

ATTACHMENTS

14. HEALTH AND SAFETY FILE COMPILATION AND CONTENT

**15. SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL
INSTALLATIONS**

16. GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS

17. IMPORTANT CONTACT DETAILS - HEALTH & SAFETY ONLY

"HEALTH AND SAFETY FILE"

FOR

PROJECTS AND MAINTENANCE
(BUILDING/ELECTRICAL/MECHANICAL)

MANAGED ON BEHALF OF

THE NATIONAL DEPARTMENT OF
PUBLIC WORKS

(THE "CLIENT")

**PROJECT: BLOEMFONTEIN SUPREME COURT OF APPEAL:
REPLACEMENT OF NON-FUNCTIONING AIR-CONDITIONING PLANTS
AND CHILLERS**

WCS NO:

This document serves as a guide to Principle Contractors and Contractors (and their agents) to assist them in complying with the requirements of the Act and more specifically the Construction Regulations and to ensure a most comprehensive Health and Safety File. Kindly note the following extractions from the Construction Regulations:

"Every contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of the Act and the Regulations, is opened and kept on site and made available to an inspector, client, client's agent or principle contractor upon request. [CR 5(7)]

A Principal Contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall, in addition to the documentation referred to in sub regulation (7) [above], include a record of all drawings, designs, materials used and other similar information concerning the completed structure. [CR 5(8)]

A Principal Contractor shall ensure that in addition to the documentation required in the health and safety file as determined in the two sub regulations above, a comprehensive and updated list of all the contractors on site accountable to the Principal Contractor, the agreements between the parties and the type of work being done are included and available. [CR 5(9)]”



The information, documentation and lists required to be included in the Health and Safety File as contemplated in the Construction Regulations [CR 5(7)], shall be suitably and sufficiently documented in terms of the following items listed below to ensure compliance with the Act as far as is reasonably practicable.

Note: In the event that any of the items listed below may not have reference to the planning, implementation and completion of the work to be done pertaining to the project on the construction site, it must clearly be indicated as such with a proper statement e.g. ‘Not Applicable’. All other relevant references or items below shall relate to the information required as contemplated in the Act and Regulations.

IMPORTANT - This Health and Safety File shall be regarded as the property of the Client as it has to be consolidated and handed over to the Client upon completion of the project. The Principal Contractor shall ensure that this file is adequately protected against any form of damage, abuse or fraud.

Registers as follows:

- * Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
- * H&S Representatives (‘SHE - Reps’) Inspection Register
- * Arc & Gas Welding & Flame Cutting Equipment Inspections
- * Inspection of Cranes
- * Inspection of Ladders
- * Inspection of Vessels under Pressure plus all other excluded under VUP regulations
- * Fire fighting equipment

The H&S Representatives (SHE-Reps) will be required to submit the abovementioned registers as well as other legally required registers, also from the list below, on a monthly basis to the chairman of the H&S committee for submission to, and endorsement by the H&S Committee. Also refer to the suggested Agenda for the H&S Committee under 12.8.3

Documents as follows:

Copy of OH&S Act (updated) (General Administrative Regulation 4.)
Proof of Registration and good standing with a COID Insurer (Construction Regulation 4(1)(g))
Appointments – in terms of the Construction Regulations * [See references Page 4]
Notification of Construction Work – Annexure 1 [CR 3]
H&S Specifications [CR 4]
H&S Plan – Principal Contractor, Contractor & Sub-contractors [CR 5(1) & (4)]
Proof of Periodic Audits [CR 4, 5 & 6]
List of all Contractors (accountable to Principal Contractor) on site [CR 5(9)]
Contractor Agreements [CR 5(9)]
Type of work done on site [CR 5(9)]
Records of drawings, designs, materials used and similar information concerning the completed structure [CR 5(8)]
Input by Construction Safety Officer [CR 6(7)]
Risk Assessment [CR 7(1)]
Copy of Risk Assessment [CR 7(2)]
Proof of H&S Induction Training [CR 7(4) & (7) & (9)(b)]
Proof of training on Hazards and Work Related Procedures [CR (7)(4)]
Fall Protection Plan [CR 8]
Designer notice to contractor of dangers and hazards relating to construction work [CR 9(2)(b)]
Drawings design of structure [CR 9(3)]
Records of Inspections of Structure [CR 9(4)]
Maintenance records – structure safety [CR 9(5)]
Record Excavation Inspection [CR 11(3)(h)]
Method Statement [CR 11(3)(k)]
Method Statement [CR 12(2)]
Method Statement [CR 12(11)]
Operational Compliance Plan [CR 15(2)(c)]
Certificates, design calculations, sketches and test results [CR 15(3)]
Examination results [CR 15(9)]

Suspended Platform Inspection and Performance Test records [CR 15(11)]
Medical Certificate of Fitness [CR 15(12)(b)]
Proof of Training [CR 15(12)(c)]
Material Hoist Inspections [CR17(8)(c)]
Maintenance Records Material hoist [CR17(8)(d)]
Record Batch Plant Maintenance & Repair [CR18(9)]
Register for control of cartridges/nails studs – explosive powered tools [CR19(2)(g)(ii)]
Medical Certificates of Fitness [CR 20(g)]
Medical Certificates of Fitness [CR 21(1)(d)(ii)]
Findings of daily inspections Construction Vehicles & Mobile Plant [CR21(1)(j)]
Record of Temporary Electrical Installation Inspections [CR22(d)]
Record of Electrical Machinery Inspections [CR22(d)]

Proof of Training [CR 27(i)]
Evacuation Plan [CR 27(l)]
H&S Rep & Committee Members details
H&S Committee Meetings' Minutes
Other appointments in terms of OHASA

The following further identified requirements in terms of the Act and other Regulations of the Act are similarly applicable as part of the contents of the 'Health and Safety File':

Details of Inspections (by DoL)
Recording and Investigation of Incidents – Annexure 1 [GAR 9(1-3)]
Action taken on all incidents [GAR 9(4)]
Certificates of Competency in First Aid [GSR 3(4)]
Record of Medical Surveillance required in terms of OHASA
Proof of compliance with Asbestos Regulation requirements
Proof of compliance with Major Hazard Installation requirements

****The Appointments to be made in writing with job descriptions as per the Construction Regulations may include some or all of the following:***

PRINCIPAL CONTRACTORS - [CR 4(1)(c)]

CONTRACTORS – [CR 5(3)(b) + (11)]

COMPETENT PERSONS - [CR 6(1) + (2)]
- [CR 6(6)]
- [CR 7(1) + (4)]
- [CR 8(1)(a)]
- [CR 10(a) + (e) + (f)]
- [CR 11(1) + (3)(b)(ii)(b) + (3)(k)]
- [CR 12(1) + (2) + (3) + (11)]
- [CR 14(2)]
- [CR 15(1) + (2)(c) + (8)(c) + (13)]
- [CR 17(8)(a)]
- [CR 18(1) + (7)]
- [CR 19(2)(b) + (2)(g)(i)]
- [CR 20(f)]
- [CR 21(1)(d)(i) + (1)(j)]
- [CR 22(d) + (e)]
- [CR 26(a)]

- [CR 27(h)]

CONSTRUCTION SAFETY OFFICER - [CR 6(6)]

DESIGNER - [CR 9(2)]

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IMPORTANT:

A copy of the following certification in terms of the **“SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS”** (Document attached) signed by the prospective tenderer / contractor is to be included in the Health and Safety File:

“ I hereby certify that I have taken cognisance of the content of the document titled ‘SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS’, and have included the relevant elements of the document applicable to the above project in my Health and Safety Plan and shall ensure adherence and compliance to the requirements thereof.”

NATIONAL DEPARTMENT OF PUBLIC
WORKS

SAFETY AND SWITCHING
PROCEDURES

FOR

ELECTRICAL INSTALLATIONS

JANUARY 2003

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1 REGULATIONS AND DEFINITION OF COMPETENT PERSON:

1.1 REGULATIONS:

All persons who carry out or arrange for work of any description for the Department in connection with electrical apparatus shall make themselves acquainted with the Occupational Health and Safety Act (Act 85 1993) with particular reference to the Electrical Machinery Regulations, Regulations 1 to 23 inclusive.

Access to the above Act and its Regulations can be arranged with the Regional Manager.

1.2 DEFINITION OF COMPETENT PERSON:

"competent person" in relation to machinery, means any person who—

- (a) has served an apprenticeship in an engineering trade which included the operation and maintenance of machinery, or has had at least five years' practical experience in the operation and maintenance of machinery, and who during or subsequent to such apprenticeship or period of practical experience, as the case may be, has had not less than one year's experience in the operation and maintenance appropriate to the class of machinery he is required to supervise;
- (b) has obtained an engineering diploma in either the mechanical or electrotechnical (heavy current) fields with an academic qualification of at least T3 or N5, or of an equivalent level, and who subsequent to achieving such qualification has had not less than two years' practical experience in the operation and maintenance appropriate to the class of machinery he is required to supervise;
- (c) is a graduate engineer and has had not less than two years' post-graduate practical experience in the operation and maintenance appropriate to the class of machinery he is required to supervise and who has passed the examination on the Act and the regulations made there-under, held by the Commission of Examiners in terms of regulations E5 (2) of the regulations published under Government Notice R.929 of 28 June 1963; or
- (d) is a certificated engineer;

2 SAFETY EQUIPMENT

The following equipment required for working on electrical installations and distribution systems, must be maintained in good order and repair and must be made available:-

Safety belt, overalls, hard hat, safety shoes or boots, rubber gloves, "Men Working" notice boards, locks for locking off switches, buss bar shutters in truck-type switchgear, isolators or earthing links, rubber sheet and length of rope with short circuiting earthing-chains, earthing sticks and testing/phasing sticks rated for the voltage of the equipment to be tested.

Under no circumstances shall work be carried out on electrical apparatus unless the proper safety equipment is used

With regard to overhead linesmen, no work shall be carried out unless use is made of a non-metallic ladder and the appropriate safety belt, rubber gloves, overalls, hardhat and safety shoes or boots are worn. The buddy system must also be implemented.

3 DEFINITION OF OPERATING TERMS

3.1 Alive or live

This means electrically connected to the power system and/or electrically charged.

Consider an isolated overhead line that is not earthed. An overhead line can be electrically connected to the system in the following ways:

- (a) By means of a metallic conductor such as links and breakers or switches. This is the normal way of transmitting electrical energy.
- (b) Electromagnetic induction or transformer action from a nearby current carrying line will induce a dangerous voltage in the isolated lines and are a hazard to all personnel that must work on or with the line.
- (c) Electrostatic induction or condenser action from a nearby live line will induce a dangerous voltage in any isolated, but not earthed, overhead line. Electrically charged means at a potential difference or voltage above zero

3.2 Dead

This means that any apparatus so described is isolated from the power system. Rotating plant shall not be regarded as dead until it is stationary or is being slowly rotated by means of barring gear and is not excited.

The Occupational Health and Safety Act defines dead as: "dead" means at or about zero potential and isolated from any live system. Disconnected has the same meaning as isolated. An overhead line disconnected from all sources of supply but not earthed, cannot be regarded as dead because:

- (a) It can retain a static charge.
- (b) It can acquire a static charge due to atmospheric conditions.
- (c) It can accidentally be made alive.
- (d) Nearby lines continually induce voltage in them.

The regulations recognise only the following devices as disconnects or isolators:-

- (a) Links.
- (b) Fuses.
- (c) Truck type switchgear.

