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DEPARTMENT OF MANPOWER UTILISATION

GOVERNMENT NOTICE No. 98 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984): Regulations

GOVERNMENT NOTICE No. 98 OF 1993

The following Government Notice is published for general information:

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984 (ACT No. 35 OF 1984)

The Minister of Manpower Utilisation in terms of section 35 of Machinery and Occupational Safety Act, 1984, made the regulations set out in the schedule.

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Exemption granted in terms of section 32 of the Machinery and Occupational Safety Act of 1984.

SCHEDULE

ELECTRICAL INSTALLATION REGULATIONS

1. Definitions. - In these regulations "the Act" means the Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984) and a 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 -

"Accredited person" means a person registered in terms of regulation 9 as an electrical tester for single phase, an installation electrician or a master installation electrician, as the case may be:

"Annexure" means an annexure to these regulations;

"Certificate of compliance" means a certificate in the form of Annexure 1 issued by an accredited person in respect of an electrical installation or part of an electrical installation;

"Electric 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 Contracting Board of Ciskei" means the board established by organisations involved in the electrical contracting industry with the address Director-General, Department of Public Works, Privat Bag X0022, BISHO, 5608;

"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 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 used for the transmission of electricity which the voltage shall not exceed 50V where such electricity is not derived from the main supply of a supplier;
- (c) any machinery which transmits electrical energy in telecommunication, television or radio circuits;
 - (d) an electrical installation on a vehicle, vessel, train or aircraft;

"Electrical tester for single phase" means a person who has been registered as an electrical tester for single phase in terms of regulation 9 and who has been approved by the chief inspector for the verification and certification of the construction, testing and inspection of electrical installations supplies by a single phase electricity supply:

"Installation electrician" means a person registered as an installation electrician in terms of regulation 9 who has been approved by the chief inspector for the verification and certification of the electrical installation excluding specialised electrical installations: Provided that this exclusion shall come into effect only on 1 July 1994;

"Installation work" means the installation, extension, modification or repair of an electrical installation, including the connection of machinery at the supply terminals of such machinery:

"Master installation electrician" means a person who has been registered as a master installation electrician in terms of regulation 9 and who has been approved by the chief inspector 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 or 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 ahs 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 the 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;

"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 suppled to any premises by a supplier;

"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;

"SABS 051" means the Code of practice for the prevention of explosive and electrical hazards in hospitals, SABS 051, published by the South African Bureau of Standards;

"SABS 086" means the Code of practice for the installation and maintenance of electrical equipment used in explosive atmospheres, SABS 086 published by the South African Bureau of Standards;

"SABS 089" means the Code of practice for the petroleum industry, SABS 089, published by the South African Bureau of Standards;

"SABS 0108" means the Code of practice for the classification of hazardous locations and the selection of electrical apparatus for use in such location, SABS 0108, published for the South African Bureau of Standards:

"SABS 0142" means the Code of practice for the wiring of premises, SABS 0142, published by the South African Bureau of Standards;

"Specialised Electrical Installations' means electrical installations in -

- (a) hazardous locations as contemplated in SABS 0108;
- (b) anaesthetizing and similar locations as contemplated in SABS 051;
- (c) explosive atmospheres are contemplated in SABS 086; or
- (d) the petroleum industry as contemplated in SABS 089;

"Supplier" in relation to a particular electrical installation, means any local authority, statutory body or 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.

RESPONSIBILITY FOR ELECTRICAL INSTALLATIONS

- 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 uses or leases.
 - The user of lessor of an electrical installation, as the case may be, shall be responsible for the safety of the conductors connecting the electrical installation to the point of supply in the case where the point of supply is not the point of control.
- 3. 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 in respect of every such installation: Provided that 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 an installation shall obtain either a certificate or a new certificate of compliance for the whole installation: Provided further that such certificate shall be transferable.
 - 2. Every user or lessor of an electrical installation, as the case may be, shall on request produce the certificate of compliance for that installation to an inspector or the supplier.
 - Subregulation (1) shall not apply to electrical installation existing prior to the coming into force of these regulations: Provided that, if -
 - (a) any addition or alteration is effected to such an installation; or
 - (b) there is a change of ownership of the premises on which such an installation exists after 1 January 1994, the user or lessor of the electrical installation, as the case may be, shall obtain a certificate of compliance for the whole installation, whereafter the provisions of subregulation (1) shall be applicable to such installation.
 - 4. A supplier may at any reasonable time inspect or test any electrical installation: Provided that the supplier shall not charge any fee for such inspection or test unless the inspection or test is carried out at the request of the user or lessor.
 - 5. If after an inspector or a supplier has carried out an inspection or test he detects any fault or defect in any electrical installation, such inspector or supplier may require the user or lessor of that installation to obtain a new certificate of compliance: Provided that if such fault or defect in the opinion of the inspector or the spplier constitutes an immediate danger to persons, the inspector or the 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 the fault or defect is of scuh a nature that it may indicate negligence on the part of an accredited person, the inspector or the supplier, as the case may be, shall forthwith report those circumstances in writing to the chief inspector.

CONSTRUCTION

- 4. 1. No person shall install or permit or require the installation of an electrical installation, other than in accordance with a safety standard incorporated into these regulations under section 36 of the Act: Provided that items of an electrical installation not covered by such 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.
 - Except in the case of electrical installations supplied by a single phase electricity supply at the point of supply, an accredited person shall exercise general control over all electrical installation work being carried out and no person shall allow such work without such control.
 - No supplier shall restrict the application of a safety standard referred to in subregulation

 (1) when an electrical installation is installed, except where the distribution systems of
 the supplier may be adversely affected by the application thereof.

ELECTRICAL CONTRACTOR

 Any person, including a juristic person, who intends to do installation work as an electrical contractor shall annually register with the Electrical Contracting Board of Ciskei.

- The Electrical Contracting Board of Ciskei shall, free of charge, register as an electrical
 contractor and enter in a register kept for that purpose the name of any person who
 applies therefore in terms of subregulation (1) and who -
 - (a) has a fixed address and has a telephone listed in his name; and
 - (b) employs an accredited person on a full-time basis, or is himself an accredited person.

COMMENCEMENT OF AND PERMISSION TO CONNECT INSTALLATION WORK

- 6. 1. No person shall commence with installation work which would require a new electricity supply or an increase in electricity supply capacity unless the supplier has been notified thereof in the form of Annexure 2: Provided that the supplier may waive this requirement in respect of such types of work as he may specify.
 - 2. No supplier shall connect or give permission for the connection of an electrical installation to the electricity supply unless a certificate of compliance for that installation has been produced to the supplier by the user of such electrical installation: Provided that this subregulation shall not apply in the case where the electricity supply was disconnected for non-payment of the electricity account, or where there has been a change of tenant but not of ownership.
 - No person shall connect or permit the connection of any completed or partially
 completed electrical installation to the electricity supply unless it has been inspected and
 tested by an accredited person and a certificate of compliance has been issued by him.

ISSUING OF A CERTIFICATE OF COMPLIANCE

- 7. 1. Only an accredited person may, after having satisfied himself by means of an inspection and test that an electrical installation complies with the provisions of regulation 4(1), or in the case of an electrical installation existing prior to the coming into force of these regulations, that it is reasonably safe, issue a certificate of compliance in the form of Annexure 1: Provided that where any addition or alteration has been effected to an electrical installation for which a certificate of compliance was previously issued, he may issue a certificate of compliance for such an addition or alteration only.
 - 2. If at any time prior to issuing a certificate of compliance any fault or defect is detected in any part of the electrical installation, the accredited person shall refuse to issue such certificate: Provided that if such fault or defect in the opinion of the accredited person constitutes an immediate danger to persons in the case where electricity is already supplied, he shall forthwith take steps to disconnect the supply to the circuit in which the fault or defect was detected.

APPEALS

- Should a dispute arise over the interpretation of a safety standard referred to in regulation
 4 between the user, the accredited person or the supplier, as the case may be, the affected
 person may appeal against that interpretation to the chief inspector through the regional
 director.
 - 2. (a) The person who appeals under subregulation (1) shall serve a notice of appeal setting out fully the grounds of the appeal, on both the regional director and the person against whose interpretation he is appealing, by personally delivering the notice of appeal or sending it by registered post.
 - (b) The person against whose interpretation is appealed shall, within 14 days of the date on which he received the notice of appeal, forward such a notice and the reason for this decision to the regional director.
 - (c) The regional director shall, on receipt thereof, forward the notice of appeal and the reason of the person referred to in paragraph (b), to the chief inspector.
 - 3. The chief inspector shall, after he has considered the grounds of the appeal and the cause of the dispute, confirm, set aside or vary the interpretation of the safety standard referred to in subregulation (1) or substitute for such interpretation any other interpretation which, in his opinion, ought to have been given.

APPLICATION FOR REGISTRATION AS AN ACCREDITED PERSON

- (a) Application for registration as an accredited person shall be made to the chief inspector in the form of Annexure 3.
 - (b) The application shall be accompanied by the fees determined in terms of regulation 11.
 - 2. Any natural person who satisfies he chief inspector that he:-
 - (a) has gained sufficient experience in and knowledge of a trade relevant to the qualifications for registration;
 - (b) has gained sufficient knowledge of the theory applicable to electrical installations and possesses the minimum qualifications laid down by the chief inspector; and
 - (c) has gained sufficient knowledge of the rules and the safety standards applicable to electrical installations.
 - shall at the discretion of the chief inspector be registered as an electrical tester for single phase, an installation electrician or a master installation electrician, as the case may be, and the chief inspector shall furnish him with a certificate of registration subject to such conditions or restrictions as he may deem necessary.
 - 3. An accredited person shall on request produce his certificate of registration to an inspector, a supplier or any other person whom he issues or towards whom he contracts to issue a certificate of compliance.
 - 4. The chief inspector shall cancel any certificate of registration issued in terms of subregulation (2) or referred to in registration 13(2) on which any erasure or alteration has been made by someone other than by the chief inspector.
 - 5. If in the opinion of the chief inspector an accredited person who is the holder of a certificate of registration issued in terms of subregulation (2) or referred to in regulation 13(2) has been guilty of gross negligence in the execution of his duties or has failed to comply with any provision of these regulations, the chief inspector may endorse, suspend or cancel such certificate of registration.

SUBSTITUTION OF LOST, DAMAGED OR DESTROYED CERTIFICATE OF REGISTRATION

- 10. 1. (a) If a certificate of registration issued in terms of regulation 9(2) or referred to in regulation 13(2) has been lost, damaged or destroyed the accredited person to whom the certificate was issued may apply to the chief inspector for a duplicate certificate.
 - (b) The application shall be accompanied by the fees determined in terms of regulation 11.
 - After proof that a certificate of registration has been lost, damaged or destroyed has been submitted to the satisfaction of the chief inspector he shall issue as substitution thereof a duplicate certificate on which the words "duplicate" appear.

FEES PAYABLE

11. The fees payable in respect of an application in terms of regulation 9(1) or a duplicate certificate of registration in terms of regulation 10(1) is R60 and shall be payable in the form of uncancelled revenue stamps affixed to the application form.

OFFENCES AND PENALTIES

12. Any person who contravenes or fails to comply with a provision of regulation 2, 3, 4, 5, 6, 7 or 9(3) shall be guilty of an offence and be 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 not exceeding R100 for each day on which the offence continues or to additional imprisonment not exceeding 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.

