ber _____
- Name, number and date of the standard of design _____
- Design gauge pressure in Pascal _____
- Maximum permissible operating pressure in Pascal _____
- Operating temperature _____
- Source of energy (oil, coal, gas, electricity or nuclear) _____
- Steaming capacity of steam generator _____ kg of steam per hour from and at 100 degrees Celsius
- Name of approved inspection authority (during manufacture) _____
- Copy of certificate from manufacturer attached _____
- Copy of approved inspection authority's commissioning report attached _____

PRESSURE EQUIPMENT REGULATIONS

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

NOR . 2016

Date _____

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 B31.8 - Gas transmission and distribution piping systems B31.8S - Managing system integrity of gas pipelines B31.9 - Building services piping B31.11 - 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 petroleum 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 electronic /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), Druckbehv 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 (under-ground) 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	10. Disputes	Annexure 2	Application for approval as approved inspection authority for electrical installations
2. Responsibility for electrical installations	11. Applications for registration as a registered person	Annexure 3	Application for registration as electrical contractor
3. Approved inspection authorities for electrical installations	12. Withdrawal of registration as a registered person	Annexure 4	Notice of commencement of installation work
4. Functions of approved inspection authorities for electrical installations	13. Substitution of lost, damaged or destroyed certificate	Annexure 5	Application for registration as registered person
5. Design and construction	14. Fees payable	Annexure 6	Application for duplicate certificate issued in terms of the Electrical Installation Regulation, 2009
6. Electrical contractor	15. Offences and penalties		
7. Certificate of compliance	16. Repeal of regulations		
8. Commencement and permission to connect installation work	17. Short title and commencement		
9. Issuing of certificate of compliance	Annexure 1 Certificate of compliance		

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 un-

less 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 uncanceled 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.

ELECTRICAL INSTALLATION REGULATIONS

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)								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Electrical tester for single phase</td> <td style="width: 20%;"></td> </tr> <tr> <td>Installation electrician</td> <td></td> </tr> <tr> <td>Master installation electrician</td> <td></td> </tr> </table>		Electrical tester for single phase		Installation electrician		Master installation electrician		
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.								

ELECTRICAL INSTALLATION REGULATIONS

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: <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">Name</td> <td style="width: 150px; height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;">Address</td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;"></td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;"></td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;">Tel.</td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;">Fax</td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;">Cell</td> <td style="height: 20px;"></td> </tr> <tr> <td style="padding: 2px 5px;">E-mail</td> <td style="height: 20px;"></td> </tr> </table>		Name		Address						Tel.		Fax		Cell		E-mail	
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.;

ELECTRICAL INSTALLATION REGULATIONS

- (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:

ELECTRICAL INSTALLATION REGULATIONS

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

ELECTRICAL INSTALLATION REGULATIONS

Department of Labour Occupational Health and Safety Private Bag X117 Pretoria 0001	R120,00
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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

ELECTRICAL INSTALLATION REGULATIONS

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

SCHEDULE

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
2. Responsibility of electrical installations
3. Approved inspection authority for electrical installations
4. Functions of approved inspection authority for electrical installations
5. Design and construction
6. Electrical contractor
7. Certificate of compliance
8. Commencement and permission to connect installation work
9. Issuing of certificate of compliance
10. Disputes
11. Application for registration as a registered person
12. Withdrawal of registration and approval
13. Substitution of a lost, damaged or destroyed certificate
14. Fees payable
15. Offences and penalties
16. Repeal of regulations
17. Short title and commencement
18. Annexures
19. Offices in provinces

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 a 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 is 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 operate 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 emphasises 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, 1998, 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 SANS 10142-1;

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 sub regulation (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 person 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:

- 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

- 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:

- 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.:				

ELECTRICAL INSTALLATION REGULATIONS

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:	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%;">Tel No.</td><td></td></tr><tr><td>Fax No.</td><td></td></tr><tr><td>Cell No.</td><td></td></tr><tr><td>E-mail.</td><td></td></tr><tr><td>Address</td><td>.....</td></tr><tr><td></td><td>.....</td></tr><tr><td></td><td>.....</td></tr></table>	Tel No.		Fax No.		Cell No.		E-mail.		Address							
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:																	
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%;">Name</td><td></td></tr><tr><td>Address</td><td>.....</td></tr><tr><td></td><td>.....</td></tr><tr><td></td><td>.....</td></tr><tr><td>Tel.</td><td></td></tr><tr><td>Fax</td><td></td></tr><tr><td>Cell</td><td></td></tr><tr><td>E-mail</td><td></td></tr></table>	Name		Address						Tel.		Fax		Cell		E-mail		
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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

ELECTRICAL INSTALLATION REGULATIONS

Department of Labour Occupational Health and Safety Private Bag X117 Pretoria 0001	R120,00
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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
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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.

ELECTRICAL INSTALLATION REGULATIONS

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:

Department of Labour Occupational Health and Safety Private Bag X117 Pretoria 0001	R120,00
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ELECTRICAL INSTALLATION REGULATIONS

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
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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 | 13. Issuing of electric fence system certificate | 23. Free payable |
| 2. Scope of application | 14. Application for registration as registered person | 24. Offences and penalties |
| 3. Personal protective equipment | 15. Withdrawal of registration and approval | 25. Repeal of regulations |
| 4. Work on disconnected electrical machinery | 16. Substitution of lost, damaged or destroyed certificate of registration | 26. Short title |
| 5. Notice | 17. Inspection authorities | Annexure 1 Electric fence system certificate of compliance |
| 6. Switchgear and transformer premises | 18. Earthing | Annexure 2 Application for registration as an electric fence system installer |
| 7. Electrical control gear | 19. Overhead power lines | Annexure 3 Application for approval as an approved inspection authority for electrical machinery |
| 8. Switchboards | 20. Service connections | |
| 9. Electrical machinery in hazardous locations | 21. Overhead line crossings | |
| 10. Portable electric tools | 22. Bare conductors on premises | |
| 11. Portable electric lights | | |
| 12. Electric fences | | |

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. 19 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 substation 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 therefrom 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, manufac-

tured, 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 energisers 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 energiser 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 performing 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 luminaires;
 - (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.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Certificate No.</td> </tr> <tr> <td colspan="2">Certificate Type (Tick appropriate block)</td> </tr> <tr> <td style="width: 50%;">Initial Certificate</td> <td style="width: 50%;">Supplementary Certificate</td> </tr> </table>	Certificate No.		Certificate Type (Tick appropriate block)		Initial Certificate	Supplementary Certificate								
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:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Tel No.</td><td style="width: 50%;"></td></tr> <tr><td>Fax No.</td><td></td></tr> <tr><td>Cell No.</td><td></td></tr> <tr><td>E-mail.</td><td></td></tr> <tr><td>Address</td><td>.....</td></tr> <tr><td></td><td>.....</td></tr> <tr><td></td><td>.....</td></tr> </table>	Tel No.		Fax No.		Cell No.		E-mail.		Address					
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

ELECTRICAL MACHINERY REGULATIONS

Department of Labour Occupational Health and Safety Private Bag X117 Pretoria 0001	R120,00
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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
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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 Machinery Regulations, 2011

I, M OLIPHANT, Minister of Labour, after consultation with the Advisory of Council for Occupational 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 OLIPHANT, 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 maintenance 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

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 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-

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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 roadstead 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 including 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-

- 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.
- 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 Niranjani	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)	Services provided (i.e. hazard identification, risk assessment, moni- toring, risk reduction recommendations, etc. e.g. follow up survey on noise)	Stressors monitored	Date	Number of employees potentially exposed to that stressor	Results in compliance 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

[illegible]