3.3 Earthing

This means the connecting of apparatus electrically to the general mass of earth in such a manner as will ensure at all times an immediate safe discharge of electrical energy. This is done through an earth bar or spike by means of a good metallic conductor.

To fully appreciate this definition we must refer to the Electrical Machinery Regulations, Regulation 3 of the Occupational Health and Safety Act which states:

"Work on Disconnected Electrical Machinery. —Without derogating from any specific duty imposed on employers or users of machinery by the Act, the employer or user shall, whenever work is to be carried out on any electrical machinery which has been disconnected from all sources of electrical energy but which is liable to acquire or to retain an electrical charge, as far as is practicable, cause precautions to be taken by earthing or other means to discharge the electrical energy to earth from such electrical machinery or any adjacent electrical machinery if there is danger if there is danger therefrom before it is handled and to prevent any electrical machinery from being charged or made live while persons are working thereon."

Electrical apparatus and in particular overhead lines may become charged due to:-

- (a) Direct lightning strokes.
- (b) Electro magnetically induced currents due to a lightning stroke in the immediate vicinity of the line.

- (c) Electro statically induced charges on the lines due to the presence of thunderclouds.
- (d) Electrostatic charges imparted to the line by the friction of dust or snow blowing past the conductors.
- (e) Electrostatic charges imparted to the line due to changes in line altitude"

These changes are responsible for tremendously high voltages between overhead lines and earth, in fact, sometimes high enough to cause a flash over on insulators. A spark may span several centimetres of air to a person's hand should he approach too closely to an isolated unearthed overhead line.

An overhead line or apparatus can be made alive by:

- (a) Unauthorised operating, i.e., closing the wrong links and breaker.
- (b) Faulty wiring on consumer's stand-by sets. (Back feed from consumer)
- (c) A broken overhead conductor from a different line falling onto the isolated line.
- (d) Synchronising plugs.

From the foregoing paragraphs it is clear that the purpose of earthing isolated lines and apparatus are:

- (a) To discharge them should there be a residual voltage or charge.
- (b) To prevent them acquiring a static charge.
- (c) To prevent danger to persons working on apparatus in the event of someone accidentally making it alive.
- (d) To dissipate induced voltages continuously and safely.

Earthing gear means the fixed or portable appliances used for earthing electrical apparatus. The dangers from inadequate or improper earth connections are:

- (a) Electrocution.
- (b) Burns from arcing.
- (c) Electric shock leading to falls.

Earthing may be done by the closing of earthing links, or by the attaching of fixed earthing devices or by the affixing of portable earthing straps. In each case the main idea is to ensure the safety of personnel.

In affixing portable earth straps, the connection to the earthbar or earthed metal or spike must be made first and in removing such earthing straps, the disconnecting from the earthbar or earthed metal or spike must be done last. Also, a link stick or an insulated stick should be used to connect the earth wires to the overhead lines or apparatus.

These requirements are most important because connecting the portable strap first to earth and then to the conductors by means of a link stick avoids the risk of a shock to the operator from static charges or induced voltages.

REMEMBER: Always safety test before applying earths.

3.4 Isolate

This means to disconnect from all Sources of electrical potential by means of opening of links or fuses or the withdrawal of truck-type circuit-breakers.

All sources of electrical potential mean all points or circuits from where the apparatus can be made alive. Links, fuses and truck-type switchgear can be regarded as isolators because:

- (a) They leave a visible air gap in a circuit when open, removed or withdrawn.
- (b) They contain no stored energy and will not close due to defects.
- (c) They can be locked in a physical condition and thus can only be operated by the person with the correct key.

Opening links and locking them in the open position; removing fuses and locking them away; withdrawing truck-type switchgear and locking the buss bar shutters are the only safe methods of isolating.

3.5 Circuit Breaker

This is a device designed to make or break electric current under normal and fault conditions. A breaker can make or break an electric current because it is designed to extinguish the arc very rapidly and effectively. It is also designed to withstand the tremendous forces under short circuit conditions. The arc-extinguishing medium for high-voltage breakers is normally air, oil or vacuum and should this medium be lost, the breaker becomes a link. Never use a breaker without an arc-extinguishing medium to interrupt current flow because the breaker will probably explode or it will sustain severe damage.

A fault condition is any condition that will cause an excessive amount of current flow. The normal fault conditions are:

- (a) Phase faults.
- (b) Earth faults.
- (c) Open circuit in one line of a three-phase system (Single-phasing).
- (d) Too low a voltage. (Motors will draw a large current or even stall).
- (e) Too high a voltage.
- (f) Overloading.

For the following reasons breakers cannot be regarded as isolators:

- (a) They leave no visible gap in a circuit.
- (b) They contain stored energy and can close on their own due to various defects.
- (c) It is normally not possible to lock them in an open position.
- (d) Oil circuit-breakers are subjected to carbon tracking which could cause a flash-over between contacts.

3.6 Link

This is a device for making or breaking a circuit when no load current is flowing.

Links differ from breakers and switches in the following respects:

- (a) They are not equipped with an arc extinguishing medium/device.
- (b) Their movement is very slow.

Should current be interrupted by means of links, an uncontrollable arc will be struck at the points where the contacts part.

The temperature of the arc is so high (+ 2 000°C) that it will simply melt the parting contacts. As the contacts move further apart, the arc will lengthen and burn everything away. Molten metal could splash onto the operator and cause severe injuries.

As the arc lengthens, considerable noise is generated and the light intensity is so severe that the operator could suffer from "welding flash" of the eyes.

When apparatus equipped with earthing links is required to be earthed at more than one place, the earthing links shall always be closed first and thereafter, any necessary portable earthing gear may be affixed to the apparatus.

In removing the earths in readiness for making the apparatus alive, all portable earthing gear shall first be removed and earthing links shall be opened last.

Closing the earthing links first ensures maximum safety to the operator. These links are easily operated, make good contact and the operating handles are at a safe distance from the contact points.

Locks and keys shall also be provided for links. The operating mechanism of all manually operated links shall be fitted with fastenings for locks. The operating mechanisms of each set of manually operated links shall normally be locked whether the links are in the open or in the closed position.

The locking of links provides a safeguard against their being opened or closed in error by other persons apart from the one with the correct key and a written instruction to operate.

3.7 Operating methods

This means switching, linking, safety testing and earthing. This definition also indicates the order of operating when making apparatus safe to work on.

- (a) Switching -
 - (i) Open breaker or switch to interrupt current flow safely, i.e. prevent arcs.
 - (ii) Close breaker or switch to start current flow - the only safe way.
- (b) Linking - open at least one set of links from where the apparatus can be made alive and lock the links in the open position. Always ensure that you are not going to start or interrupt current flow with the links by ensuring that the breaker or switch is open.
- (c) Safety test - test all three phases to ensure that the apparatus is disconnected from all sources of supply and that there is no back-feed from a consumer's standby set or other source.
- (d) Apply earths - ensure safety of the workers by:-
 - (i) Discharging the line or apparatus.
 - (ii) Preventing the line from acquiring a static charge.
 - (iii) Preventing the line or apparatus from being accidentally made alive.

Before applying portable earths, ensure that they are mechanically and electrically in good condition. There should be no broken strands, the clamps should be rigid and without defect and when applied properly, should make intimate contact with the conductors and earthbar or spike. The earthing cable tails should be as short as possible. The current carrying capacity of the portable earth is greatly reduced by broken strands. It will act as a fuse and increase the danger to workmen.

4 GENERAL SAFETY PRECAUTIONS

No person shall carry out work of any description (including maintenance, repairs, cleaning and testing) on any part of electrical apparatus unless such parts of the apparatus are:

- (a) dead;
- (b) disconnected, isolated and all practicable steps taken to lock off from live conductors;
- (c) efficiently connected to earth with the appropriate earthing sticks or gear designed for this purpose at all points of disconnection of supply;
- (d) screened where necessary to prevent danger, and caution and danger notices fixed;

and unless such person is fully conversant with the nature and extent of the work to be done.

It is the duty of the competent person in charge of the work to ensure that the foregoing provisions are complied with. He shall also ensure that when the work has been completed, the apparatus is safe to be made alive and that all earths and temporary danger notices have been removed.

Provided that cleaning and painting of earthed metal enclosures, connections or disconnections of circuits to or from live systems may be carried out in accordance with instructions issued by the competent person concerned.

Provided also that where the design of the apparatus precludes the strict compliance with all details of these precautions, the work shall be carried out to the instructions of the senior competent person present.

When any person receives instructions: regarding work on or the operation of high voltage apparatus he shall report any objection to the carrying out of such instructions to the competent person who shall have the matter investigated and, if necessary, referred to higher authority.

5 ACCESS TO HIGH VOLTAGE ENCLOSURES AND APPARATUS

Enclosures, chambers, cubicles or cells containing high voltage conductors shall be kept locked and shall not be opened except by a competent person.

6 SWITCHING:

- (a) No switching shall be carried out without the sanction of the appropriate competent person except for agreed routine switching or in cases of emergency.

All telephone instructions/messages relating to the switching operation shall be written down and be repeated in full to the sender to ensure that the message has been accurately received.

- (b) When a switch shows any sign of distress after operating, its condition shall be immediately reported to the appropriate competent person, and it shall be examined before further operation.

- (c) The examination of and necessary adjustments including inspection and/or changing of oil of any high voltage oil immersed circuit-breaker which has operated under fault conditions shall be carried out if possible before the circuit-breaker is re-closed, or at the earliest available opportunity thereafter.

7 WORK IN SUBSTATIONS AND SWITCHING STATIONS CONTAINING EXPOSED LIVE CONDUCTORS.

7.1 Safety Clearances to Live Conductors:

Unless the whole equipment is "dead", the section which is made dead for work to be carried out shall be defined by the use of barriers or roping such that the minimum clearance from the nearest exposed conductor to ground level or platform or access way shall be:-

Rated Voltage	Clearance
Up to 11 kV	3.0 m.
From 11kV to 33kV	3.4 m

The area at ground level shall be only that in which the work is to be carried out.

7.2 Insufficient Clearances

If the above clearances are not sufficient to avoid danger, other suitable arrangements shall be made to provide the requisite degree of safety.

7.3 Ladders and Other Long Objects

Ladders and other long objects shall not be used without the permission of the senior authorised person in charge of the work and the movement and erection of such ladders shall be under his/her direct supervision at all times.

8 WORK ON METAL CLAD SWITCHGEAR SPOUTS:

- (i) The section of bus bars on which work is to be carried out shall be made dead and isolated from all points of supply.
- (ii) The shutters of live spouts shall be locked closed.
- (iii) The busbars shall be earthed with approved earthing equipment if possible, at a panel other than that at which work is to be carried out. Temporary earths shall in any case be applied to all phases on the busbar at the point of work. These earths may then be removed one phase at a time for work to be carried out. Each phase earth shall be replaced before a second phase earth is removed.

For the earthing of metal clad switchgear, approved appliances only shall be used. The insertion of the hand or any other tool in contact spouts for this purpose is forbidden.

9 WORK ON TRANSFORMERS:

When work is carried out on transformers, both the primary and secondary switches and isolators shall be opened. The transformer shall also be isolated from all common neutral earthing equipment from which it may become live. This does not require the disconnection of solidly earthed neutrals.