REPEAL OF REGULATION AND SAVING

- Subject to subregulation (2) the Electrical Installation Regulations, 1985, published under Government Notice No. R. 2270 of 11 October 1985, as amended by Government Notices Nos. R.2497 of 13 November 1987, R.1595 of 12 August 1988, R.2132 of 7 September 1990 and R.1272 of 8 May 1992 and Government Notice No. R.2272 of 11 October 1985, are hereby repealed.
 - 2. A certificate of registration as installation electrician, issued under regulations 11 or 13(2) of the regulations repealed by subregulation (1), shall be deemed to be a certificate issued under regulation 9 of these Regulations.

SHORT TITLE

14. These regulations shall be called the Electrical Installation Regulations 1993.

ANNEXURE 1

(Front side of Annexure 1)

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984

ELECTRICAL INSTALLATION REGULATIONS, 1993

CERTIFICATE OF COMPLIANCE BY AN ACCREDITED PERSON

I				declare that
am an electrical tester for sir				
Registration Certificate No.				
Address				
Telephone No				
I further declare that I is			0.0	
4				
	ality District*			
and that in terms of regulation 4(1) and that the installation	on 7(1) the installation			
Brief description of wor	k			
······································				

I am aware that I am liab questions set out in this ce PROCEDURE.	le to prosecution in the ertificate in respect of	case of a false d the VISUAL IN	eclaration to a ISPECTION a	ny one of the nd TESTING
FULL NAME IN BLOCK LET	TERS			
SIGNATURE				*
DATE				. 3

(Reverse side of Annexure 1)

VISUAL INSPECTION

SATISFACTORY

	-		
MARK WITH √	YES	NO	N/A
Do all the components of the installation conform to the applicable standards or have they been authorised?			i
Have all the components been correctly selected and installed?			
Have any components visible damage?			
Have fire barriers been erected or have other precautions been taken against the spread of fire or the harmful effects of heat?		9) 10	
Are the conductors of the correct current-carrying capacity?			
Are the protective devices of the correct size and type?			
Are disconnecting devices correctly located?			
Are different circuits separated electrically?			
Are the connections of all conductors, including earthing and bonding, mechanically sound and electrically continuous?			
Have circuits, fuses, switches, earth leakage devices, circuit- breakers, etc. been permanently marked or labelled?			
Does the installation comply with the requirements of the Machinery and Occupational Safety Act, 1984 and SABS 1042 code?			15
			5
TESTS CARRIED OUT AND INSTRUMENT USED		VALUE	
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Continuity and resistance of earth conductor including all bonding conductors:		9	3)
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Continuity of ring circuit:			
Instrument			
Earth electrode resistance:		82	
Instrument	ļ		
Insulation resistance:			
Instrument	ļ		
Polarity:			× *
Instrument	ļ		
Earth fault loop impedance test:	en en	2 2	ű ,
	p		
Operation of earth-leakage protection devices and circuit- breakers	a r	-	

ANNEXURE 2

Supplier's name and address

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984
ELECTRICAL INSTALLATION REGULATIONS, 1993: REGULATIONS 6(1)

NOTICE OF COMMENCEMENT OF INSTALLATION WORK

I nereby advise that ins	tallation wo	rk will be	comme	nced at -			# #
ERF No							
STREET ADDRESS							5 2 42
NAME OF BUILDING	••••••			FLOOR			
NAME OF TENANT/OC	CUPIER/AC	GENT/OW	NER				
Note: For farms and ag					12 5		
Description of proposed	1						
NEW INSTALLATION				EXTENS	ION		
					- 0 ₊		
MODIFICATION				SIZE OF	INSTALLA	TION	kVa
20 pt 20							(R 455
Date of commencement	of installati	on work			652 05		
* Electrical contractor/a	ccredited p	erson					
			16 ×	- 9 9		(Block	letters)
Fixed address	······································						
* Contractor's Registrat	ion/accredit	ed persor	n's Cert	ficate No.			
Signature	; 		Telepho	ne No	************		
Name of signatory	ì						13
	r r	(Bloc	k letters)			

ANNEXURE 3

(Front side of Annexure 3)

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984

REGULATION 9 OF THE ELECTRICAL INSTALLATION REGULATIONS, 1993

APPLICATION FOR REGISTRATION AS AN ACCREDITED PERSON

The Direct Private Ba BISHO 5608	or-General of Manpowe g X0031	er .	Affix revenue stamp he	re
Sir	*			
phase*/in: particulars that I know	stallation electrician*/n given hereunder are, to	naster installation of the best of my know	gistered as an electrical tester electrician* and hereby declare viedge and belief, correct. I furth ed as being physically able to in	that the
* Dele	ete whichever is not ap	plicable.		
I attach tw	o photographs of myse	elf as required by th	e chief inspector.	0 %
Yours faith	nfully		= x	
	- B			
	DATE		SIGNATURE	-
Notes:	26 M			
(i)	The applicant must a signatures at the end		the free spaces provided for s	specimen
(ii)	photographs of 30 mi	m by 25 mm showir	ssioin of two clear identical up ng the face and shoulders of the on the back as follows:	nmountee applicant
	"I certify this to	be a true photogra	oh of	
39				
E 5 1	DATE		MAGISTRATE PEACE OR COMMISSIONER	
obta	(The photographs required from any photogr	uired are similar to apher who renders	those required for passports a such a service.)	nd can b
1. Surna	me (block letters)			
2. First r	names (block letters)			
3. Postal	l address		Code	
4. Date a	and place of birth		***	
5. Identi	ty number (immigration	permit number)		

NOTE: Where paragraph (a) hereunder is applicable, applicant must submit with the application, testimonials from employers, stating the duration and nature of training.

6. Details of training appropriate to installation work:

(Reverse side of Annexure 3)

Name	and address of emplo	oyer	From	1 To
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EXEMPTION GRANTED IN TERMS OF SECTION 32 OF THE MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984

- 1. I, appointed as chief inspector in terms of section 19(1) of the Machinery and Occupationial Safty Act. 1984, by virtue of the power delegated to me by the Minister of Manpower in terms of section 32(1) of that Act, hereby exempt all users of goods hoists fitted with picket gates at the hatchway landing entrances from the requirement 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 38 mm in width: Provided that -
 - (a) the speed of the conveyance shall not exceed 0,25 m/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 65 mm in width.

Chief Inspector.

GOVERNMENT NOTICE No. 99 OF 1993

The following Government Notice is published for general information:

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984 (ACT No. 35 OF 1984): DIVING REGULATIONS

The Minister of Manpower Utilisation in terms of section 35 of the Machinery and Occupational Safety Act, 1984, made the regulations set out in the Schedule.

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Annexure 1

Annexure 2

SCHEDULE

DIVING REGULATIONS, 1993

- 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" includes pure compressed air;
- "approved inspection authority" means an inspection authority approved by the chief inspector for the verification, surveillance and certification of the design, construction, manufacture, test, inspection and repair of compression chambers and bells;
- "bell" means a compartment either at am bient pressure (open bell) or pressurised (closed bell) by means of which a diver can be transported to and from the underwater work site, which allows the diver access to the surrounding environment, and which is capable of being used as a refuge during diving operations;
- "bottom line" means the time in minutes which elapses from the time when the diver dives from the surface of the water towards the underwater working place until such time as he commences his ascent from the underwater working place towards the surface of the water;
- "breathing mixture" means air or gas which is fit for breathing at ambient pressure;
- "buddy line" means a line not exceeding 5 m in length and with a breaking strength of at least 500 N, which is used for securely connecting two divers to each other during a dive;
- "class I diver" means a class II diver who has been trained in all aspects of mixed gas, saturation and bell diving to a depth of at least 100 m;
- "class II diver" means a diver trained in all aspects of air diving using scuba and surface supplied diving equipment to a depth not exceeding 50 m;
- "class III diver" means a diver trained in all aspects of air diving using scuba and surface supply diving equipment to a depth not exceeding 30 m, without the use of a surface compression chamber;
- "class IV diver" means a diver trained in all aspects of air diving using scuba to a depth not exceeding 30 m, without the use of a surface compression chamber;
- "compression chamber" means a pressure vessel for human occupation having internal dimensions sufficient to accommodate at least one diver lying in a horisontal position as well as one other person, and which allows the ingress and egress of personnel while the occupants are under pressure:
- "compression chamber dive" means the simulation of an actual dive to specific depths by using a compression chamber;
- "council" means the council for diving established in terms of these regulations;
- "decompression stop" means a pause, calculated with the aid of decompression tables, which must be observed at a specific depth below the surface of the water during a diver's ascent from the underwater working place, in order to release excess nitrogen or other inert gases absorbed by his body, and for a compression chamber dive it has a corresponding meaning:

- "designated medical practitioner" means a registered medical practitioner designated in terms of these regulations to establish whether divers are fit to dive;
- "dive" means every dive performed by divers from the control point on the surface of the water to any point under the surface of the water and back to the control point;
- "diver" means any person registered as a diver in accordance with these regulations and includes a diving supervisor;
- "diver's logbook" means the logbook in the form set out in Annexure 1;
- "diving mode" means a dive requiring scuba, surface-supplied air, or surface-supplied mixed gas equipment, with related procedures and techniques;
- "diving operation" means all activities of a diving team in preparation for, during and after a dive:
- "diving operations record" means the record contemplated in regulation 7(2)(a):
- "diving stage" means a suspended platform designed to carry one or more divers and used for lowering divers into the water and bringing them to the surface when underwater, decompression is undertaken or standard diving dress is used;
- "diving supervisor" means any person registered as a diving supervisor in terms of these regulations;
- "diving team" means the divers, standby divers, and diver support personnel involved in a diving operation, including the diving supervisor, line attendant, life-support technician and such other persons as are necessary to man any machinery and equipment which may be required before, during and after a dive;
- "diving time" means the time in minutes which elapses from the time when a diver dives from the surface of the water until he is again exposed to atmospheric pressure after a dive;
- "divisional inspector" means the divisional inspector as defined in regulation 1 of th Republic of Ciskei Act under Government Notice No. 85 of 28 September 1984;
- "gas" means any pure gas or mixture of gases, other than air, suitable for underwater breathing;
- "in-date diver" means a diver who is the holder of a valid medical certificate of fitness in which he is certified fit to dive:
- "learner diver" means any person registered as a leaner diver in terms of these regulations;
- "life-line" means a line or something similar, at least 8 mm in diameter and with a minimum breaking strength of 5 kN, one end of which is fastened at the control point on the surface of the water and the other end of which is secured to the diver during a dive;
- "life-support technician" means a person trained in the physics, physiology and medical aspects of supporting life in high pressure environments;
- "line attendant" means a person who has been trained in the use of diving signals, life lines, service telephones and other service cables;
- "medical certificate of fitness" means a certificate issued by a designated medical practitioner in terms of these regulations;
- "medical examination" means a medical examination of a diver or a learner diver conducted by a designated medical practitioner;
- "saturation dive" means a dive executed by a diver whose tissues are saturated with the inert gas in the breathing mixture so as to allow an extension of bottom time without additional decompression;
- "scuba" means self-contained underwater breathing apparatus in which the supply of breathing mixture carried by the diver is independent of any other source;
- "shot line" means a line of at least 15 mm in diameter, one end of which is fastened at the control point on the surface of the water and which extends to the underwater working place where the other end is fastened or anchored and along which the diver must dive to the underwater working place and along which he must return to the surface of the water;
- "standard diving dress" means a heavy weight surface-supplied diving outfit for deep diving;

"standby diver" means an in-date diver, other than a learner diver, who is fully qualified to dive to the maximum depth required by the particular diving operation with the aid of the diving equipment in use, and who is not prevented from diving by an excess of inert gas in his system;