10 WORK ON CABLES, CONDUCTORS AND OVERHEAD LINES:

10.1 Cables and Conductors

- (a) No person shall touch the insulation, which covers or supports any high voltage conductor unless the conductor is dead and earthed.
- (b) Before carrying out work involving cutting into a high voltage cable, the responsible person shall satisfy himself that the cable has been made dead, isolated and earthed where practicable and identified. In all cases of doubt, the cable shall be spiked in an approved manner.

10.2 Overhead Lines

- (a) All persons while at work on towers, poles and high structures or when working on live lines shall make proper use of their safety belts and safety equipment, and no man shall work alone at any tower or high structure, or on live equipment.
- (b) The senior authorised person in charge of the work shall satisfy himself that the line conductors are short circuited and earthed before work is commenced. When work has been completed, the responsible person shall ensure that all temporary earths have been removed and that the line is safe to be made alive.
- (c) When work is carried out on a high voltage line, earths shall be placed at the point or points where the work is being done in addition to the earths provided at the points of disconnection.
- (d) In the event of the near approach of a lightning storm, all work on overhead lines shall cease immediately and the authorised person in general charge of the work shall be informed.
- (e) For the safety of the public, strain insulators shall be placed in all stays on overhead lines.

APPENDIX 1

EMERGENCY FIRST AID, RESCUE AND RESUSCITATION IN THE CASE OF ELECTRIC SHOCK

1. FIRST AID:

1.1 Burns:

Treat with Vaseline to exclude air.

1.2 Shock:

In addition to suffering from electric shock, it is also probable that the patient will be suffering from physical shock and important that this condition be treated.

The patient must be kept warm with blankets and/or coats, and if available, hot water bottles should be applied to the feet.

1.3 Drinks:

Drinks must on no account be administered unless the patient is fully conscious.

Alcoholic drinks should not be administered unless recommended by a doctor.

2. RESCUE

The procedure to rescue persons from contact with a live conductor cannot definitely be laid down for all cases. However, certain principles and methods are outlined which all persons working on electrical apparatus or assisting in such work should know.

3. RELEASES FROM CONTACT WITH LIVE CONDUCTORS

3.1 Low voltage

- (a) Observe quickly the general circumstances of the case, whether special difficulties are involved and if special precautions are necessary. Every second is precious and delay may be fatal; be prepared, therefore, to act promptly. Speed of action must be accompanied with due care.
- (b) Take precautions against receiving a shock your self. Remember that the patient, until released, is electrified at the same voltage of the live conductor.
- (c) In cases where the contact has been made on a live conductor with adjacent switch control, the switch should be opened immediately and then the patient pulled clear. If in doubt about which switch to open, all switches should be opened; but assume all conductors are still alive unless some method is available to determine that the conductors are dead.
- (d) When conductors cannot be de-energised immediately by adjacent switch control, the procedure will depend on the voltage of the live conductor.

In all cases it is necessary for the rescuer to be adequately insulated against shock from a conductor to earth and against shock from a conductor to conductor, or by touching the patient.

For low and medium voltage (up to 650 V) rubber gloves, rubber sheeting or dry cloth, including loose portions of the patients clothing, provide adequate insulation for the rescuer's hands. The use of such insulating guards should always be aimed for; but a dry pole with no associated earthed metal on it provides adequate insulation for the rescuer against shock from a conductor (or patient's body to earth).

- (e) Cutting away a conductor (carrying up to 650 V only) may provide a quick and easy method of release in some cases. It is useful especially when delay might otherwise occur in releasing the patient. This method requires that the rescuer has sound knowledge of what he/she is doing.
- (f) Prevention of patient falling from aloft; when a patient is being rescued above ground level, care must be taken to ensure that he does not fall from a dangerous height when pulled clear or when conductors are de-energised.
- (g) Be prepared to use considerable force when releasing a patient who is holding a live conductor. Punch the wrist heavily on the inner side or strike the back of the hand. It may be easier in some cases to use one's foot to force the patient's hand clear.

3.2 High voltage

For high voltage it is necessary to put an extra long, say 2 m or more, dry insulating material, such as wood or rope, between the rescuer's hands and the patient to enable the patient to be pushed or pulled clear of the conductor, or enable the conductor to be cleared from the patient.

4. **RESUSCITATION AFTER CONTACT WITH LIVE CONDUCTORS**

Immediately after rescue, a rapid but careful examination of the patient must be made to determine the extent of treatment necessary.

Electric shock may cause breathing to stop because of a sudden paralysis of the respiratory centre and it may also cause a failure of the circulation because the shock has affected the heart.

The method of resuscitation will therefore depend on the patient's condition.

4.1 Patient breathing

If the patient is breathing and his heart is beating then in a large majority of cases recovery will be rapid.

Do not apply artificial respiration if the patient is breathing. Let the patient have plenty of fresh air. If the patient is in a collapsed condition, lay him on his back in as comfortable a position as practicable with his head tilted slightly back. This will keep his airway open and assist breathing. A pad, if available, placed under the patient's shoulders will assist in keeping his head back. Loosen any tight clothing.

4.2 Patient not breathing

If breathing has stopped or is very weak or appears to be failing, commence artificial respiration without delay.

4.3 Circulation

In cases of electric shock, failure of the heart should be suspected if the patient does not quickly show some response to artificial respiration. Circulation should be assessed within fifteen seconds after the commencement of artificial respiration.

Feel for a pulse in one of the carotid arteries in the patient's neck. This is done with the pads of the fingers at the level of and at either side of the Adam's apple. Do not feel both carotid arteries at the same time, as this would stop the flow of blood to the brain. If the heart is beating, a pulse will be felt.

If no pulse is felt, lift the patient's eyelids. If the heart is not beating the pupils of the eyes will be large and will not become smaller when exposed to light by the lifting of the eyelids. If the heart is beating the pupils will become smaller when exposed to the light.

The absence of a pulse in the carotid artery and the enlarged pupil of the eye, which does not become smaller when exposed to light, indicate that the heart has stopped beating.

- (a) Patient's heart beating. Do not apply external cardiac (heart) massage when a pulse can be felt.
- (b) Patient's heart not beating. If the heart has stopped beating commence external cardiac (heart) massage without delay.

4.4 General

Immediately resuscitation is commenced, send for medical assistance and an ambulance and notify the hospital if applicable.

If the patient is not breathing and his heart has stopped beating, artificial respiration by the expired air method should be carried out in conjunction with external cardiac (heart) massage.

Every second you wait can cause severe brain damage through lack of blood and oxygen.

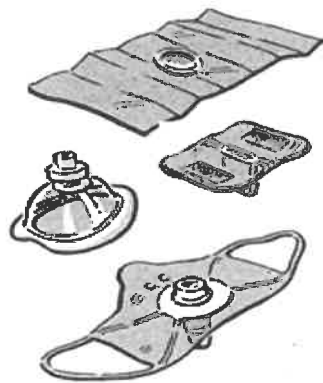
Artificial respiration and external cardiac (heart) massage must be commenced without delay and should be continued until breathing is restored and the heart starts beating or until a doctor advises that further efforts will be of no avail.

Care should be taken to avoid, as far as possible, aggravating any injuries the patient may have sustained.

4.5 Artificial respiration

If available in order to reduce the risk of infection it is recommended that a facemask or shield be used for both mouth to mouth or mouth to nose artificial respiration. However, time should not be lost in getting a face mask/shield.

Examples of Masks



Alternatively a clean cotton handkerchief can be used to cover the mouth.

It is not necessary to be highly trained in resuscitation methods to carry out artificial respiration effectively.

Simply stated, artificial respiration is a means of supplying oxygen to the patient's lungs, and thus, through the blood, to his brain to keep him alive while his own breathing is suspended.

The expired air method of artificial respiration is recommended as the best universally applicable field type of artificial respiration.

For artificial respiration the patient's head must be kept well back to ensure a free passage to the lungs. Exact rhythm and timing in carrying out artificial respiration are unimportant. The only purpose of artificial respiration is to get oxygen into the patient's lungs.

Artificial respiration must be continued until breathing is restored or until a doctor advises that further efforts will be of no avail.

4.5.1 Expired air artificial respiration

In the expired air method of artificial respiration the rescuer breathes his own exhaled breathe into the patient's lungs.

The normal air we breathe in contains 20 per cent oxygen. The air we exhale contains about 16 per cent oxygen and this is ample to keep the oxygen content in the patient's blood normal if it is breathed into him at about the rate of normal breathing.

Therefore, quickly ensure that the patient's throat is free from foreign matter. Next place him on his back and tilt the head well back (Fig.A1.1) this ensures an open passageway to the lungs. Placing a pad under the patient's shoulders will make the tilting of the head easier. However, time should not be lost in getting a pad.

The rescuer may then breathe into the patient's mouth or nose.

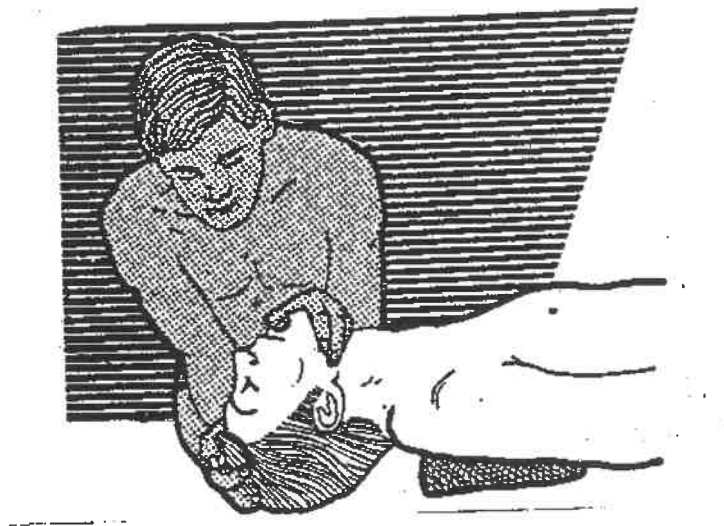


Figure A1.1

Lift the neck and tilt the head back. Hold the head tilted so that the skin over the throat is stretched tight. With one hand push the crown of the head down, remove the other from below the neck and use it to pull up the chin. This prevents the tongue from causing an obstruction.

4.5.2 Mouth-to-mouth method

The patient's head is tilted well back as in Figure A1.1 his mouth is opened and the rescuer opens his mouth wide and makes an air-tight seal around the patient's mouth as shown in Figure A.1.2. The rescuer's cheeks will normally seal the patient's nostrils, but if necessary the nostrils must be pinched closed with the fingers. The rescuer then breathes into the patient. The resistance to the rescuer's breath is about the same as that experienced when blowing up a balloon. The chest should be seen to rise.



Figure A1.2

Seal your lips widely around the victim's mouth. Fold his lower lip down to keep his mouth open during inflation and exhalation. To prevent leakage, press your cheek against his nostrils during inflation. Blow air into the victim until you see the chest rise. Then remove your mouth to let him breathe out. Take your next breath as you listen to the sound of his breath escaping. Re-inflate his lungs as soon as he has exhaled.

Having breathed into the patient's lungs, the rescuer removes his mouth and, turning his face to one side to avoid the patient's exhaled breath, takes another deep breath and again breathe into the patient's lungs. This is kept up at a steady rate of from ten to fifteen times per minute.

One rescuer can take over from another. Remember rhythm and timing are not important but the patient must under no circumstances be left without air for longer than a minute.

4.5.3 Mouth-to-nose method:

The patient's head is tilted well back as in Figure A1.1. The rescuer opens his mouth and places it right over the patient's nose making an airtight contact (Figure A1.3) The lips do not contact the nostrils as this would tend to close them. The patient's mouth is held closed and the rescuer breathes into his patient as in the mouth-to-mouth method.

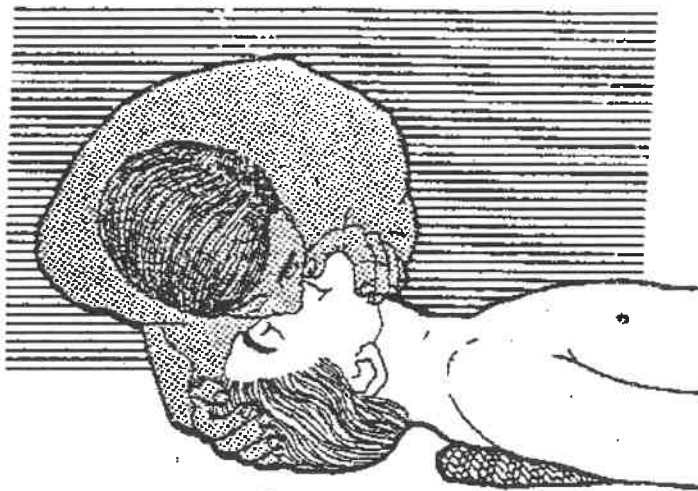


Figure A1.3 ~ Mouth-to-nose method

4.5.4 Filling the lungs:

The rescuer blows steadily and firmly, not with a jerk, and the patient's chest should be seen to rise. If air does not appear to be entering the lungs, quickly look for any blockage in the air passage, check the head again, making sure the jaw is well forward and the head tilted well back, and commence blowing again.

About ten good quick breaths should first be breathed into the patient as soon as he is reached. This will oxygenate his blood and give the rescuer a minute or so to get his patient into a more convenient location for continuing artificial respiration, for example, to lower a linesman from a pole.

5. EXTERNAL CARDIAC (HEART) MASSAGE

The lives of people whose hearts have ceased to function can often be saved by the prompt application of a form of resuscitation known as external cardiac (heart) massage (for example, massage of the heart without opening the chest). This massage may be performed by anyone.

The heart is in the centre of the chest between the breast-bone and the spine and if pressure is applied to the lower half of the breast-bone, the heart is compressed and the blood is squeezed out of it into the arteries. When the pressure is released the breast-bone springs back into place, the heart, like a rubber ball, resumes its shape and in so doing allows blood from the veins to enter. Valves in the heart prevent blood flowing back into the heart from the arteries.

In this way a heart which has either stopped beating altogether or which has gone into ventricular fibrillation (a state of ineffective quivering often caused by electric shock) can be made to circulate the blood.

This compressing and releasing of pressure on the heart carried out rhythmically at a rate of approximately 60 compressions per minute is called external cardiac (heart) massage. It can keep a person alive if breathing is maintained, until his heart resumes its proper beating. A heart in ventricular fibrillation will require hospital treatment to restore normal heartbeat, but the heart can be made to circulate blood by external cardiac (heart) massage until the necessary medical aid is obtained.

It is desirable that adequate training in external cardiac (heart) massage be given to develop the technique. This can best be achieved with a training aid.

5.1 Technique:

Lay the patient on his back on a firm surface.

Feel for the notch at the top of the breast-bone (sternum) with one hand and for the lower end with the other. It is on the lower half of this bone that the pressure has to be made (see Figure A1 4)

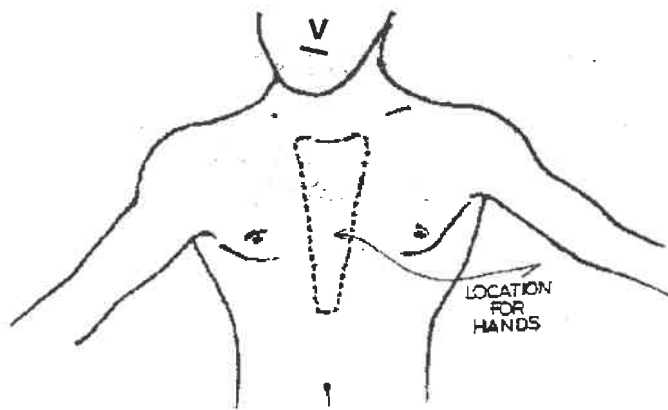


Fig A1.4: Location of the rescuers hands for external cardiac (heart) massage.

The rescuer leans directly over the patient and places the heel of one hand (either hand) on the lower half of the patient's breast-bone and places the heel of his other hand on the back of the first (one hand for a child' two fingers for an infant). The fingers should not press on the patient's chest as this would reduce the effectiveness of the pressure on the heels of the hands.

Keeping the arms straight, the rescuer presses down sharply and firmly to depress the patient's breast-bone from 30 to 50 mm in the case of an adult, depending on his build. Immediately release the pressure to allow the chest wall to recoil. If the technique is correctly applied it will not damage the patient's ribs.

If the patient is not breathing, external cardiac (heart) massage will be of no avail unless artificial respiration (expired air method) is carried out at the same time.

If only one rescuer is available, two breaths are given by the expired air method followed by fifteen chest compressions at the rate of approximately one per second.

Where two rescuers are available, one breathes into the patient and the other gives five chest compressions between each chest inflation. The rescuer giving the breaths should also feel for the pulse in the patient's carotid artery during resuscitation.

The chest should not, of course, be compressed at the same time as it is being inflated.

APPENDIX II

TESTING PROCEDURES AND PRECAUTIONS FOR COMMISSIONING OF ELECTRICAL CABLES

The aim of this section is to create an awareness of the latest standards and testing procedures for the commissioning of new and the re-commissioning of repaired electrical cables.

Before commissioning or re-commissioning cables tests must be carried out to ensure the integrity of the cable/s and to ensure the safety of operating personnel.

1. Low voltage Cables

1.1 Initial Tests

Carry out a meter test to ensure that the insulation resistance complies with the manufacture's and the relevant SABS requirements. For L.V. cables a 500V d.c. meter is adequate for this purpose.

1.2 Voltage Tests

This covers extruded solid dielectric cables (covered by SABS 1507), voltage ranges are as indicated in Table 1

After installation the cable has to be tested to ensure the integrity of the cable and the quality of the work. A.C. testing of solid dielectric cables is preferred. Very low frequency high voltage sinusoidal electrical testing methods are recommended to avoid the use of cumbersome large testing equipment.

Method: The test voltage should be applied between conductors and between each conductor and the metallic protection or earthed surroundings of the cable as appropriate. The voltage to be raised gradually to the specified values in the table and maintained for 15 minutes.

Table1 -Test Voltages After Installation

1	2	3	4
e operating voltage	e test voltage is to be applied	Test Voltage V	
		.m.s)	d.c.
300/500	een Conductors and conductors/earth	)	)
600/1000	een Conductors and conductors/earth	)	)
1900/3300	een conductors	)	)
1900/3300	een Conductors and conductors/earth	)	)

2. Medium/High Voltage

Each section of the cable installation between substations shall be subjected to a preliminary voltage or insulation resistance test to prove the insulation resistance.

The installation resistance can be measured with a high voltage meter with a rating of 5000V.

2.1 Paper Insulated Lead covered Double Steel Tape or Wire Armoured Cable (covered by SABS 97), voltage ranges are as indicated in Table 2

The test voltage should be applied between conductors and between each conductor and the metal sheath, which should be held at earth potential. In each case, the voltage should be increased steadily to the stipulated value and maintained at this value for 15 minutes.

Table 2 in-situ test voltages.

1	2	3	4	5	6	7
Age Rating of Cable kV	Test Voltage					
	Belted Cables				Single-core and screened cables	
	Between conductors		From conductor to sheath		Between conductor and sheath or screen	
	a.c.	d.c.	a.c.	d.c.	a.c.	d.c.
3.3/3.3	7	9	7	9	-	-
3.8/6.6	13	19	8	11	8	11
6.6/6.6	13	19	13	19	-	-
6.35/11	22	31	13	19	13	19
11/11	22	31	22	31	-	-
12.7/22	-	-	-	-	25	36
19/33	-	-	-	-	38	54

2.2 XLPE-Insulated Cables covered by SABS 0198 Part 13.

NOTE: If circumstances necessitate testing that is not in accordance with the recommendations of this section, the cable manufacturer or a test expert should be consulted before any testing is carried out.

The use of inappropriate or excessive test voltages or of unsuitable fault location methods can damage XLPE-insulated cables. Cables that are particularly prone to damage during testing are those that have water trees and those that have a construction that differs from that specified in the 1981 and in subsequent editions of SABS 1339.

The Types of Test Waveforms to be applied are:

- Very low frequency (VLF): An Alternating waveform that is either sinusoidal or pseudo-square/cosine rectangular, of nominal frequency 0,1 Hz.
- Power frequency: An alternating sinusoidal waveform of frequency in the range 25 Hz to 100 Hz.
- Surge: A step waveform that has a rise time of a few microseconds and that gradually decays to zero within 5 s.

These waveforms are referred to in the various test tables below.

Note: Where the capacity of the test set permits, all three cores of a three-core cable may be tested together.

2.2.1 PRELIMINARY TESTS

2.2.1.1 Leakage Resistance. Before carrying out any testing or fault location, determine and accurately record the leakage resistance to earth and, if relevant, between conductors. Use an instrument that generates a d.c test voltage of not less than 250 V and not more than 5 kV. Typical minimum values of leakage resistance are given in Table 3.

TABLE 3—MINIMUM LEAKAGE RESISTANCE

1	2	3	4	5
Cable Operating voltage U , kV	Minimum leakage resistance, $M\Omega$			
	Cable length, m			
	100	300	1 000	3 000
6,6	150	50	15	5
11	240	80	24	8
22	460	153	46	15
33	680	227	68	23

NOTE:

- 1 The value of leakage resistance multiplied by the cable length should not be less than $(2 U + 2)$ $M\Omega.km$, where U is the voltage rating of the cable in kilovolt.
- 2 This test is repeated after the required sequence of tests (see 2.2.2.7).

2.2.2 TESTING

- 2.2.2.1 Over voltage Commissioning Tests. When newly installed cables are being commissioned, they should be tested at the test voltages given in Table 4, appropriate to the test waveforms and test durations given in columns 1 and 2 of the table.

TABLE 4—COMMISSIONING TEST VOLTAGES (r.m.s.)

1	2	3	4	5	6
Test waveform (see 2.2)	Duration, Min	Commissioning test voltage, kV			
		Cable Operating voltage, kV			
		6.6	11	22	33
VLF (0,1 Hz)	60	11	19	38	57
Power frequency	60	8	13	25	38

NOTE:

1. Test sets for the above are commercially available.
2. Where the above test levels cannot be achieved, a reduced voltage for an extended time may be negotiated.

- 2.2.2.2 Overvoltage Maintenance/Repair Tests. When cables are tested for maintenance or repair purposes, they should be tested at the test voltages given in Table 5, appropriate to the waveforms and test durations given in columns 1 and 2 of the table.

- 2.2.2.3 Surge Test Method (see Table 5). The surge test is intended to be a practical basic safety test. It can be used as a non-damaging means of identifying fairly serious existing or potential faults when power frequency or VLF equipment is not available. The test avoids the application of a continuous d.c. voltage (see 2.2.2.4), but it is not as conclusive or rigorous as the other methods.

CAUTION: During the surge test, a peak voltage of up to twice the test voltage can be generated in the cable.