"the Act" means the Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984);

"warning signal" means -

- (i) by day, flag A as defined in the International Code of Signals; and
- (ii) by night, the lights as defined in the Internatioal Regulations for Preventing Collision at Sea, 1983.
- 2. Scope of application (1) Subject to subregulation (2) these regulations shall apply to all diving operations in the Republic of Ciskei or the territorial waters thereof.
 - (2) these regulations shall not apply to persons who -
 - (a) use no underwater breathing apparatus or a snorkel type apparatus; or
 - (b) are engaged in diving other than as employees.
- 3. Training of divers. (1) No person shall train another person to dive unless he has been approved as a training organisation in terms of subregulation (2).
- (2) Any person who has at his disposal such staff, plant, equipment and other ancillary facilities as to enable him to offer the curriculum of instruction and training for learner divers framed by the chief inspector, may apply in writing to the chief inspector for approval as a training organisation to train learner divers and the chief inspector may approve such application subject to such conditions as he may impose.
 - (3) A learner diver shall -
- (a) undergo underwater diving training for the periods prescribed in subregulation (5) and in accordance with the curriculum of training framed by the chief inspector; and
- (b) be under the personal supervision of a diving supervisor and be accompanied by a person registered as a diver in terms of regulation 14, while diving: Provided that if the diving supervisor is satisfied that the learner diver is sufficiently experienced, the learner diver may be permitted to undertake dives, unaccompanied, to a diving depth of not more than 20 m.
- (4) A diving supervisor shall ensure that every learner diver, within 24 hours of completion of a dive performed by him, enteres full particulars of such dive in his diver's logbook and signs the entry and shall thereafter countersign the entry.
 - (5) A learner diver shall undergo underwater diving training of not less than -
- (a) 35 hours bottom time, to depths not exceeding 50 m, so as to qualify for registration as a class II diver.
- (b) 20 hours bottom time, to depths not exceeding 30 m, so as to qualify for registration as a class III diver.
- (c) 15 hours bottom time, to depths not exceeding 30 m, so as to qualify for registration as a class IV diver.
- (6) No person shall be trained as a class I diver unless he has since his registration as a class II diver undergone at least 50 hours of bottom time in diving operations, at least 15 hours of which were undergone of depths greater than 20 m.
- (7) So as to qualify for registration as a class I diver, a diver shall undergo underwater diving training of not less than 50 hours bottom time at depths of up to at least 100 m below the surface.
- (8) No person shall be registered as a class I, II, II or IV diver unless he has attained a satisfactory standard of competence in respect of the additional matters set out in Annexure 2.
- 4. Designated medical practitioners, medical examinations and medical certificates of fitness. (1) The chief-inspector may designate medical practitioners to undertake a medical examination of divers or prospective divers: Provided that only medical practitioners who are registered with the South African Medical and Dental Council and who have completed a course in underwater medicine recognised by the chief inspector, shall be designated.

- (2) A designation in terms of subregulation (1) shall lapse after a period of four years, unless the designated medical practitioner concerned furnishes proof before the expiry of such period that he has completed a refresher course in underwater medicine recognised by the chief inspector.
 - (3) A designated medical practitioner shall, if so requested -
- (a) carry out a medical examination, including such tests as are required by the chief inspector; and
- (b) issue a medical certificate of fitness to the diver or learner diver based on the results of the medical examination or endorse such certificate subsequent to each medical re-examination prescribed in subregulation (4).
- (4) A diver shall report for a medical examination by a designated medical practitioner at least once every 12 months and the designated medical practitioner shall examine the diver in respect of such aspects as are required by the chief inspector: Provided that when an examination of a specialised nature is required the designated medical practitioner need not personally perform such examination.
 - (5) A medical certificate of fitness shall indicate the following: -
 - (a) The name and identity number of the person to whom it relates:
 - (b) the date of the medical examination;
 - (c) the date of any X-ray photograph taken for the purposes of the examination;
 - (d) whether the person is considered fit to dive;
 - (e) any limitation on the diving or compression for which the person is considered fit;
 - (f) the period not exceeding 12 months for which the person is considered fit;
- (g) the name, address, telephone number and Ciskei or South African Medical and Dental Council registration number of the designated medical practitioner issuing the certificate as well as the year in which he last attended a course in underwater medicine:
 - (h) the signature of the medical practitioner issuing the certificate.
- (6) If, on account of indisposition or injury, a diver has been unfit to dive for a continuous period of 14 days or more, he shall not again participate in diving and no person shall require or permit him to participate in diving unless he furnishes the employer with a medical certificate indicating the nature of his indisposition or injury and in which a medical practitioner certifies that he has recovered from such indisposition or injury: Provided that if in the opinion of the diving supervisor the indisposition or injury of a diver is of such a nature as to make an examination by a designated medical practitioner desirable, such diver shall not participate in diving until a designated medical practitioner has certified that he is once more fit for diving.
- (7) Where a medical examination of a diver is required in terms of this regulation his employer shall be responsible for the arrangements and costs connected with such examination: Provided that such employer shall not be responsible in respect of examinations regarding indisposition or injuries not sustained during the execution of the diver's normal duties.
- (8) If a medical certificate of fitness is lost or destroyed, the learner diver or diver concerned shall re-submit himself for a medical examination in terms of subregulation (3).
- 5. Diving supervisor. (1) Unless an employer is a diving supervisor and personally takes charge of all diving operations performed by him, he shall designate and charge one or more persons in writing with the duty of exercising control over his diving operations and ensuring that the provisions of these regulations are complied with.
- (2) A person designated and charged in terms of subregulation (1) shall be a diving supervisor: Provided that an employer may, for such reason and for such period as may be approved beforehand by an inspector, designate a diver in writing to act as a diving supervisor.
 - (3) A diving supervisor or person designated in terms of subregulation (2) shall -
- (a) at all time be available to deal with emergencies at the site where diving operations are carried out;
 - (b) not dive while he is supervising other divers;

- (c) if another supervisor is not available when he has to dive for purposes of inspection and planning ensure that a diver acts as supervisor for the duration of the dive;
- (d) not act as standby diver unless another diving supervisor is available to take charge of the diving operation: Provided that he may act as standby diver for diving operations undertaken to a depth of not more than 30 m or for dives not requiring decompression stops.
- 6. Operations manual. (1) An employer shall ensure that an operations manual is made available to each diving team at the dive location before commencement of the diving operation.
- (2) An operations manual shall contain provisions for the safety and health of employees including -
 - (a) the assignments and responsibilities of each diving mode used;
 - (b) safety procedures and checklists for each diving mode used:
- (c) procedures and checklists for the use, checking and maintenance of equipment for each diving mode used;
 - (d) emergency procedures in the case of -
 - (i) fire;
 - (ii) equipment failure; and
 - (iii) adverse changes in environmental conditions;
 - (e) procedures for -
 - (i) emergency signalling;
 - (ii) emergency assistance under water and on the surface;
 - (iii) decompression including therapeutic recompression and decompression and the availability of compression chambers for such purposes;
 - (iv) first aid;
 - obtaining medical assistance with specific reference to the need for consultation with a designated medical practitioner if decompression sickness should occur;
 - (vi) calling for assistance from emergency services including advance liason with those services where appropriate;
 - (vii) emergency evaculation of the work site; and
 - (viii) the provision of emergency supplies.
- 7. Control of diving operations. (1) Prior to commencing diving operations an employer shall ensure that -
- (a) the personnel necessary for rendering assistance to a diver, as well as those members of the personnel who may be required in case of an emergency, are on standby and that all equipment which may be required for use in case of an emergency is ready for immediate use:
- (b) persons who have been trained to operate compression chambers take charge of such chambers and remain on duty while such chambers are in use and are available while diving operations are in progress;
- (c) a diver who participates in a dive, is provided with all the necessary diving equipment in order to safeguard his health and safety;
- (d) a diver who participates in a dive, is according to his logbook, qualified in the use of the diving equipment concerned;
- (e) all diving equipment used for any diving operation is checked and tested before use by the diving team in order to determine whether it is in good working order;
- (f) the maximum bottom time of a dive, the decompression schedule and the technique to be used in any diving operation are made known to and are understood by the diving team; and
- (g) the diving team has been systematically and thoroughly informed and trained with regard to the procedures to be followed in case of emergency.

- (2) During the performance of diving operations an employer shall ensure that -
- (a) good discipline is continuously maintained and that diving operations are carried out safely and strictly in accordance with the manner planned by the diving supervisor and that the bottom time and decompression schedule referred to in subregulation (1)(f) are strictly adhered to:
- (b) for any dive exceeding 10 m, at least the following persons are and remain on duty at the control point on the surface of the water -
 - (i) a standby diver who shall be in immediate readiness to dive: Provided that where two divers are in the water at the same time and are near enough to each other to communicate with and tender assistance to each other in an emergency, the one may be deemed to be a standby diver for the other: Provided that where a diving bell is used, the standby diver shall descend in the bell to the depth from which work is carried out and shall remain in the bell so as to be able immediately to render assistance to the diver working from the bell;
 - (ii) a line attendant, if a life line is used;
 - (iii) such other persons as are necessary to man any machinery and equipment which may be required during the diving operation; and
 - (iv) at least one person who is qualified to render first-aid and who has a thorough knowledge of the first-aid treatment to be applied and the use of all equipment used in cases of drowning, decompression sickness and other ailments associated with diving operations;
 - a person who has qualified as a life support technician when saturation or bell dives are undertaken;
 - (c) only in-date divers participate in diving:
- (d) no diver who on account of indisposition or physical or mental infirmity considers himself unfit to participate in diving, or who is considered unfit therefor by the diving supervisor, participates in any diving or is permitted or required to participate in any diving;
- (e) life-lines, buddy-lines and surface-markers are used: Provided that if the diving supervisor considers the use thereof hazardous or impracticable he may dispense with the use thereof;
- (f) a short line is used when the diver is not lowered to the underwater working place by means of a diving stage or bell, unless the use of a shot line is impracticable;
- (g) each diver is able to comminicate with the surface control point, except where a buddy line is used as contemplated in paragraph (e) in which case at least one of the divers shall be able to communicate with the surface control point;
- (h) for diving at a depth exceeding 50 m, a diving stage is used, except when a bell is provided: Provided that a bell shall be used for all diving operations at a depth exceeding 70 m except when a diver uses a standard diving dress or dives in a physically confined space: Provided further that a closed bell shall be used for all diving operations at a depth exceeding 100 m;
 - (i) no diver undertakes a dive -
 - (i) in contravention of any condition or restriction imposed on him in terms of these regulations; and
 - (ii) unless he is fully conversant with the operation of such machinery or the use of such tools and equipment as may be required in the performance of his work underwater;
- (j) no diver undertakes a dive to a depth greater than that for which the equipment he uses is suitable;
- (k) no diver dives to a depth greater than that for which he is qualified: Provided that a class III or IV diver may undertake dives to a depth not exceeding 50 m if the decompression time does not exceed 20 minutes;
- (I) no diver uses air for any diving operation at a depth exceeding 50 m except where such use is for therapeutic or training purposes in a compression chamber;