Method. Charge the surge generator to the appropriate test voltage given in Table 5. Using single-shot mode, release a surge into the cable and then soft-discharge the cable (see 2.2.5.5) within 5 s. Repeat the procedure up to five times and then fully discharge the cable by solidly earthing it for at least 5 min.

TABLE 5—MAINTENANCE/REPAIRS TEST VOLTAGES (r.m.s.)

1	2	3	4	5	6
Test waveform (see 2.2)	Duration	Maintenance/repair test voltage, kV			
		Cable operating voltage, kV			
		6.6	11	22	33
VLF (0,1 Hz)	15 min	8	13	25	38
Power frequency	15 min	7	11	22	33
Surge test (see 2.2.1.3)	5 surges, max.	7	11	22	33

2.2.2.4 **D.c. Over voltage Testing.** D.c. over voltage testing is likely to cause irreversible damage to XLPE-insulated cable systems, particularly if the cables have water trees. It often fails to identify potentially hazardous conditions in the cable. If d.c. testing has to be carried out because no other test methods are available, the voltage and duration should be limited to the appropriate values given in Table 6, which are recommended for quick identification of gross faults only. Use a d.c. test set or a surge generator in d.c. mode to apply the test voltage. After applying the voltage, soft-discharge the cable (see 2.2.2.5), using either the d.c. test set or a discharge stick. Fully discharge the cable by solidly earthing it for at least 8 h but preferably for 24 h.

TABLE 6—D.C. TEST VOLTAGES

1	2	3	4	5
Duration, s	D.c. test voltage, kV			
	Cable operating voltage, kV			
	6.6	11	22	33
10	6	10	20	30

2.2.2.5 **SOFT DISCHARGE OF CABLE.** An XLPE-insulated cable should always be soft-discharged through a resistance of at least 200 kΩ, for example by using a discharge stick. Discharging a conductor direct to earth by short-circuiting it with a lead can severely damage the cable. After the initial discharge, a cable should be solidly earthed for at least 5 min. If the cable has been subjected to any form of d.c. test, it should be solidly earthed for at least 8 h, but preferably for 24 h.

2.2.2.6 **CABLE SHEATH TESTING.** To avoid problems caused by the ingress of water into the cable, a cable should be subjected to sheath testing:

- a) at commissioning,
- b) annually, and
- c) after the location and repair of a fault.

Cable sheath testing can also be used to locate conductor earth faults that have punctured the outer sheath, provided that multiple sheath faults are not present. A direct current sheath test voltage of 5 kV should be applied for 1 min, with a leakage current of 1 mA/km being regarded as acceptable.

- 2.2.2.7 AFTER TESTING. After completion of any of the above tests, the leakage test described in 2.2.1.1 should be repeated. A tenfold reduction in the value of leakage resistance could indicate a potential problem.

2.2.3 CIRCUIT-BREAKER CLOSURE

- 2.2.3.1 Faulty or Unknown Cable Conditions. Closing a circuit-breaker on an untested cable can be hazardous to the operator and can damage the cable. A fault should never be re-established by repeated closing of a circuit-breaker.

- 2.2.3.2 Voltage Doubling. During switch-in onto open circuit, voltage doubling occurs at the remote end of the cable. Voltages of up to 20 kV can occur on an 11 kV system. Switching onto a load such as a transformer avoids this voltage doubling.

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Department of Labour

GUIDE GENERAL ADMINISTRATIVE REGULATIONS, 2003

Chief Directorate of Occupational Health and Safety

NO: OHC 5

INTRODUCTION

As the name of the regulation indicates, the General Administrative Regulations determines the administrative procedure of the Occupational Health and Safety Act. This procedure was not placed in the Act itself owing to the fact that changes can be made to a Regulation with greater ease than that of a Section in the Act. A change to a Section of the Act needs to be passed by parliament whereas the Minister of the relevant Department can approve a change in a Regulation.

The General Administrative Regulations, as is the case with all other regulations, is an extension of the Act and should therefore be seen as a complete unit.

Terms, which were previously defined in the Act, are not redefined in the Regulations. If a specific definition does not appear in the Regulations, then it should be available in Section 1 of the Act.

DEFINITIONS

All new phrases as well as words (expressions and words which differ from the standard dictionary definitions) that are used in this regulation, which have not been defined in the Act, will be defined in this regulation. Where the Act or regulation refers to "mean" the definition in the Act or regulation must be considered and where there's reference made to "It Includes" definition from the Act and regulation including the oxford dictionary must be considered

ACCESS TO PREMISES

It is prohibited for an employer to refuse an inspector entry to perform his or her function because an inspector is entitled by the law to enter employer's workplace.

Employers should always ensure that inspectors are accompanied by a person who has knowledge and experience of the activities and safety requirements of the workplace.

EXEMPTIONS

Any exemption, which has been granted to any person shall be signed by the Chief Inspector of the Department of Labour. An person who wishes to apply for an exemption should forward his/her application to the office of the Chief Inspector in Pretoria. The application for exemption should indicate proof that the health and safety of persons who are likely to be affected by the exemption will not be prejudiced in consequences of it. Health and safety representatives and committees must be consulted during the whole process and given time to comment.

COPY OF THE ACT

Employees together with employers have certain duties and rights, which have been assigned to them in terms of the Act. In order to comply with the provisions of the Act and regulations, each employee must have access to a copy of the Act. This regulation requires that—

- (a) Each employer with 5 or more employees shall have a copy of at least one Act, which will be made readily available for perusal by the employee. Owing in the fact that a workplace can be made up of a very large area, and that the legislator did not intend to be unreasonable, various concessions are made. For example, a meter-reader in the town of Brits' workplace is the Municipal area of Brits. In such a case it is expected that a copy of the Act be made available at the point where the employee reports for duty in the morning, or any other suitable position as agreed upon with the employer.
- (b) Each employer with less than 5 employees, shall, if requested provide a copy of the Act for perusal by the employees. This includes farm workers and domestic servants.

The copy of the Act may be an electronic reproduction or from a library. The Act and Regulations are amended from time to time, and it is therefore important to remember that one must obtain a copy of the latest amendments to keep up to date with the current legislation.

HEALTH AND SAFETY COMMITTEES

The Health and Safety committees are made up of all the Health and Safety Representatives together with an equal amount of employer appointee representatives to represent the employer (there can be more than one committee to avoid a large congregation of representatives). If more than two committees are established, each health and safety representative must be member of at least one of the committees. These committees are the point around which self-regulation revolves.

Employer should provide necessary equipment, facilities and stationary required by the committee in order them to perform their functions.

It is important to keep the records of the meeting as they can be used as evidence for action taken to eliminate hazards and vice versa

NEGOTIATIONS AND CONSULTATIONS BEFORE DESIGNATION OF HEALTH AND SAFETY REPRESENTATIVES

The regulation prescribe the items which must be agreed upon during negotiations between the employer and employees representatives. If a dispute arises between the employees and employers or his authorised representative, the matter should be referred for arbitration. Both parties shall submit a statement within a prescribed period to both the arbitrator and the other party concerned.

The statement is to contain the following information:

- (a) The proposal for the arrangements and procedures for the nomination of the Health and Safety Representatives.
- (b) The decision which is sought.

The arbitrator should then:

- (a) Determine when and where the arbitration procedure shall be held. The arbitration may be held in the absence of the party who failed to submit a statement to the arbitrator and other party;
- (b) Determine whether a pre-hearing conference shall be held;
- (c) Determine which arbitration procedures shall be followed;
- (d) Determine the procedures for the admission of evidence;
- (e) Determine the admissibility of hearsay evidence; and
- (f) Determine other relevant procedural matters.

In terms of Section 17(2) of the Act both parties are to come to a decision within 14 days as to who the arbitrator shall be. If no decision can be made, the president of the Labour Court is to be notified in writing. The president of the Labour Court in consultation with the Chief Inspector shall appoint an arbitrator, whose decision shall be final. This arbitrator will be entitled to receive remuneration as is payable to an additional member of the Labour Court.

DESIGNATION OF HEALTH AND SAFETY REPRESENTATIVES

The employer must designate Health and Safety Representatives as follows:

- Shops and offices— one for up to 100 employees; and
- Workplaces other than shops and offices— one for up to 50 employees.

The employer shall ensure that employees designated as health and safety representatives meet the following requirements:

- Employed in a full-time capacity in the specific workplace or section thereof;
- Acquainted with conditions and activities at that workplace or section thereof, and
- Taking into account the nature of hazards associated with the activities of the workplace or section thereof, the employer shall provide as far as is reasonable practicable health and safety training to the health and safety representatives on how to identify health and safety risks and how to conduct inspections of the workplace or section thereof.

REPORTING OF INCIDENTS AND OCCUPATIONAL DISEASES

Section 24 of the Act refers to certain incidents occurring at the workplace, or in connection with the use of machinery whereby a person dies or is injured to be extent where he is likely to die or could have resulted in a major incident. Such incidents should be reported to the Provincial Director on a WCL 1 or WCL 2 form within seven days.

Certain other types of incidents must be reported to the Provincial Director telephonically, facsimile or similar means of communication and these types of incidents are as follows—

- (a) Where a person, as a result of the incident;
 - i) Dies;
 - ii) Becomes unconscious;
 - iii) Suffers the loss of a limb or part thereof;
 - iv) Is injured to the extent that he is likely to die;
 - v) Is injured to the extent that he is likely to be permanently disabled;
 - vi) Is injured to the extent that he is likely to be off for a period of 14 days or more;
 - vii) Cannot perform his normal duties (those duties for which he was employed).
- (b) An incident of major consequence arising out of the use of industrial equipment or machinery or industrial practices at a workplace.
- (c) The health and safety of any person is endangered and where –
 - i) A dangerous substance was spilled;
 - ii) The uncontrolled release of any substance under pressure (pressure greater than 1 atmosphere) took place;
 - iii) Machinery or any part thereof fractured or failed, resulting in flying, falling or uncontrolled moving objects; or
 - iv) Machines, which ran out of control.

These incidents should also be recorded and investigated in accordance to Regulation 8 of the General Administrative Regulations.

If an injured person is to die as a result of an incident, which has already been reported in terms of the above, the employer or user should report such death to the Provincial Director.

Any registered medical practitioner should, in terms of Section 25 of the Act, report all (to the employer and Chief Inspector) cases of occupational diseases or any other disease, which he believes arose out of a person's employment, which he/she has treated. This must be done within 14 days in the form of a WCL 22 form.

Any other person may in writing, give notice of any disease suspected to be an occupational disease, to the employer and chief inspector.

RECORDING AND INVESTIGATION OF INCIDENTS

The employer or user of machinery should keep record and investigate all incidents referred to in terms of Section 24 of the Act together with any other incident, which resulted in the person concerned having had to receive medical treatment other than first aid.

These incidents must be recorded in the form of Annexure 1 of these regulations and be kept for a period of at least 3 years. This record shall be kept on the premises and available for perusal by an inspector.

The employer, a designated person, a health and safety representative or a member of the health and safety committee must investigate the above-mentioned incidents. This investigation should take place within 7 days from the date of incident and completed as soon as is reasonable practicable or within the contracted period of contract workers. The employer should record the result of the investigation in the Annexure 1. The purpose of the investigation is to establish the cause of the incident together with the safety measures that can be implemented to prevent the re-occurrence of such incidents in the future.

The health and safety committee shall examine this record at their next meeting.

WITNESS AT AN INQUIRY

The chief inspector can, in terms of Section 32, direct an inspector to hold a formal inquiry as a result of an incident reported in terms of Section 24 (refer to Regulation 6). In such an instance, the inspector shall inform the employer or user of machinery of his intentions, and request the following from him/her:

- a) That all persons witness to the incident; and
- b) That any other person as required by the inspector,

be notified in connection with the time, date and venue of the formal inquiry.

The employer or user of machinery is to establish which persons are likely not to attend the inquiry, and shall advise the inspector of the names and addresses of such persons to allow the inspector to subpoena such persons.

RETURNS

An employer or user shall furnish the inspector with such information as requested for the purpose of the Administration of the Act.

IMPORTANT CONTACT DETAILS

(FOR HEALTH & SAFETY ASPECTS ONLY)

The contractor is to add all the important contact information about essentials services, support and assistance.

	SERVICE	NUMBER	CONTACT PERSON
	Hospital		
	Ambulance		
	Water		
	Electricity		
	Police		
	Fire Brigade		
	Engineer		

ADD OTHER IMPORTANT HEALTH & SAFETY CONTACT DETAILS AS MAY BE FOUND NECESSARY.

ATTACHMENTS

- 14. **HEALTH AND SAFETY FILE COMPILATION AND
CONTENT**
- 15. **SAFETY AND SWITCHING PROCEDURES FOR
ELECTRICAL INSTALLATIONS**
- 16. **GUIDE TO THE GENERAL ADMINISTRATIVE
REGULATIONS**
- 17. **IMPORTANT CONTACT DETAILS - HEALTH &
SAFETY ONLY**

“HEALTH AND SAFETY FILE”

FOR

**PROJECTS AND MAINTENANCE
(BUILDING/ELECTRICAL/MECHANICAL)**

MANAGED ON BEHALF OF

**THE NATIONAL DEPARTMENT OF
PUBLIC WORKS**

This document serves as a guide to Principle Contractors and Contractors (and their agents) to assist them in complying with the requirements of the Act and more specifically the Construction Regulations and to ensure a most comprehensive Health and Safety File. Kindly note the following extractions from the Construction Regulations:

“Every contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of the Act and the Regulations, is opened and kept on site and made available to an inspector, client, client’s agent or principle contractor upon request. [CR 5(7)]

A Principal Contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall, in addition to the documentation referred to in sub regulation (7) [above], include a record of all drawings, designs, materials used and other similar information concerning the completed structure. [CR 5(8)]

A Principal Contractor shall ensure that in addition to the documentation required in the health and safety file as determined in the two sub regulations above, a comprehensive and updated list of all the contractors on site accountable to the Principal Contractor, the agreements between the parties and the type of work being done are included and available. [CR 5(9)]”



The information, documentation and lists required to be included in the Health and Safety File as contemplated in the Construction Regulations [CR 5(7)], shall be suitably and sufficiently documented in terms of the following items listed below to ensure compliance with the Act as far as is reasonably practicable.

Note: In the event that any of the items listed below may not have reference to the planning, implementation and completion of the work to be done pertaining to the project on the construction site, it must clearly be indicated as such with a proper statement e.g. ‘Not Applicable’. All other relevant references or items below shall relate to the information required as contemplated in the Act and Regulations.

IMPORTANT - This Health and Safety File shall be regarded as the property of the Client as it has to be consolidated and handed over to the Client upon completion of the project. The Principal Contractor shall ensure that this file is adequately protected against any form of damage, abuse or fraud.

Registers as follows:

- * Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
- * H&S Representatives (‘SHE - Reps’) Inspection Register
- * Arc & Gas Welding & Flame Cutting Equipment Inspections
- * Inspection of Cranes
- * Inspection of Ladders
- * Inspection of Vessels under Pressure plus all other excluded under VUP regulations
- * Fire fighting equipment

The H&S Representatives (SHE-Reps) will be required to submit the abovementioned registers as well as other legally required registers, also from the list below, on a monthly basis to the chairman of the H&S committee for submission to, and endorsement by the H&S Committee. Also refer to the suggested Agenda for the H&S Committee under 12.8.3

Documents as follows:

Copy of OH&S Act (updated) (General Administrative Regulation 4.)
Proof of Registration and good standing with a COID Insurer (Construction Regulation 4(1)(g))
Appointments – in terms of the Construction Regulations * [See references Page 4]
Notification of Construction Work – Annexure 1 [CR 3]
H&S Specifications [CR 4]
H&S Plan – Principal Contractor, Contractor & Sub-contractors [CR 5(1) & (4)]
Proof of Periodic Audits [CR 4, 5 & 6]
List of all Contractors (accountable to Principal Contractor) on site [CR 5(9)]
Contractor Agreements [CR 5(9)]
Type of work done on site [CR 5(9)]

- [CR 17(8)(a)]
- [CR 18(1) + (7)]
- [CR 19(2)(b) + (2)(g)(i)]
- [CR 20(f)]
- [CR 21(1)(d)(i) + (1)(j)]
- [CR 22(d) + (e)]
- [CR 26(a)]
- [CR 27(h)]
- CONSTRUCTION SAFETY OFFICER - [CR 6(6)]
- DESIGNER - [CR 9(2)]

~ ~ ~

IMPORTANT:

A copy of the following certification in terms of the “**SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS**” (Document attached) signed by the prospective tenderer / contractor is to be included in the Health and Safety File:

“ I hereby certify that I have taken cognizance of the content of the document titled ‘SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS’ and have included the relevant elements of the document applicable to the above project in my Health and Safety Plan and shall ensure adherence and compliance to the requirements thereof.”



DEPARTMENT OF PUBLIC WORKS

OCCUPATIONAL HEALTH AND SAFETY

HEALTH & SAFETY SPECIFICATIONS

FOR

**PROJECTS AND MAINTENANCE
(BUILDING/ELECTRICAL/MECHANICAL)**

MANAGED ON BEHALF OF

**THE NATIONAL DEPARTMENT OF
PUBLIC WORKS**

PROJECT:

Ref No:

PUBLIC WORKS:

Mr. - **HEALTH & SAFETY OFFICER (ELECTRICAL)**

Mr. K.E Nkuna (079-699-2114)

Mr. - **HEALTH & SAFETY OFFICER (MECHANICAL)**

Mss NW Mahlanyana (073-167-2956)

Mr. - **HEAD: PROJECTS & MAINTENANCE**

Mr - **PROJECT MANAGER**

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ATTACHMENTS:

14. HEALTH AND SAFETY FILE COMPILATION AND CONTENT
15. SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL
 INSTALLATIONS
16. GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS
17. IMPORTANT CONTACT DETAILS (HEALTH & SAFETY ONLY)

1. PREAMBLE

*In terms of Construction Regulation 4(1)(a) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), the Department of Public Works, as the Client and/or its Agent on its behalf, shall be responsible to prepare Health & Safety Specifications for any intended construction project and provide any Principal Contractor who is making a bid or appointed to perform construction work for the Client and/or its Agent on its behalf with the same.

*The Client's further duties are as described in The Act and the Regulations made there-under. The Principal Contractor shall be responsible for the Health & Safety Policy for the site in terms of Section 7 of the Act and in line with Construction Regulation 5 as well as the Health and Safety Plan for the project.

This 'Health and Safety Specifications' document is governed by the "Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognisance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is suggested that the entire scope of the Labor legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this argument is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. It is reiterated that environmental management can not be disregarded.

Due to the wide scope and definition of construction work, every construction activity and site will be different, and may change even on a daily basis. Therefore, due caution is to be taken when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to determine any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. *This Risk Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan.* The Health and Safety Plan shall include documented 'Methods of Statement' detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in the Risk Assessment.

The Department of Public Works is tasked to provide accommodation and operational facilities to a very large proportion of the approximate 40 National Departments responsible for the governance of the Department of Public Works. A very large number of State employees and public users of the facilities and the services provided there-in directly interacts with the facilities provided by the well-being, health and safety of a great number of people. This Department thus has directly or indirectly, an impact on the Republic of South Africa as well as the National Parliament.

In this a high premium is to be placed on the health and safety of the most valuable assets of the Department of Public Works. These are its personnel, the personnel of its Clients and the physical assets of which it is the custodian and may also include the public as well. The responsibilities the Department and relevant stakeholders have toward its employees and other people present in the facilities or on the sites are captured further in this specification document. These responsibilities stem from both moral, civil and a variety of legal obligations.

*Every effort has been made to ensure that this specification document is accurate and adequate in all respects. Should it however, contain any errors or omissions they may not be considered as grounds for claims under the contract for additional reimbursement or extension of time, or relieve the Principal Contractor from his responsibilities and accountability in respect of the project to which this specification document pertains.

***2. SCOPE OF HEALTH AND SAFETY SPECIFICATION DOCUMENT**

The Health and Safety Specifications pertaining to the project; “(name of the project) – Phase 1 and Phase 2” etc. etc.), cover the subjects contained in the index and is intended to outline the normal as well as any special requirements of the Department pertaining to the health and safety matters (including the environment) applicable to the project in question. These Specifications should be read in conjunction with the Act, the Construction Regulations and all other Regulations and Safety Standards which were or will be promulgated under the Act or incorporated into the Act and be in force or come into force during the effective duration of the project. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

3. PURPOSE

The Department is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications.

The purpose of this specification document is to provide the relevant Principal Contractor (and his /her contractor) with any information which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for the Department of Public Works. The Principal Contractor (and his /her contractor) is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

- a) safety considerations affecting the site of the project and its environment;
- b) health and safety aspects of the associated structures and equipment;
- c) submissions on health and safety matters required from the Principal Contractor (and his /her contractor); and
- d) the Principal Contractor's (and his /her contractor) health & safety plan.

It must be ensured that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

The Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification document applies. The Construction Regulations promulgated on 18 July 2003 and incorporated into the above Act by Government Notice R 1010, published in Government Gazette 25207 shall apply to any person involved in construction work pertaining to this project, as will the Act.

4. DEFINITIONS

“Purpose of the Act” –

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

“Agent” –

means any person who acts as a representative for a client;

“Client” –

means any person for whom construction work is performed;

“Construction Work” is defined as any work in connection with –

- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- (b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;

- (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

“Contractor” –

means an employer, as defined in Section 1 of the Act, who performs construction work and includes Principal Contractors;

“Health and Safety File” –

means a file, or other record in permanent form, containing the information required a contemplated in the regulations;

“Health and Safety Plan” –

means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified;

“Health and Safety Specification” –

means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons;

“Method Statement” –

means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

“Principal Contractor” –

means an employer, as defined in section 1 of the Act who performs construction work and is appointed by the client to be in overall control and management of a part of or the whole of a construction site;

“Risk Assessment” –

means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

***5. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT**

5.1 Structure and Organization of OH&S Responsibilities

5.1.1. Overall Supervision and Responsibility for OH&S

- * The Client and/or its Agent on its behalf to ensure that the Principal Contractor, appointed in terms of Construction Regulation 4(1)(c), implements and maintains the agreed and approved H&S Plan.
- * The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act to ensure that the Employer (as defined in the Act) complies with the Act. The pro forma Legal Compliance Audit may be used for this purpose.
- * All OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her/their respective appointment forms to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).
- * The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 6 to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).
- * All Health and Safety Representatives (SHE-Reps) as per Section 18 of the Act.