- (m) for all diving modes, a sufficient supply of the appropriate breathing mixture is readily available at the required pressure to provide for all the activities of the diving team for the duration of the diving operation;
- (n) all reasonable steps are taken to ensure that air supplied to divers is pure and that such air complies with the requirements of the South African Bureau of Standards' Code of Practice for Portable Metal Containers for Compressed Gases No. 019-1985;
 - (o) where diving operation is to be carried out at night -
 - a lamp or other device is attached to the diver to indicate his position when he
 is on the surface, and
 - (ii) the place on the surface or the bell from which the diving is carried out, is illuminated: Provided that where such illumination is undesirable, it may be switched off during the diving operation;
- (p) depth measuring devices are used and, where reasonably practicable, such devices are suitable for monitoring from the surface;
 - (q) (i) a record of every diving operation performed is kept, indicating the names of the
 divers, diving times, bottom times, depths, decompression schedules, breathing
 mixtures, diving equipment used and any decompression sickness or other
 incident relevant to the health and safety of the divers that occurred during the
 diving operation;
 - (ii) the information contemplated in subparagraph (i) is entered in the diving operations record within 24 hours of completion of the diving operation, is available to an inspector on request and is kept for a minimum of two years after the last entry;
- (r) every diver, within 24 hours of completion of a dive, enters full particulars of the dive in his diver's logbook and that the entry is signed by the diver and countersigned by the diving supervisor;
- (s) the appropriate warning signals are given and the appropriate signs are prominently displayed while diving is in progress;
- (t) a boat is kept readily available for rescue purposes if the possibility exists that the diver may surface away from the control point in the course of a dive; and
- (u) all other reasonable safety measures are taken which may be necessary for the safe execution of any particular diving operation and that the safety measures are strictly adhered to.
- 8. Decompression. (1) An employer shall ensure that no matches, cigarette lighters, smoking requisites or any flammable articles likely to cause a fire or explosion are at any time taken into or stored in the compression chambers.
- (2) No employer shall require or permit any diver in his employ to perform a dive, and no diver shall perform a dive unless decompression is carried out in accordance with the techniques, decompression tables and decompression times determined by the diving supervisor.
- (3) An employer shall ensure that a complete copy of the decompression tables contemplated in subregulation (2), together with the relevant explanatory procedures are available for the information of the diving team on the site where diving operations are being performed: Provided that abstracts from the decompression tables may be made available for the information of the diving team: provided further that the employer shall produce the appropriate identifiable decompression tables when required to do so by an inspector.
- (4) Subject to regulation 10 of the General Administrative Regulations published on 20 September 1984 under Government Notice No. 88 an employer shall ensure that a record, which shall be open for inspection by an inspector, is kept of all incidents of decompression illness and shall ensure that all such cases are investigated.
- 9. Compression chambers and bell. (1) No person shall use, order or permit the use of any compression chamber or bell unless -
- (a) it has been designed and constructed in accordance with a code of practice incorporate into these regulations in terms of section 36 of the Act;

- (b) it has been manufactured under the supervision of an approved inspection authority; and
- (c) he is in possession of a certificate of construction issued by the manufacturer in which it is certified that the compression chamber or bell has been designed, constructed and tested in every respect in accordance with the code of practice contemplated in subregulation (1)(a): Provided that such certificate of construction shall be countersigned by the approved inspection authority as evidence that the design of such vessel has been verified and that it has been constructed and tested in accordance with the relevant code of practice.
 - (2) An employer shall ensure that every compression chamber -
- (a) has an uncontaminated supply of breathing mixture, sufficient for one complete therapeutic compression treatment, available in storage cylinders or other suitable vessels at the compression chamber;
- (b) is equipped with pressure relief devices which are set so as to prevent the internal pressure in any compartment from rising in excess of 10% above the maximum intended working pressure and which are designed to automatically close when the internal pressure returns to the intended working pressure after pressure relief;
- (c) is equipped with a breathing point for each occupant for ready use during a compression operation as well as suitable means for avoiding oxygent build-up in the chamber;
- (d) is provided with portholes of sufficient size to enable everyone in the chamber to be observed from outside;
- (e) is equipped for adequate humidity control, heating, cooling and illumination of the interior:
- (f) is equipped with the necessary valves, gauges and other fittings to indicate and control the internal pressures of each compartment from outside the chamber;
- (g) is provided with a two-way oral communication system between persons outside and inside the chamber; and
 - (h) is designed to limit the risk of fire and equipped to extinguish a fire in the interior.
 - (3) An employer shall ensure that every compression chamber -
- (a) has a minimum design pressure rating of 600 kPa for diving operations not exceeding a depth of 90 m: Provided that for diving operations in excess of 90 m, the design pressure rating of the compression chamber shall be equivalent to the maximum depth of the diving operation: Provided further that where a closed diving bell is used which is equipped to undergo recompression at the surface equivalent to the depth of the diving operation, the minimum design pressure rating of the compression chamber shall be 600 kPa;
- (b) is designed to prevent opening under pressure and, where necessary, is equipped with interlocks for this purpose;
- (c) is equipped for operating all installed locking devices from both sides of a closed hatch;
- (d) is so designed that, where a closed bell is used a person can transfer under pressure from the compression chamber to the bell and from the bell to the compression chamber;
- (e) is fitted with adequate equipment and reserve facilities to supply and maintain the correct breathing mixture to everyone inside the chamber.
 - (4) An employer shall ensure that every closed diving bell-
- (a) is equipped in such a manner that a diver is able to enter and leave it without difficulty:
- (b) is equipped with doors which act as pressure seals and which may be opened from either side;
- (c) is equipped with such valves, gauges and other fittings made of suitable materials, as are necessary to indicate and control the pressure within the bell and to indicate to the occupants and to the diviing supervisor the external pressure on the bell;

- (d) is fitted with equipment and reserve facilities which are adequate for supplying the correct breathing mixture to persons inside or working from the bell;
- (e) is fitted with an oral communication system which enables contact to be maintained between a diver who leaves the bell, a person remaining in it and the place on the surface from which the diving operation is carried out;
 - (f) is fitted with equipment for lighting and heating the bell;
- (g) contains adequate first aid facilities and is fitted with lifting equipment by which an unconscious or injured diver can be hoisted into the bell by a person inside the bell;
 - (h) is equipped in such a manner that -
 - it can send signals through the water so that it can speedily be located in an emergency; and
 - (ii) the lives of persons trapped in it can be sustained for at least 24 hours;
- (i) is used in conjuction with lifting gear which enables the bell without excessive lateral, vertical or rotational movement to be lowered to the depth from which the diving operations are to be carried on, maintained in its position or raised; and
- (j) is provided with equipment by which it can be brought to the surface without using the main lifiting gear: Provided that where such equipment involves the shedding of weights, such weights shall be capable of being shed by a person inside the bell and the equipment shall be so designed as to prevent accidental shedding.
- (5) An employer shall ensure that every compression chamber or bell is inspected, tested and maintained in accordance with the provisions of the code of practice used in the design, construction and manufacture of such compression chamber or bell: Provided that where such code contains no such provisions the inspections, test and maintenance shall be carried out by a person competent to carry out such inspection, tests and maintenance by virtue of his training and experience as provided for in the Lloyds Register of Shipping Rules and Regulations for the Construction and Classification of Submersibles and Diving systems: Provided further that where an employer proposes to execute repairs to a compression chamber or bell he shall ascertain beforehand from an approved inspection authority the requirements with respect to such repairs and carry out such repairs under the supervision of an approved inspection authority.
 - 10. Plant and equipment. An employer shall ensure that -
- (a) all diving equipment and machinery which is used in connection with any diving operation or underwater work is maintained in good working order and is properly used;
- (b) plant and equipment necessary for divers to safely enter and leave the water is available during diving operations;
- (c) a compression chamber with all necessary ancillary equipment is available for immediate use whenever diving takes place -
 - (i) at a depth exceeding 50 m;
 - (ii) at a depth exceeding 10 m but not exceeding 50 m where the routine decompression time exceeds twenty minutes; or
 - (iii) at a depth exceeding 10 m but not exceeding 50 m where the routine decompression time is twenty minutes or less and effective arrangements have not been made for a diver requiring therapeutic recompression to be brought to a suitable chamber within two hours from the time when the need for recompression is identified; and
- (d) each compression chamber acquired before the date of promulgation of these regulations, which does not comply with these regulations, is registered with the divisional inspector: Provided that compression chambers contemplated in this regulation and registered before 4 January 1991, may be used until they are no longer useful if they are maintained in accordance with regulation 9(5).
- 11. Council for diving work. (1) The chief inspector shall establish a council for diving consisting of -

- (a) a person who shall be the chairman;
- (b) not more than two inspectors;
- (c) one person to represent the Department of Mineral and Energy Affairs:
- (d) one person too represent employers:
- (e) two diving supervisors:
- (f) two divers; and
- (g) a designated medical practitioner:

Provided that the chief inspector may authorise the council to co-opt persons who have knowledge of the matters dealt with by the council.

- (2) The chief inspector shall appoint the members of the council for such period as he may determine at the time of appointment: Provided that the chief inspector may on the grounds of gross incompetence and serious misconduct discharge a member at any time and appoint a new member in his place.
 - (3) The council shall -
- (a) designate persons to prepare the examination papers for the examinations for divers and diving supervisors required by the council and to mark the answers;
 - (b) designate persons to moderate the examination papers referred to in paragraph (a);
- (c) make recommendations and submit reports to the chief inspector regarding any matter to which these regulations relate;
- (d) advise the chief inspector regarding any matter referred to the council by the chief inspector;
 - (e) perform such other functions as may be requested by the chief inspector;
 - (f) refer appeals against decisions of the council to the chief inspector; and
- (g) conduct its work in accordance with the instructions and rules of conduct framed by the chief inspector.
- (4) A person affected by any decision of the council may appeal against such decision to the chief inspector, and the decision of the chief inspector shall be final and binding.
- 12. Rules, syllabi and examinations. (1) The chief inspector shall in consulation with the council, frame or amend rules for the conduct of examinations and syllabi for such examinations as occasion may require.
- (2) The persons designated in terms of regulation 11(3)(a) shall at least three months before an examination is conducted, inform the chief inspector in writing of the place and time of such examination.
 - 13. Registration as learner diver. Any person who satisfies the divisional inspector that-
 - (a) he is at least 18 years old;
- (b) he is in possession of a valid medical certificate of fitness in which he is certified fit to participate in diving;
- (c) if he is a minor, he has the written consent of his parent or guardian to register as a learner diver; and
 - (d) he has been admitted to an approved diving school,

shall be registered as a learner diver by the divisional insepctor and be furnished with a certificate of registration which shall be valid for one year and which may be renewed by the divisional inspector at his discretion.

- 14. Registration as a diver. Any person who satisfies the divisional inspector that -
- (a) he has received appropriate training in diving operations with an organisation approved for diver training as contemplated in regulation 3;
 - (b) that he has passed the relevant examination for divers; and

(c) he is in possession of a valid medical certificate of fitness in which he is certified fit to participate in diving,

shall be registered as a class I. II, III or IV diver, as the case may be, and the divisional inspector shall furnish him with a certificate of registration subject to such conditions or restrictions as he may deem necessary.

- 15. Registration as a diving supervisor. Any person who satisfies the divisional inspector that -
- (a) he has acquired at least two years' experience in all aspects of diving operations after having been registered as either a class I or a class II diver, or at least one year of such experience after having been registered as either a class III or a class IV diver; and
 - (b) he has passed the relevant examination for diving supervisors.

shall be registered as a class I, II, III or IV diving supervisor, as the case may be, and the divisional inspector shall furnish him with a certificate of registration subject to such conditions and restrictions as he may deem necessary.