5.1.2. Further (Specific) Supervision Responsibilities for OH&S

Several appointments or designations of responsible and /or competent people in specific areas of construction work are required by the Act and Regulations. The following competent appointments, where applicable, in terms of the Construction Regulations are necessary to ensure compliance to the Act, Regulations and Safety Standards.

Required appointments as per the Construction Regulations:-

Item	Regulation	Appointment	Responsible Person
1.	4(1)(c)	Principal contractor for each phase or project	Client
2.	5.(3)(b)	Contractor	Principal Contractor
3.	5(11)	Contractor	Contractor
4.	6(1)	Construction supervisor	Contractor
5.	6(2)	Construction supervisor sub-ordinates	Contractor
6.	6(6)	Construction Safety Officer	Contractor
7.	7(1)	Person to carry out risk assessment	Contractor
8.	7(4)	Trainer/Instructor	Contractor
9.	8(1)(a)	Fall protection planner	Contractor
10.	10 (a)	Formwork & support work supervisor	Contractor
11.	10(e) + (f)	Formwork & support work examiner	Contractor
12.	11(1)	Excavation supervisor	Contractor
13.	11(3)(b)(ii)(b)	Professional engineer or technologist	Contractor
14.	11(3)(k)	Explosives expert	Contractor
15.	12(1)	Supervisor demolition work	Contractor
16.	12(2) + (3)	Demolition expert	Contractor
17.	12(11)	Explosives expert	Contractor
18.	14(2)	Scaffold supervisor	Contractor
19.	15(1)	Suspended platform supervisor	Contractor
20.	15(2)(c)	Compliance plan developer	Contractor
21.	15(8)(c)	Suspended platform expert	Contractor
22.	15(13)	Outrigger expert	Contractor
23.	17(8)(a)	Material hoist inspector	Contractor
24.	18(1)	Batch plant supervisor	Contractor
25.	18(7)	Batch plant operator	Contractor
26.	19(2)(b)	Power tool expert	Contractor
27.	19.2 (g) (i)	Power tool controller	Contractor
28.	20(f)	Tower crane operator	Contractor
29.	21(1)(d)(i)	Construction vehicle and mobile plant operator	Contractor
30.	21(1)(i)	Construction vehicle and mobile plant inspector	Contractor
31.	22(d)	Temporary electrical installations inspector	Contractor
32.	22 (e)	Temporary electrical installations controller	Contractor
33.	26 (a)	Stacking and storage supervisor	Contractor
34.	27 (h)	Fire equipment inspector	Contractor

This list may be used as a reference or tool to determine which components of the Act and Regulations would be applicable to a particular site, as was intended under the Chapter “Preamble” above. (page 4)

5.2 Communication & Liaison

- 5.2.1 OH&S Liaison between the Employer, the Principal Contractor, the other Contractors, the Designer and other concerned parties will be through the H&S Committee as per the procedures determined by the H&S Committee.
- 5.2.2 In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.
- 5.2.3 Consultation with the workforce on OH&S matters will be through their Supervisors and H&S Representatives (‘SHE – Reps’)
- 5.2.4 The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and/or its Agent on its behalf and the Designer,

instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

6. INTERPRETATION

(i) The Occupational Health and Safety Act and all its Regulations, with the exception of the Construction Regulations, distinguish between the roles, responsibilities and functions of employers and employees respectively. It views consultants and contractors as employees of the “owner” of a construction or operational project, the “owner” being regarded as the employer. Only if formally agreed to by way of the written agreement in this regard between the “owner(s)” and consultant and /or between the “owner(s)” and the contractor(s), will these assumptions be relinquished in favor of the position agreed upon between the relevant parties.

(ii) The position taken by the Construction Regulations is that the “owner”, in terms of its instructions, operates (has to operate) in the role of client as per relevant definition. The contractors working for the “client” are seen to be in two categories, i.e. the Principal Contractor and Contractors. The Principal Contractor has to take full responsibility for the health and safety on the site of the relevant project / contract. This includes monitoring health and safety conditions and overseeing administrative measures required by the Construction Regulations from all contractors on the project site. (Ordinary / sub) Contractors are required to operate under the scrutiny and control (in terms of all health and safety measures which are covered in the Construction Regulations) of the Principal Contractor. Where for the work the Principal Contractor will have to execute himself, practical health and safety measures are applicable, he will also be subject to the relevant requirements with which (ordinary / sub) Contractors have to comply. The Principal Contractor will, however, not have to actually fulfill such requirements in respect of any of the work / functions of any (ordinary / sub) Contractors on the site for which he has been appointed as Principal Contractor. However, he has to monitor / oversee such processes, ensuring that the requirements are complied with and that the required appointments / evaluations / inspections / assessments and tests are done and that the records are duly generated and kept as prescribed in the Construction Regulations. This has to feature clearly in the Principal Contractor’s Health and Safety Plan.

7. RESPONSIBILITIES

7.1 Client

7.1.1 The Client or his appointed Agent on his behalf will appoint each Principal Contractor for the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations and determined by the Bills of Quantities.

7.1.2 The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.

7.1.3 The Client or his appointed Agent on his behalf, will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month.

7.1.4 The Client or his appointed Agent on his behalf, will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:

- have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;
- have failed to implement or maintain their health and safety plan;
- have executed construction work which is not in accordance with their health and safety plan; or
- act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.

7.2 Principal Contractor

7.2.1 The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labor of the intended construction work in terms of Regulation 3 of the Construction Regulations. Annexure B of this Specification contains a "Notification of Construction Work" form. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.

7.2.2 The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract (entirely or in part) will continue to be legally required of the Principal Contractor. The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.

7.2.3 The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.

7.2.4 The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.

7.2.5 The Potential Principal Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and Construction Regulations. (Note: This shall have to be contained in the conditions of tender upon which a tenderer's offer is based.)

7.2.6 The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.

7.2.7 The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is presented upon request to the Client, an Inspector, Employee or Sub-contractor.

7.2.8 The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.

7.2.9 The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.

7.3 **Contractor** (Responsibilities of in terms of this contract and health and safety specification)

As per 7.2 above as and where applicable or as indicated in the letter of appointment.

8. SCOPE OF WORK

These specifications are applicable to the specific scope of work pertaining to the above-mentioned project as detailed in the tender documents, this amongst all includes for example: (elaborate sufficiently and provide adequate information to give full understanding of all work to be done)

8.1 BUILDING WORK:

SCOPE:

EXISTING SINGLE-STOREY BUILDINGS:

- 1. Popper notice shall be given to all persons in and around the building where construction work shall be executed. The building shall occupy during the construction period.*
- 2. Notification to the provincial director must be given.*
- 3. The contractor and sub-contractors must be registered and in good standing with the compensation fund at all time.*
- 4. The contractor shall appoint a full-time competent employee in writing as the construction supervisor.*
- 5. Work shall be executed at a height greater than 3 meters.*
- 6. Excavation work exceeding 1 meter and more.*
- 7. All site work; the contractor must take care of proper sun-protection for all his workmen, woman.*
- 8. No work, contractor or sub-contractor shall be allowed to work in in-climate weather.*
- 9. No danger tape shall be used on the construction site. All work areas shall proper be brigade.*
- 10. Special care must be taken of:-
Contractors using scaffolding, shall ensure that such scaffolding, when used, complies with the safety standards are carried out under the supervision of a competent person who has been appointed in writing.*

8.2 ELECTRICAL WORK:

ELECTRICAL INSTALLATIONS AND MACHINERY ON CONSTRUCTION SITES:

Notwithstanding the provisions contained in the Electrical Installation Regulations promulgated by Government Notice No. R.2920 of 23 October 1992 and the Electrical Machinery Regulations promulgated by Government Notice No. R.1953 of August 1988, respectively, as amended.

- 1. Work shall be medium and low voltage electrical work. The contractor shall given proof of his high and low voltage registration.*

[Notes to the Client, Designer, Project Manager, Architect, Agent :

add references to the above project and include specific elements identified as the 'Critical Few'. The 'Critical Few' refer to those few or singular elements of the project that have the potential to impact in a major or devastating way on the project as a whole in the event of an accident or incident occurring. (20:80 principle)

Because of the inherent generic nature of the Health and Safety Specifications document, specific relevant information on the project must be provided and it may be necessary to draft the required information under this paragraph on a separate attached document.

If at any time after commencement of the project changes are brought about to the design or construction, sufficient health and safety information and appropriate resources are to be made available to the Principal Contractor to execute the work safely.]

N.B The Principal Contractor shall on tendering make provision for the cost of health and safety measures in terms of his/her documented Health and Safety Plan and measures based on these Health and Safety Specifications during the period of the project. Construction Regulation 5(3)(g) determines that potential contractors submitting tenders have made provision for the cost of health and safety measures during the construction process.

THE HEALTH AND SAFETY PLAN IS THEREFORE TO BE INCLUDED WITH THE TENDER DOCUMENTS WHEN TENDERS ARE INVITED FOR THE PROJECT.

9. HEALTH AND SAFETY FILE

The Principal Contractor must, in terms of Construction Regulation 5(7), keep a Health & Safety File on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done. A more detailed list of documents and other legal requirements that must be kept in the Health and Safety File is attached as an addendum to this document.

IMPORTANT:

The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its Agent on its behalf at the time of completion of the project.

10. OH&S GOALS AND OBJECTIVES AND ARRANGEMENTS FOR MONITORING AND REVIEWING OH&S PERFORMANCE

The Principal Contractor is required to maintain a CIFR of at least 8 (See Annexure 3. to this document: "Measuring Injury Experience") and report on this to the Client and/or its Agent on its behalf on a monthly basis.

11. IDENTIFICATION OF HAZARDS AND DEVELOPMENT OF RISK ASSESSMENTS, STANDARD WORKING PROCEDURES (SWP) AND METHOD STATEMENTS

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project (see 4. below "Project/Site Specific Requirements")

The identification of hazards is over and above the hazards identification programme and those hazards identified during the drafting of the Health and Safety Plan.

12. ARRANGEMENTS FOR MONITORING AND REVIEW

12.1 Monthly Audit by Client and/or its Agent on its behalf

The Client and/or its Agent on its behalf will be conducting Periodic Audits at times agreed with the Principal Contractor Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented, is adhering to and is maintaining the agreed and approved OH&S Plan.

12.2 Other audits and inspections by client and/or its agent on its behalf.

The Client and/or its Agent on its behalf reserves the right to conduct any other ad hoc audits and inspections as it and/or its Agent on its behalf deem necessary.

A representative of the Principal Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Client and/or its Agent on its behalf on all Audits and Inspections and may conduct their own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results. The Client and/or its Agent on its behalf may require to be handed a copy of the minutes of the previous Health and Safety Committee meeting reflecting possible recommendations made by that committee to the Employer for reference purposes.

12.3 Reports

The Principal Contractor is required to provide the Client and/or its Agent on its behalf with a monthly "SHE Risk Management Report".

The Principal Contractor shall report all incidents where an employee is injured on duty to the extent that he/she:

- * dies
- * becomes unconscious
- * loses a limb or part of a limb
- * is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

- * a major incident occurred
- * the health or safety of any person was endangered
- * where a dangerous substance was spilled
- * the uncontrolled release of any substance under pressure took place
- * machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- * machinery ran out of control,

to the Provincial Director of the Department of Labour (DoL) within seven days and at the same time to the Client and/or its Agent on its behalf.

(Section 24 of the Act & General Administrative Regulation 8.)