- 16. Applications. Applications for registration as a learner diver, diver, or diving supervisor, as the case may be, or for the re-issue of a certificate that has been lost, damaged or destroyed, shall be made in the form and manner approved by the chief inspector.
- 17. Fees payable. The fees payable in respect of registration as a learner diver, diver or diving supervisor, as the case may be, or for re-issue of any certificate shall from time to time be determined by the Minister with the approval of the Treasury by notice in the Gazette and shall be payable in the form of uncancelled revenue stamps.
- 18. Offences and penalties. Any person who contravenes or fails to comply with any provisions of regulations 3, 4, 5, 6, 7, 8, 9 or 10 shall be guilty of an offence and liable on conviction to a fine not exceeding R1 000 or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R5 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. Regulations F.1 to F. 25 and Annexure F.28, F.28(a), F.28(b), F.28(c), F.28(d), F.29, F.30, F.31, F.32, F.33 and F.34, published under Government Notice No. R.1237 of 16 July 1971, as amended by Government Notice No. R.1112 of 30 May 1980, are hereby repealed.
 - 20. Short title. These regulations shall be called the Diving Regulations, 1993.

ANNEXURE 1

(on front cover)

DIVER'S LOGBOOK

 This logbook must at the request of an inspector be produced for inspection.
 The holder of this logbook must enter herein a complete report on every diving operation undertaken by himself, sign the report, and have it countersigned by the diving inspector.

3. The logbook must be kept in safe custody by the holder thereof.

(on outside of front cover)

PERSONAL DETAILS OF DIVER

Full name	i e	
Identity number		
Class of diver		Restrictions

Type of diving equipment for		·····
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Type of equipment	Date	Diving supervisor
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(2)		
(3)		
(4)		***************************************
(5)		
Name of employer:		
(1)		* 'a
	•••••	
	(on each subsequent page)	
PARTI	ICULARS OF DIVING OPERAT	IONS
	35	
Date of diving operation		
Name of supervisor		
Name of stand-by diver		···········
Name of buddy diver		***************************************
Place		•••••
Nature of dive	T 15	
Depth		
Diving equipment		
Breathing mixture		
그렇게 하고 있다는 하다구요		
Diver		Diving supervisor

ANNEXURE 2

[Regulations 3(7) of the Diving Regulations, 1992]

- Additional matters in respect of which a class I diver has to attain a satisfactory standard of competence are the following:
 - (a) The theory of mixed gases, saturation and bell diving.
 - (b) Gases and gas systems.
 - (c) Diving safely and competently to depths exceeding 50 m from a diving bell.
 - (d) Use of diver communication systems appropriate to mixed gas, saturation and bell diving.
 - (e) Diving bell operation, lock-out and re-entry procedures, transferring to surface compression chamber, recompression on mixed gas, decompression and decompression tables appropriate to mixed gas, saturation and bell diving.
 - (f) Emergency procedures for mixed gas, saturation and bell diving.
 - (g) First aid appropriate to emergencies arising in mixed gas, saturation and bell diving.
 - (h) Relevant legislation and guidance.
 - (i) Appropriate practical training for deep diving.
- Matters in respect of which a class II diver has to attain a satisfactory standard of competence are the following:
 - (a) The theory of air diving.
 - (b) Use of scuba and surface supplied diving equipment.
 - (c) Diving safely and competently in various conditions not exceeding 50 m in depth, including the safe use of hand tools, power tools and equipment.
 - (d) Use of diver communication systems appropriate to air diving.
 - (e) Emergency procedures of air diving.
 - (f) Surface compression chamber operations, therapeutic recompression, decompression and decompression tables appropriate to air diving.
 - (g) First aid appropriate to emergencies arising in air diving.
 - (h) Relevant legislation and guidance.
 - (i) Appropriate practical training for commercial diving.
- Matters in respect of which a class III diver has to attain a satisfactory standard of competence are the following:
 - (a) The theory of air diving.
 - (b) Use of surface supplied diving equipment.
 - (c) Use of scuba.
 - (d) Diving safely and competently in various conditions at depths not exceeding 30 m.
 - (e) Use of diver communication systems appropriate to air diving.
 - (f) Emergency procedures for air diving.
 - (g) Therapeutic recompression, decompression and decompression tables appropriate to air diving.
 - (h) First aid appropriate to emergencies arising in air diving.
 - (i) Relevant legislation and guidance.
 - (i) Appropriate practical training for scientific and limited scope diving.
- Matters in respect of which a class IV diver has to attain a satisfactory standard of competence
 are those matters specified for a class III diver, except the use of surface supplied diving
 equipment.

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1983 (ACT No. 6 OF 1983)

DIVING REGULATIONS, 1991

INCORPORATION OF SAFETY STANDARDS

Under section 36(1) the Machinery and Occupational Safety Act 1984 (Act No. 35 of 1984), I, Minister of Manpower Utilisation hereby incorporate the South African Bureau of Standards' Code of Practice for Portable Metal Containers of Compressed Gasses, SABS 019-1985, the "American Society of Mechanical Engineers' Safety Standard for Pressure Vessels for Human Occupancy, ANSI/ASME PVHO-1-1984", and the "Lloyd's Register of Shipping of Submersible and Diving Systems, Parts 1, 2 and 3 of January 1987", into the Diving Regulations, 1993.

Minister of Manpower

GOVERNMENT NOTICE No. 100 OF 1993

The following Government Notice is published for general information:

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984 (ACT No. 35 OF 1984): LEAD REGULATIONS

The Minister of Manpower Utilisation in terms of section 35 of Machinery and Occupational Safety Act, 1984, made the regulations set out in the Schedule.

Under the powers vested in him by section 36 (1) of the said Act, incorporated into the aforementioned regulations the safety standard contained in the SABS standard method for the determination of lead (Inorganic and Tetra-Alkyl) in workplace air by Atomic absorption and petro-hotometry SABS 1164 - 1989.

SCHEDULE

LEAD REGULATIONS

1. Definitions. - In these regulations "the Act" means the Machinery and Occupational Safety Act, 1984 (Act 35 of 1984) and any word or expression to which a meaning has been assigned in the Act has that meaning and unless the context indiates otherwise:

"Action level" means a time - weighed average concentration of a substance in the workplace air that is distinctly below the exposure limit for that substance and at or above which level certain prescribed preventive measures must be taken;

"Act level for lead" means an action level of 0,075 mg airborne lead (other than for tetraethly lead) per cubic metre of air and in the case of tetra-ethyl lead, means an action level of 0,05 mg airborne lead per cubic metre of air, measure in accordance with the safety standard incorporated into these regulations under section 36 of the act;

"Approved inspection authority" means an inspection authority approved by the chief inspector for -

- (a) the monitoring of lead concentration in air; or
- (b) the analysis of blood lead or urinary lead concentrations;

"building work" means building work as defined in regulation 1 of the General Administrative Regulations;

"designated occupational health officer" means a person who is a registered medical practitioner with a qualification in occupational health or a registered nurse with an approved additional qualification in occupational health recognised by the Nursing Council and who has been designated in writing by the employer for the biological monitoring and medical surveillance of employees exposed to lead:

"divisional inspector" means the divisional inspector as defined in regulation 1 of the General Administrative Regulations;

"E8hEV" of "equivalent eight hour exposure value" means the time-weighted average exposure of an employee in any 24 hours period to a substance or level of a physical agent for a period of eight hours and, if the period of exposure is more or less than eight hours, the exposure as calculated by multiplying the measured concentration by a factor equal to the period of exposure in hours divided by eight hours;

"exposure limit" means the prescribed maximum airborne time-weighted average concentration of a substance or level of a physical agent to which a person may be exposed without the likelihood of injurious effect and which is measured in accordance with a safety standard;

"exposure limit for lead other than that for tetra-ethly lead" means an exposure limit of 0,15 mg lead per cubic metre of air, measured in accordance with a safety standard;

"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 safety standard;

"General Administrative Regulations" means the general administrative regulations published under Government Notice 88 of 20 September 1985;

"intake" includes inhalation, ingestion or otherwise absorbed;

"lead" means lead, lead alloys and lead compounds which can be inhaled, ingested or otherwise absorbed by persons;

"lead area" means an area where the concentration of airborne lead is such that the exposure of employees working in that area is equal to or exceeds the action level for lead but is less than or equal to the exposure limit for lead;

"lead paint" means any paint, paste, spray, stopping, filling, or other material used in painting which, when treated in accordance with the safety standards, yield to an aqueous solution of hydrochloric acid a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five percent of the dry weight of the portion taken for analysis;

"medical surveillance" means regular examination by a designated occupational health officer which includes clinical examination and medical test;

"monitoring" means the planning, carrying out and recording of a measurement programme;

"respiratory protectice equipment" means a device which is worn over at least the mouth and nose to prevent the inhalation of air which is not safe and which is of a type, or conforms to a standard, approved by the chief inspector;

"respirator zone" means an area where the concentration of airborne lead exceeds the exposure limit for airborne lead;

"SABS 0400" means the South African Bureau of Standards Code of practice for the Application of the National Building Regulations;

"safety standard" means a safety standard which has been incorporated into these regulations in terms of section 36 of the Act;

"time-weighted average" means the average of representative measurements taken over a period of time.

2. Scope of application

- 2.1 Subject to the provisions of subregulations (2) and (3), these regulations shall apply to every employer 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 an employee.
- 2.2 These regulations shall not apply to an employer at a workplace where the exposure to lead:-
- (a) is lower than the action level except where there is a substantial risk that lead can be absorbed or ingested by an employee; and
- (b) is such that no substantial adverse change is likely to occur in the work practice that may lead to an increase in the exposure to lead.
- 2.3 Regulations 6(4) and 7 shall not apply to an employer in building work or in the application or removing of lead paint.
- 3. Exposure to airborne lead. Save in the circumstances contemplated in regulation 12(1) no employer shall require or permit any employee to work in an environment in which he would be exposed to a EShEV of lead in excess of the prescribed exposure limits.
- 4. Education and training. Every employer contemplated in regulation 2 shall ensure that every employee exposed to lead is adequately and comprehensively informed and trained at the commencement of his employment and periodically thereafter at such intervals as may be recommended by the safety committee and, where no safety committee has been established, by the safety representative, with regard to -
 - (a) the contents of these regulations;
 - (b) the potential sources of airborne lead at the workplace;
 - (c) the potential risks to health of exposure to lead;

- (d) the recognition of any symptoms of lead absorption:
- (e) the precautions to be taken by an employee to protect himself against the health risks associated with the exposure to lead, including the waring and use of protective clothing and respiratory protective equipment;
- (f) the correct use, maintenance and limitations of use of the safety equipment and facilities provided;
 - (g) the need for biological monitoring and medical surveillance; and
 - (h) the importance of good personal hygiene.
- 5. Duties of employee. Every employee who is exposed to lead shall abide by every instruction given by or on behalf of the employer regarding:-
 - (a) the prevention of lead being released into the environment;
- (b) the wearing and use of personal protective equipment and clothing as prescribed by these or any other regulations;
- (c) the wearing or personal samplers when necessary to measure personal exposure to airborne lead;
- (d) reporting during normal working hours for such medical examination or test as may be required in terms of regulation 8;
 - (e) the notification of pregnancy;
- (f) the disposal of waste material containing lead and the cleaning of any site at which lead or material containing lead has been used, handled or processed;
- (g) the adherence to instructions regarding environmental, housekeeping and personal hygiene practices.

6. Assessment of exposure to lead

- 6.1 Every employer contemplated in regulationi 2 shall cause an exposure assessment to be made at intervals not exceeding two years to determine if any employee is exposed to the intake of lead.
- 6.2 The employer shall inform the safety representative and safety committee in writing of the arrangements made for the assessment and ensure that the results of such assessment are made available to the safety representative and safety committee who shall be entitled to comment thereon.
- 6.3 The employer shall keep a record of the assessment and take into account such matters as:-
- (a) the methods and procedures used or to be used in the processing, use, handling or storage of lead;
- (b) the extent or potential extent of the exposure of an employee to the intake of lead; and
 - (c) the measures and procedures necessary to control such exposure.
- 6.4 If the assessment made in accordance with subregulation (3) indicates that an employee is likely to be exposed to the intake of lead, the employer shall ensure that the concentration of airborne lead at such workplace is measured by an approved inspection authority or by a person whose ability to do such measurements is verifiable by an approved inspection authority using static sampling in accordance with the safety standard and the employer shall also ensure that every area where:-
- (a) the concentration of airborne lead is equal to or exceeds the action level for lead but is less than or equal to the exposure limit for lead, is demarcated and identified by a notice as a lead area; or
- (b) the concentration of airborne lead is more than the exposure limit for lead, is demarcated and identified by a notice as a respirator zone.

6.5 Where a change is made in a process involving lead or in the methods and procedures in the use, handling or processing of lead, the employer shall forthwith cause a further assessment to be made and the provisions of subregulations (2), (3) and (4) shall then apply in respect thereof.

7. Air monitoring

- 7.1 Every employer shall ensure that the measurement of exposure to airborne lead of employees working in a lead area or respirator one is:-
 - (a) carried out in accordance with the provisions of these regulations;
- (b) carried out only after the appropriate safety representative or safety committee has been informed of, and has commented on, the arrangements;
- (c) carried out by an approval inspection authority or by a person whose ability to do such measurements is verifiable by an approved inspection authority;
 - (d) carried out in accordance with the safety standard;
- (e) representative of the exposure of employees to airborne lead in the workplace, in accordance with the provisions of subregulation (2); and
- (f) verified in accordance with the provisions of subregulation (3), where such measurements are carried out by a person who is not an approved inspection authority.
- 7.2 In order to comply with the provision of subregulation (1)(e) the employer shall institute a programme of measurement and keep a record of the exposure of his employees to airborne lead in accordance with the following procedure:
 - (a) (i) the total number of potentially exposed employees in a respirator zone shall be divided into groups who are doing identical or similar task in the same zone; and
 - (ii) the total number of potentially exposed employees in lead areas shall be divided into groups who are doing identical or similar tasks in the same area;
- (b) groups performing similar tasks in different buildings or rooms or during different shifts shall be dealt with separately;
- (c) group exposure shall be determined by personal sampling: Provided that static sampling procedures approved by an approved inspection aurhotity may be resorted to in case of a lead area;
- (d) the average exposure of at least 10 per cent of the employees per group shall be regarded as representative for that group;
- (e) the employees whose exposure is to be determined shall be selected at random; and
- (f) representative measurements shall be carried out at least once per month during each shift: Provided that the frequency of these measurements may be decreased where the average monthly measurement for a particular group over four consecutive months is less than or equal to 0.1 mg/m³, in which case such measurements may then be carried out in accordance with the static measurement procedure at least once every six months. Provided further that, whenever the average monthly measurement for a group exceeds 0, 1 mg/m³ or a substantial change in the operating procedure is effected at the workplace, monthly measurements for that group shall be resumed whereupon the provisions of this paragraph shall again apply.
- 7.3 In order to comply with the provisions of subregulation 91)(f) the employer shall obtain the services of an approved inspection authority who shall at intervals not exceeding 12 months:-
- (a) verify, by examining the measurement and analysis equipment of the employer and questioning the person referred to in subregulation (1)(c), whether the measurement programme of the employer complies with the provisions of this regulation;

- (b) carry out the measurements prescribed by subregulations (1) and (2) for any one shift;
- (c) enter the results of the investigation and measurements referred to in paragraphs (a) and (b) in the record required by regulation 9.
- 8. Biological monitoring and medical surveillance
- 8.1 An employer shall ensure that every employee is under the medical surveillance of a designated occupational health officer:-
 - (a) if the employee is employed in a respirator zone or lead area; or
- (b) if the designated occupational health officer certifies that the employee should be under medical surveillance.
- 8.2 To comply with the provisions of subregulation (1) the employer shall ensure:-
- (a) that an initial medical examination is carried out immediately before or within 14 days after a person commences employment, which examination shall comprise:-
 - (i) an evaluation of the employee's medical and occupational history;
 - (ii) clinical examination; and
 - (iii) measurement of the employee's blood lead and haemoglobin concentrations and other relevant biological tests at the discretion of the designated occupational health officer: Provided that the measurement of blood lead concentrations shall be repeated during the third and the sixth month after commencement of employment:
- (b) that after the expiry of the first six months of employment, biological monitoring is carried out periodically which shall consist of:-
 - (i) measurement of blood lead concentration for employees exposed to lead, other than tetra-alkyl lead, at intervals as prescribed in the table below: Provided that, in the case of females who are capable of procreation, all such measurements shall be carried out at three monthly intervals;

Monthly interval between blood lead measurements

Blood lead ug/100ml	
Under 40	12 months
40 - 59	6 months
60 - 79	o months
OO and such Add P. H. Add A.	3 months
80 and over At the discretion of the designated occupational h	ealth officer

(ii) immediate measurement of urinary lead concentration for employees exposed to tetra-alkyl lead and thereafter at intervals as prescribed in the table:

Maximum intervals between Urinary lead ug/L urinary lead measurements

Under 120	6 weeks
120 - 149	1 week
150 and over At the discretion of the designated occupational hea	th officer

- (c) that clinical examinations or other relevant biological tests are carried out at the discretion of the designated occupational health officer; and
 - (d) (i) that where the blood lead concentration of an employee is equal to or greater than 80 ug/100ml, the employer shall cause the test to be repeated and, if the result of the repeat test (corrected for the haematocrit value) is greater than 80 ug/100ml, the employee shall be certified as unfit for work in an area which exposes him to lead: Provided that the designated occupational health officer may, if he deems it necessary, certify an employee who has a bloodlead concentration of less than 80 ug/100ml as unfit for work in an area which exposes him to lead; and

- (ii) that where the urinary lead concentration of an employee is equal to or greater than 150 ug/1, the employee shall be certified as unfit for work in an area which exposes him to lead: Provided that the designated occupational health officer may, if he deems it necessary, certify an employee who has a urinary lead concentration of less than 150 ug/1 as unfit for work in an area which exposes him to lead.
- 8.3 The employer shall ensure that no employee who is certified by the designated occupational health officer as unfit for work in an area which exposes him to lead, returns to such work until:-
- (a) the designated occupational health officer certifies in writing that the employee is fit for such work; and
 - (b) the employee's blood lead concentration is less than 70 ug/100ml; or
 - (c) the employee's urinary lead concentration is less than 130 ug/1.

8.4 The employer shall:-

- (a) ensure that a woman, who is capable of procreation and who is employed on work which exposes her to lead, is suspended from such work when her blood lead concentration exceeds 40 ug/100ml or her urinary lead concentration 75 ug/1 or if she becomes pregnant; and
- (b) ensure that the employee contemplated in paragraph (a) is not permitted to return to work which will expose her to lead unless her blood lead concentration is less than 35 ug/100ml or her urinary lead concentration is less than 65 ug/1.
- 8.5 Where it is found that the blood lead concentration of any employee is equal to or greater than 80 ug/100ml or where the urinary lead concentration is equal to or greater than 150 ug/1, the employer shall investigate the incident in accordance with regulation 10 of the General Administrative Regulations.

9. Records.

- 9.1 Every employer shall:-
- (a) keep records of the results of assessments, air monitoring, biological monitoring and medical surveillance reports required by regulations 6, 7 and 8;
 - (b) make such records available for inspection by an inspector;
- (c) allow an employee or a registered medical practitioner, upon written request of the employee, to peruse the records relating to that particular employee; and
- (d) make the records of all assessments and air monitoring available for perusal by the safety representative of safety committee.
- 9.2 The employer shall preserve all records of assessments and air monitoring for a minimum period of 20 years after termination of the employment of the employees concerned.
- 10. Control of airborne lead. Every employer shall control the exposure of persons to lead in the working environment by applying the following measures where appropriate:
- (a) Lead and materials containing lead used at the workplace which are liable to release airborne lead shall be limited;
- (b) The number of employees who will be exposed to or will likely be exposed to airborne lead arising from the use, handling or processing of lead or materials containing lead shall be limited.
- (c) Engineering methods for the control of airborne lead emissions, which shall include the following:
 - (i) process separation, automation of enclosure;
 - local exhaust ventilation of process, equipment and tools for the prevention of airborne lead emissions;

- (iii) use of wet methods where appropriate; and
- (iv) separate workplaces for different processes.
- (d) Emissions to the atmosphere shall comply with the provisions of the Atmospheric Pollution Prevention Act, 1965 9Act 45 of 1965).
- (e) The employer shall establish appropriate work procedures, which employees must follow, where materials are used or processes are carried out which could give rise to airborne lead emissions in the working environment and such work procedures shall include written instructions for:-
 - the use and maintenance of process machinery, installations, equipment, tools and local extraction and ventilation systems;
 - (ii) the damping of lead, lead products and materials containing lead at workplaces before and during processing, handling, using, cleaning, stripping or removal;
 - (iii) the regular cleaning of machinery and work areas by vacuum cleaners wherever practicable or by a wet sweeper;
 - iv) the correct use of personal protective equipment; and
 - (v) a system whereby changes in work procedures or processes that may indicate the need for early corrective action can be readily indentified.
- 11. Cleanliness of premises and plant. Every employer shall as far as practical take steps to ensure:-
- (a) that all workplaces are kept in a clean state and free of lead waste and, when lead is accidentally spilled or airborne lead is accidently released into the workplace, corrective measures are taken immediately and before any work is continued:
- (b) that cleaning is carried out by vacuum-cleaning equipment with a filtration efficiency of at least 99 per cent for particles 1 micrometer in size or by some other means to ensure that lead dust neither escapes nor is released into the air in such a manner that it contaminates any workplace or the environment;
- (c) that the vacuum-cleaning equipment is regularly serviced and all its external surfaces are kept in a clean state and free from visible lead dust; and
- (d) that where the use of vacuum-cleaning equipment is impracticable, surfaces which are to be cleaned shall be dampened and that employees undertaking such cleaning shall wear appropriate protective clothing and respiratory protectice equipment.

12. Personal protective equipment.

- 12.1 Every employer shall, in circumstances where it is not reasonably practicable to ensure by engineering control that the exposure of an employee is below or equal to the exposure limit of lead, provide such employee with respiratory protective equipment which will reduce the concentration of lead inhaled by the employee to a level which is below the exposure limit of lead.
- 12.2 Every employee shall provide and maintain in good condition protective clothing for employes who are employed in a respirator zone or a lead area: Provided that, when working with tetra-alkyl leads, such employees are provided with impermeable protective clothing.
- 12.3 No employer shall require or permit any person to enter or remain in an area demaracated in accordance with subregulation 6(4) unless such person wears the prescribed protective clothing and, in the case of a respirator zone, also the respiratory protective equipment contemplated in subregulation (1).

12.4 Every employer shall:-

(a) take steps to ensure that personal protective equipment and clothing are properly maintained and used;

- (b) take steps to ensure that no respiratory protective equipment or protective clothing is re-issued for use by another person unless it has been thoroughly cleaned and serviced in accordance with the instructions of the manufacturer and, in the case of respiratory protective equipment, disinfected;
- (c) provide containers or storage facilities for protective equipment and protective clothing when not in use;
- (d) provide employees who work in lead areas or respirator zones with washing facilities which are designed in such a manner that the changing facilities are separated into a "clean changeroom" and a "dirty changeroom" by the washing facilities: Provided that the facilities are in accordance with the requirements of SABS 0400 as regards the size of the changerooms, the number of wash-basins and showers which need to be provided: Provided further that, for a period of 36 months from the date of commencement of these regulations existing factory premises shall be exempt from the requirements of this paragraph;
- (e) provide each such employee with adequate facilities for the safe-keeping of personal clothing in the "clean changeroom" and contaminated protective equipment in the "dirty changeroom"; and
- (f) take steps to ensure that all protective clothing in use is stored only in the place provided therefor.
- 12.5 Every employer shall make provision for the handling and laundering of protective clothing as follows:
- (a) Where such clothing is laundered on the premises, care shall be taken to prevent the emission of lead dust during handling, transport and laundering;
- (b) where such clothing is sent outside the premises to a laundry for cleaning purposes, the clothing shall be packed in dustproof containers and such containers shall be tightly enclosed and clearly identified as containing lead-contaminated clothing:
- (c) where a laundry is used, the employer shall ensure that the laundry contractor is fully informed of the requirements of these regulations and understands the precautions necessary for the handling of lead-contaminated clothing.
- 12.6 Every employer shall ensure that no person removes dirty or contaminated protective clothing or equipment from the premises except for the purpose of cleaning and subject to the provisions of paragraph (b) and (c) of subregulation (5).

13. Prohibitions

- 13.1 No person shall 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.
- 13.2 No person shall smoke, eat, drink or keep food or beverages in a lead area or respirator zone or require or permit any other person to smoke, eat, drink or keep food or beverages in such an area or zone.
- 13.3 Lead paint shall not -
 - (a) be used for the interior painting of building;
 - (b) be scraped or rubbed down from a surface by a dry process; or
 - (c) be removed by burning.
- 13.4 No person under the age of 18 years shall work or be required or permitted to work in a lead area or a respirator zone.
- 14. Processing of lead. Every employer, who processes lead or materials containing lead, shall ensure -
- (a) that, where work has to be carried out to any great extent on lead or materials containing lead, such work is done in an isolated part of the work place specifically set aside for such purpose and which has been zoned as prescribed by regulation 6(4); and
- (b) that such work is done only with tools specially designed to minimise the creation of airborne lead or with tools fitted with extraction and filtration equipment.

- 15. Packaging, transport and storage, Every employer shall, as far as is reasonably practicable, take steps to ensure -
- (a) that all lead materials in storage, in transit or distributed are properly contained and are controlled to prevent the spread of contamination by lead from the place where work is being carried out; and
- (b) that the containers or the vehicles in which such materials are transported are clearly marked to identify the contents as lead.

16. Disposal of lead waste. - Every employer shall -

- (a) as far as is possible, recyle all waste which contains lead, but not into non-lead production processes;
- (b) ensure that all collected lead dust, swart and other waste is placed into containers that will prevent the escape of lead dust during handling;
- (c) ensure that all lead sludge, not for recycling, is placed in properly sealed containers to prevent spillage;
- (d) ensure that all such waste is disposed of only on sites specifically designated for this purpose in terms of the Environment Conservation Act, 1982 (Act 100 of 1982) in such a manner that it does not cause a hazard inside or outside the premises;
- (e) ensure that all employees, occupied in the collection, transport and disposal of lead waste, who may be at risk of exposure to lead are provided with suitable protective clothing and respiratory protective equipment;
- (f) ensure that all vehicles, all containers which are re-usable and all covers which have been in contact with lead waste are cleaned in accordance with the provisions of regulation 11;
- (g) give written instructions and appropriate training to the drivers of vehicles carrying such waste on the action to be taken in the event of accidental spillage of lead waste; and
- (h) if the service of a waste disposal contractor are used, incorporate a provision into the contract that the contractor shall also comply with the provisions of these regulations.
- 17. Offences and penalties. Any person who contravenes of fails to comply with any provision of regulation 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 or 16 shall be guilty of an offence and liable on conviction to a fine not exceeding R1 000 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 additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.
 - 18. Short title. These regulations shall be called the Lead Regulations.

GOVERNMENT NOTICE NO. 101 OF 1993

The following Government Notice is published for general information:

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984 (ACT No. 35 OF 1984): VESSELS UNDER PRESSURE REGULATIONS

The Minister of Department of Manpower Utilisation in terms of Section 35 of the Machinery and Occupational Safety Act, 1984, made the regulations set out in the schedule.

SCHEDULE

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ANNEXURE 1

SCHEDULE

VESSELS UNDER PRESSURE REGULATIONS

1. Definitions. - In these regulations "the Act" means the Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984) and any expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context otherwise indicates -

"Boiler" includes any apparatus to convert continuously any liquid into steam, vapour or gas at a pressure higher than that due to the atmosphere and where the heat is derived from a source other than steam or the ambient temperature of the atmosphere, and includes any superheater or economizer which is an integral part of a boiler or is separately fired there from, but does not include such an apparatus, superheater or economizer in which the product of the design pressure is pascals and the volume in cubic metres is less than the figure 15 000;

"Design pressure" means the pressure used in the design formulae to determine the dimensions of the component parts of a vessel under pressure;

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

"Gauge pressure" means the pressure in excess of that due to the atmospheric pressure;

"High-risk substance" means a substance listed in the schedule to the General Administrative Regulations published under Government Notice No. R.2206 of 5 October 1984, as amended from time to time.

"Maximum permissible operating pressure" means the gauge pressure at which a vessel under pressure may be operated;

"Portable gas container" means a portable cylinder or other vessel of which the water capacity by volume is 0.5 litres or more, but does not exceed 1200 litres and which is intended for the storage and conveyance of compressed, liquified or dissolved gases;

"Pressure vessel" means any vessel of which the interior or jacket is under pressure or in which a cushion of gas or vapour can form above the liquid at a pressure in excess of that of the atmosphere, including a diving bell, but does not include:-

- (a) a boiler;
- (b) a vessel in which the pressure is exerted by a liquid below its boiling point at atmosphere pressure;
 - (c) the working cylinder or chambers of a steam heat or air engine:
- (d) a vessel under pressure which forms an integral operating part of a motor vehicle, as defined in the Road Traffic Act, 1977 (Act No. 10 of 1977).
 - (e) a portable gas container:
 - (f) a pressurised system:
- (g) a vessel of which the product of the design pressure in pascals and the capacity in cubic metres is less than the figure 15 000;
 - (h) a vessel of which the design pressure is less than 40 000 pascals gauge pressure;
 - (i) a vessel with a nominal internal diameter of less than 150mm

"Pressurised system" means an assembly of vessels under pressure and includes connections by pipes, or similar ducts, fittings and valves which operate under gauge pressure equal to or greater than 40 000 pascals for the process and conveyance of a flammable liquid, high-risk substance, steam, gas or vapour.

"Regional director" means the regional director as contemplated in regulation 1 of the General Administrative Regulations published under Government Notice No. R.2274 of 11 October 1985 as amended; and

"Vessel under pressure" means a vessel which operates under pressure and includes a boiler, pressure vessel, pressurised system or portable gas container.

- 2. Scope of application. These regulations shall not apply to a vessel under pressure in use prior to the coming into force of these regulations and manufactured in accordance with the provisions of any regulation in force at the time of manufacture: Provided that regulation 5(7) and regulation 11 to 15 shall also apply to a vessel under pressure which has been in use prior to the coming into force of these regulations.
- 3. Design, construction and manufacture. (1) No user shall use or require or permit the use of any boiler, pressure vessel, or portable gas container unless -
- (a) It has been designed and constructed in accordance with a safety standard incorporated into these regulations in terms of Section 35 of the Act;
- (b) It has been manufactured under the supervision of an approved inspection authority, and
- (c) He is in possession of a certificate of manufacture issued by the manufacturer in which it is certified that the boiler or pressure vessel has been designed, constructed and tested in every respect in accordance with the standard contemplated in subregulation (1)(a): Provided that such a certificate shall be countersigned by the approved inspection authority as evidence that the design of such a boiler or pressure vessel has been verified and that it has been constructed and tested under his supervision in accordance with the said standard.

- (2) The certificate required by subregulation (1)(c) in the case of a pressure vessel or portable gas container may be a certificate that refers to more than one pressure vessel or portable gas container, each having the same design pressure in pascals and the colume in cubic metres of that vessel does not exceed the figure 500 000.
- 4. Manufacturers data plate. (1) Every user of a boiler or pressure vessel shall cause a manufacturers plate with the following minimum particulars to be securely fixed in a conspicuous place to the shell of every such boiler or pressure vessel:
 - (a) Name of manufacturer
 - (b) country or origin
 - (c) year of manufacture
 - (d) manufacturer's serial number
 - (e) name, number and date of the standard of design
 - (f) design gauge pressure in pascals;
 - (g) maximum permissible operating pressure in pascals;
 - (h) operating temperature;
 - (i) capacity in cubic metres, and
 - (i) mark of an approved inspection authority
- (2) No person shall remove such manufacturer's plate or deface or alter the particulars stamped thereon, except as provided in regulation 14(3).
 - 5. Registration of a boiler. (1) No user shall commission or use a boiler unless -
- (a) he is in possession of a certificate of registration issued in terms of subregulation (3) for that boiler; and
 - (b) it complies with the provisions of these regulations.
- (2) Any user who wishes to commission or use a boiler shall apply to the regional director for registration of that boiler on a form similar to Annexure 1 prior to such commissioning or use: Provided that this regulation shall not apply in respect of the re-erection of a boiler on the same premises.
- (3) On receipt of an application contemplated in subregulation (2), the regional director shall forward such an application to an inspector who may, if he is satisfied that the boiler may be used safely and that the provisions of these regulations have been complied with, issue a certificate of registration in the form of Part C of Annexure 1 in respect of that boiler, subject to such conditions, as may be specified by him on the certificate.
- (4) A user of a boiler for which a certificate of registration has been issued in terms of subregulation (3), shall cause the certificate of registration or a copy thereof to be affixed in a glazed frame in a conspicuous place at or near the boiler for which it was issued.
- (5) IF A CERTIFICATE OF REGISTRATION IS LOST, DEFACED OR DESTROYED, the user shall within seven days after the discovery of such an occurrence apply to the regional director in the form similar to Part A of Annexure 1 for the issue of a duplicate certificate and shall affix R100 IN THE FORM OF UNCANCELLED REVENUE STAMPS to such an application. On receipt of such application the regional director shall submit the application to an inspector who shall issue the duplicate certificate if he is satisfied that the original certificate was lost, defaced or destroyed.
- (6) An inspector, if he so deems fit, may amend, suspend or cancel a certificate of registration issued in terms of subregulation (3) at any time.
 - (7) A user of a boiler shall forthwith notify the regional director in writing when -
 - (a) he permanently ceases to use the boiler;
- (b) the right of control over the use of the boiler is transferred to him to any other user, in which case he shall also furnish the regional director with the name and address of such other user; or

- (c) he moves the boiler 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) when it is cancelled by an inspector
 - (b) upon the transfer of the right of control over the use of the boiler to another user; or
 - (c) when a boiler is removed from the premises reflected on its certificate of registration
- 6. Appurtenances. (1) No user shall require or permit a vessel under pressure to be used unless it is provided with all the appurtenances as required by the standard used in the design, construction and manufacture of such a vessel under pressure: Provided that alternative appurtenances other than those required by the standard may be fitted with the written approval of the approved inspection authority.
- (2) In the absence of such a requirement in the standard used in the design, construction and manufacture of such a vessel under pressure, appurtenances shall be provided as required by the approved inspection, authority and those appurtenances shall be so selected, arranged and installed as to be safe for the particular purpose for which the vessel under pressure is to be used.
- (3) Every boiler and pressure vessel shall be provided with at least one reliable pressure gauge and the maximum safe working pressure shall be clearly marked with a red line on the dial of the pressure gauge.
- (4) Every boiler and pressure vessel shall be provided with at least one safety valve and such a safety valve shall be kept locked, sealed or otherwise rendered inaccessible to any unauthorised person.
- 7. Automatic controls and indicators. A user shall ensure that the automatic controls and indicators of a boiler, pressure vessel or pressurized system shall be arranged, installed, maintained and worked in accordance with the provisions of the safety standard used in the design and manufacture of the boiler, 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.
- 8. Access. The user shall cause every boiler, pressure vessel or pressurized system to be erected in such a manner that access into and exit from any chamber, flue, manhole, inspection opening, control or appurtenance is safe and unobstructed.
- 9. Door interlocks. (1) A user of a pressure vessel or pressurised system shall cause every such vessel or system which for operational purposes is equipped with a removable or hinged door to be provided with an interlock or other effective means for preventing -
- (a) a rise of pressure inside the pressure vessel or pressurised system before the removable or hinged door is in the fully closed and locked position; and
- (b) the release of the removable or hinged door from the locked and closed position before the pressure inside the pressure vessel or pressurised system has been reduced to atmospheric pressure.
- 10. Portable gas containers. No user shall use or require or permit a portable gas container to be used, and no user shall fill, place in service, handle, modify, repair, inspect or test any portable gas container, other than in compliance with standards incorporated into these regulations in terms of section 36 of the Act.
- 11. Periodic inspection and test. (1) A user of a boiler or pressure vessel shall cause, where reasonably practicable, such a boiler or pressure vessel to be subjected to an internal and external inspection, and a hydraulic pressure test to 1,25 times the maximum permissible safe operating pressure -
- (a) by an approved inspection authority before commissiong after installation, reerection or repairs;
- (b) by a person or a firm appointed in writing by the user and who is competent to do such inspections and tests by virtue of their training, knowledge and experience in the operation,

maintenance, inspection and testing of a boiler or pressure vessel within 36 months from the date of the previous internal and external inspection and hydraulic test: Provided that where a pressure vessel is not subjected to corrosion, the user may dispense with the internal inspection and hydraulic pressure test subject to the written approval of an approved inspection authority: Provided further that an inspector may require a specific boiler or pressure vessel to be inspected or tested more frequently or permit a specific boiler or pressure vessel to be inspected less frequently.

- (2) Where it is impracticable to use a liquid in a vessel under pressure for the hydraulic pressure test contemplated in subregulation (1), the test may, with the prior written approval of an inspector, be carried out with a non-flammable gas to a pressure of 1,1 times the maximum permissible operating pressure in which case the test must be preceded where reasonable practicable by an internal inspection and on such further conditions and precautionary measures as determined by the inspector.
- (3) If an inspection or test carried out in terms of subregulation (1) or (2) reveals any weakness or defect whereby the safety of persons may be endangered, the weakness or defect shall be reported immediately to the user by the person carrying out the inspection or test and the user shall forthwith cease the use of the boiler or pressure vessel until such weakness or defect has been rectified to the satisfaction of the approved inspection authority concerned or the person who carried out the inspection, as the case may be.
- 12. Record keeping. A user of a vessel under pressure shall keep on his premises a record which shall be open for inspection by an inspection by an inspector in which the results of inspections, tests, modifications and repairs shall be recorded, dated and signed by the competent person.
- 13. Maintenance. (1) A user of a vessel under pressure shall ensure that each vessel under pressure is at all times maintained in a safe working condition and that all automatic controls, indicators and appurtenances of a vessel under pressure are kept in good condition and that the efficiency of appurtenances are proved by regular testing.
- (2) No user shall use or cause or permit a vessel under pressure to be used unless it is kept clean and free from any -
- (a) carbonized oil or other inflammable material which may ignite under working conditions;
 - (b) material which may cause corrosion; or
- (c) material which is liable to chemical reaction which may cause an uncontrolled rise in pressure.
- 14. Modification and repair. (1) Any user who intends to modify or repair a boiler or pressure vessel shall ascertain beforehand the requirements of an approved inspection authority in respect of such a repair or modification.
- (2) Whenever it appears from an inspection or test that a boiler or pressure vessel cannot be used with safety at its maximum permissible operating pressure and the user declines to have the necessary renewals or repairs effected, an approved inspection authority may fix a new reduced maximum permissible operating pressure at which the boiler or pressure vessel may continue to be used.
- (3) The reduced maximum permissible operating pressure as calculated under subregulation (2) shall be marked by the user on the manufacturer's plate on which the approved inspection authority shall also place his mark and no user shall thereafter require or permit such a boiler or pressure vessel to be used at a pressure higher than such a reduced pressure.
- 15. Offences and penalties. Any person who contravenes or fails to comply with the provisions of regulations 3(1), 4.5(1), 5(2), 5(4), 5(7), 6, 7, 8, 9, 10, 11, 12, 13 or 14, shall be guilty of an offence and liable on conviction to a fine not exceeding R5 000 or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R100 for each day on which the offence continues: Provided that the period of such additional imprisonment shall not exceed 90 days.
- 16. Withdrawal of regulations and annexures. The following regulations and Annexures are hereby withdrawn: Regulations C.72, C.73, C.74, C.75, C.76, C.77, C.78, C.79, C.80, C.81, C.82, C.83, C.84, C.85, C.86, C.87, C.88, C.89, C.90, C.91, C.92, C.93, C.94, C.95, C.96, C.97, C.98, C.99, C.100, C.101, C.102, C.103, C.104, C.105, C.106, C.107, C.108, C.109, C.110, C.111 and C.112 and Annexure F14, F16, F17 and F18 of the regulations published by Government Notice No. R.929 of 28 June 1963.

Short title. - These regulations shall be called the Vessels Under Pressure Regulations,
 1992.

ANNEXURE 1

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984

(Regulation 5(2) of the Vessels Under Pressure Regulations)

REGISTRATION OF A BOILER

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Department of Manpower			***************************************	
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SCHEDULE

- South African Standard published by the South African Bureau of Standards (SABS), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- American Standards of United States of America published by the American Society of Mechanical Engineerings (ASME) and the American National Standard Institutes (ANSI) including the U.S. Department of Transport Regulations (DOT), for the design and construction or use of a boiler, pressure vessel, pressured system or portable gas container.
- 3. Australian Standards published by the Standards Association of Australia (SAA), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- 4. Canadian Standards published by the Canadian Standards Association (CSA) for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- Czechoslovakian Standards published by the Czechoslovakian Standards Association (CSA), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- Finnish Standard published by the Finnish Standards Association (SFS), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.

- French Standards published by the French Institute of Standard (FIS) for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- 8. German Standards published by the German Institute of Standards (DIN), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container, including TRD and AD Merkblatter Uberwachungs Vereine e.V.
- Italian Standards published by the Italian National Standard (UNI), for the design and construction or use of a boiler, pressure vessle, pressurised system or portable gas container.
- Japanese Standards published by the Japanese Industrial Standard (JIS), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- Netherlands Standards for the design and construction or use of a boiler, pressure vessel, pressurised system of portable gas container.
- 12. New Zealand Standards published by the Standards Association of New Zealand National (SANZ), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- Swedish Standards published by the Standardiseringskommissionen of Sweden (SIS), for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.
- 14. United Kingdom Standards published by the British Standard Institute (BSI) including Lloyds Rules and Regulations published by Lloyds Register for the design and construction or use of a boiler, pressure vessel, pressurised system or portable gas container.

GOVERNMENT NOTICE No. 102 OF 1993

The following Government Notice is published for general information:

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1984 (ACT No. 35 OF 1984): AMENDMENT DECREE, 1993

EXPLANATORY MEMORADUM

The object of this Decree is to bring the Machinery and Occupational Act, 1984 (Act No. 35 of 1984) into line with its South African Counterpart.

CLAUSE 1

innects a definition of the "Chief Executive Officer" which does not appear in the principal Act. The chief executive officer's responsibility is defined as being the Management and Control of the business of any Corporate body or enterprise.

CLAUSE 2

innects Section 10A which prescribes the duties and authority of the Chief Executive Officer which shall be to ensure the Compliance by the employers with the provisions of this Act. This officer may delegate any of his duties to a person who will perform such duty under his control and direction.

Subject to the provisions of Section 30 of the Act which creates the offences thereunder, the provisions of subsection (1) of this clause which make the Chief Executive Officer responsible for ensuring the compliance with the provisions of this Act by the employers shall not relieve an employer of his responsibility or liability under the Act.

CLAUSE 3

provides that the head of a Department of State is deemed to be the Chief Executive Officer of his department.

CLAUSE SUPPLIES THE START TITLE OF THE DECREE MACHINERY AND OCCUPATIONAL SAFETY AMENDMENT DECREE, 1993

DECREE

To amend the Machinery and Occupational Safety Act, 1984

Be it decreed by the Council of State of the Republic of Ciskei, as follows:-

1. Amendment of Section 1 of Act 35 of 1984. - Section 1 of the Machinery and Occupational Safety Act, 1984 (hereafter referred to as the principal Act) is hereby amended by the insertion in subsection (1) after the definition of "building" of the following definition:

"Chief Executive Officer", in relation to a body corporate or a government enterprise, means the person who is, or is deemed to be, responsible for the overall management and control of the business of such body corporate or enterprise."

2. Insertion of Section 10A in Act 35 of 1984. - The following Section is hereby inserted in the principal Act after Section 10:-

"10A. Duties and authority of Chief Executive Officer:-

- (1) The Chief Executive Officer shall ensure that the employer complies with the provisions of this Act.
- (2) The Chief Executive Officer may delegate any of his duties to a person under his control, which person shall perform any such duty subject to the control and directions of the Chief Executive Officer.
- (3) Subject to the provisions of Section 30, the provisions of subsection (1) shall not relieve an employer of any responsibility or liability under this Act.
- (4) For the purpose of subsection (1) the head of department or any department of state shall be deemed to be the Chief Executive Officer of his department."
- 3. Short title. This decree shall be called the Machinery and Occupational Safety Amendment Decree, 1993.

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GOVERNMENT NOTICE No. 98 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984)

GOVERNMENT NOTICE No. 99 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984): Diving Regulations

GOVERNMENT NOTICE No. 100 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984): Lead Regulations

GOVERNMENT NOTICE No. 101 OF 1993

Machinery and Occupational Safety Act, 1984
(Act No. 35 of 1984): Vessels Under Pressure
Regulations

GOVERNMENT NOTICE No. 102 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984): Amendment Decree, 1993

DEPARTMENT OF MANPOWER UTILISATION

GOVERNMENT NOTICE No. 98 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984)

GOVERNMENT NOTICE No. 99 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984): Diving Regulations

GOVERNMENT NOTICE No. 100 OF 1993

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GOVERNMENT NOTICE No. 101 OF 1993

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(Act No. 35 of 1984): Vessels Under Pressure
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GOVERNMENT NOTICE No. 102 OF 1993

Machinery and Occupational Safety Act, 1984 (Act No. 35 of 1984): Amendment Decree, 1993

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