The Principal Contractor is required to provide the Client and/or its Agent on its behalf with copies of all statutory reports required in terms of the Act and the Regulations.

The Principal Contractor is required to provide a.s.a.p. the Client and/or its Agent on its behalf with copies of all internal and external accident/incident investigation reports including the reports contemplated in 12.7, 12.8.2, 15, 16, 17, 21 and 22 below. As soon as the occurrence of any accident/incident of whatever nature comes to the notice of the Principal Contractor, it shall be reported immediately to any of the following:

12.4 Review

The Principal Contractor is to review the Hazard Identification, Risk Assessments and Standard Work Processes at each Production Planning and Progress Report meeting as the construction work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client and/or its Agent on its behalf, other Contractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated in the above paragraph.

12.5 Site Rules and other Restrictions

12.5.1 Site OH&S Rules

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction.

When required, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

12.5.2 Security Arrangements

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees shall at all times be provided with fulltime supervision while on site.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period.

If not already tasked to the H&S Officer appointed in terms of Construction Regulation 6(6), the Principal Contractor must appoint a competent Emergency Controller who must develop contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing programmed for the plans e.g. January: trench collapse, February: flooding etc. and practiced/tested with all persons on site at the time, participating.

12.6 Training

The contents and syllabi of all training required by the Act and Regulations including any other related or relevant training as required must be included in the Principal Contractor's Health and Safety Plan and Health and Safety File.

12.6.1 General Induction Training

All employees of the Principal and other Contractors must be in possession of proof of General Induction training

12.6.2 Site Specific Induction Training

All employees of the Principal and other Contractors must be in possession of Site Specific Occupational Health and Safety Induction training.

12.6.3 Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations must be in possession of valid proof of training as follows:

Occupational Health and Safety Training Requirements: (as required by the Construction Regulations and as indicated by the Health and Safety Specification Document & the Risk Assessment/s and recommendations by the Health and Safety Committee):

- * General Induction (Section 8 of the Act)
- * Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- * Site/Project Manager
- * Construction Supervisor
- * OH&S Representatives (Section 18 (3) of the Act)
- * Training of the Appointees indicated in 12.6.1. & 12.6.2. above
- * Operation of Cranes (Driven Machinery Regulations 18 (11))
- * Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- * Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction Regulation 27)

- * As a minimum basic First Aid to be upgraded when necessary (General Safety Regulations 3)
- * Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- * Emergency, Security and Fire Co-coordinator

12.7 Accident and Incident Investigation

The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9)

The results of the investigation to be entered into the Accident/Incident Register listed above. (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar incidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

12.8 H&S Representatives (SHE-Reps) and H&S Committees

12.8.1 Designation of H&S Representatives ('SHE – Reps')

Where the Principal Contractor employs more than 20 persons (including the employees of other Contractors (sub-contractors) he has to appoint one H&S Representative for every 50 employees or part thereof. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

H&S Representatives have to be designated in writing and the designation shall be in accordance with the Collective Agreement as concluded between the parties as is required in terms of General Administration Regulation 6.

12.8.2 Duties and Functions of the H&S Representatives

The Principal Contractor must ensure that the designated H&S Representatives conduct at least a weekly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor, after which these reports shall be consolidated for submission to the Health and Safety Committee.

H&S Representatives must be included in and be part of accident/incident investigations.

H&S Representatives shall be members of at least one H&S Committee and must attend all meetings of that H&S committee.

12.8.3 Establishment of H&S Committee(s)

The Principal Contractor must establish H&S Committees consisting of designated H&S Representatives together with a number of Employers Representatives appointed as per Section 19(3) that are not allowed to exceed the number of H&S Representatives on the committee. The persons nominated by the employer on a H&S Committee must be designated in writing for such period as may be determined by him. The H&S Committee shall co-opt advisory (temporary) members and determine the procedures of the meetings including the chairmanship.

The H&S Committee must meet minimum monthly and consider, at least, the following Agenda for the first meeting. Thereafter the H&S Committee shall determine its own procedures as per the previous paragraph.

Agenda:

- 1) Opening and determining of chairmanship (only when necessary)
- 2) Minutes of Previous Minutes
- 3) Observations
- 4) Program and Safety considerations
- 5) Hygiene
- 6) Housekeeping improvement
- 7) Incidents & Accidents / Injuries

- 8) Registers:
 - a. H&S Rep. Inspections
 - b. Matters of First Aid
 - c. Scaffolding
 - d. Ladders
 - e. Excavations
 - f. Portable Electric Equipment
 - g. Fire Equipment
 - h. Explosive Power Tools
 - i. Power Hand tools
 - j. Incident! Report Investigation
 - k. Pressure Vessels
 - l. Personal Protective Equipment
- 9) Safety performance Evaluations
- 10) Education & Safety promotion program
- 11) First Aid Officials and training in First Aid
- 12) Demarcation of work- /hazardous-/safe areas/walkways
- 13) Posters and signage
- 14) Environmental preservation and conservation
- 15) Specific training programmes
- 16) General
- 17) Date of Next Meeting
- 18) Closing

13. PROJECT/SITE SPECIFIC REQUIREMENTS

The following is a list of specific activities and considerations that have been identified for the project and site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Principal Contractor:

- * Clearing & Grubbing of the Area/Site
- * Site Establishment including:
 - o Office/s
 - o Secure/Safe Storage and storage areas for materials, plant & equipment
 - o Ablution facilities
 - o Sheltered dining area
 - o Vehicle access to the site
- * Dealing with existing Structures.
- * Location of existing Services
- * Installation & Maintenance of Temporary Construction Electrical Supply, Lighting and Equipment
- * Adjacent Land uses/Surrounding property exposures
- * Boundary & Access control/Public Liability Exposures (Remember: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
- * Health risks arising from neighboring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning, allergies etc.
- * Exposure to Noise
- * Exposure to Vibration
- * Protection against dehydration and heat exhaustion
- * Protection from wet & cold conditions
- * Dealing with HIV/Aids and other diseases as per specific programme provided by the client and/or its Agent on its behalf
- * Use of Portable Electrical Equipment including:
 - o Angle grinder
 - o Electrical Drilling machine
 - o Skill saw
- * Excavations including:
 - o Ground/soil conditions
 - o Trenching
 - o Shoring
 - o Drainage
 - o Daily inspections
- * Welding including:

- Arc Welding
- Gas welding
- Flame Cutting
- Use of LP Gas torches and appliances
- * Loading & Offloading of Trucks
- * Aggregate/Sand and other Materials Delivery
- * Manual and Mechanical Handling
- * Lifting and Lowering Operations
- * Driving & Operation of Construction Vehicles and Mobile Plant including:
 - Trenching machine
 - Excavator
 - Bomag Roller
 - Plate Compactor
 - Front End Loader
 - Mobile Cranes and the ancillary lifting tackle
 - Parking of Vehicles & Mobile Plant
 - Towing of Vehicles & Mobile Plant
- * Use and Storage of Flammable Liquids and other Hazardous Substances – the client and/or its Agent on its behalf to be informed of this prior to commencing of the project
- * Layering and Bedding of trench floor
- * Installation of Pipes in trenches
- * Backfilling of Trenches
- * Protection against Flooding
- * Gabion work
- * Use of Explosives - the client and/or its Agent on its behalf to be informed of this prior to commencing of the project
- * Protection from Overhead Power Lines
- * As discovered by the Principal Contractor's hazard identification exercise
- * As discovered from any inspections and audits conducted by the Client and/or its Agent on its behalf or by the Principal Contractor or any other Contractor on site
- * As discovered from any accident/incident investigation.

13.1 The following are in particular requirements depending on scope of works and will form a basis for compliance audits.

1. Administrative & Legal Requirements
2. Education, Training & Promotion
3. Public Safety & Emergency Preparedness
4. Personal Protective Equipment
5. Housekeeping
6. Scaffolding, Formwork & Support work
7. Ladders
8. Electrical Safeguarding
9. Emergency/Fire Prevention & Protection
10. Excavations & Demolition
11. Tools
12. Cranes
13. Personnel & Material Hoists
14. Transport & Materials Handling
15. Site Plant & Machinery
16. Plant & Storage Yards/Site Workshops Specifics
17. Health & Hygiene

14. OUTLINED DATA, REFERENCES AND INFORMATION ON CERTAIN AND/OR SPECIFIC OBLIGATORY REQUIREMENTS TO ENSURE COMPLIANCE

14.1 Administrative & Legal Requirements

OHS Act Section/ Regulation	Subject	Requirements
Construction. Regulation 3	Notice of carrying out Construction work	Department of Labour notified Copy of Notice available on Site
General Admin. Regulation 4	*Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site. Readily available for perusal by employees.
COLD Act Section 80	*Registration with Compens. Insurer	Written proof of registration/Letter of good standing available on Site
Construction. Regulation 4 & 5(1)	H&S Specification & Programmed	H&S Spec received from Client and/or its Agent on its behalf OH&S programme developed & Updated regularly
Section 8(2)(d) Construction. Regulation 7	*Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and – Plan drawn up/Updated RA Plan available on Site Employees/Sub-Contractors informed/trained
Section 16(2)	*Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to other person/s by CEO.
Construction. Regulation 6(1)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor with job description
Construction. Regulation 6(2)	Designation of Assistant for above	Competent person appointed in writing as Assistant Construction Supervisor with job description
Section 17 & 18 General Administrative Regulations 6 & 7	*Designation of Health & Safety Representatives	More than 20 employees - one H&S Representative, one additional H&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified in terms of GAR 6 & 7 Meaningful H&S Rep. reports. Reports auctioned by Management.
Section 19 & 20 General Administrative Regulations 5	*Health & Safety Committee/s	H&S Committee/s established. All H&S Reps shall be members of H&S Committees Additional members are appointed in writing. Meetings held monthly, Minutes kept. Auctioned by Management.
Section 37(1) & (2)	*Agreement with Man dataries/ (Sub-)Contractors	Written agreement with (Sub-)Contractors List of (Sub-)Contractors displayed. Proof of Registration with Compensation Insurer/Letter of Good Standing Construction Supervisor designated Written arrangements re. H&S Reps & H&S Committee Written arrangements re. First Aid
Section 24 & General Admin. Regulation 8 COLD Act Sect.38. 39 & 41	*Reporting of Incidents (Dept. of Labour)	Incident Reporting Procedure displayed. All incidents in terms of Sect. 24 reported to the Provincial Director, Department of Labour, within 3 days. (Annexure 1?)(WCL 1 or 2) and to the Client and/or its Agent on its behalf Cases of Occupational Disease Reported Copies of Reports available on Site Record of First Aid injuries kept
General Admin. Regulation 9	*Investigation and Recording of Incidents	All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. Copies of Reports (Annexure 1) available on Site Tabled at H&S Committee meeting Action taken by Site Management.
Construction. Regulation 8	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointees competence available on Site

		Risk Assessment carried out for work at heights Fall Protection Plan drawn up/updated Available on Site
Construction. Regulation 8(5)	Roof work	Competent person appointed to plan & supervise Roof work. Proof of appointees competence available on Site Risk Assessment carried out Roof work Plan drawn up/updated Roof work inspect before each shift. Inspection register kept Employees medically examined for physical & psychological fitness. Written proof on site
Construction. Regulation 9	Structures	Information re. the structure being erected received from the Designer including: - geo-science technical report where relevant - the design loading of the structure - the methods & sequence of construction - anticipated dangers/hazards/special measures to construct safely Risk Assessment carried out Method statement drawn up All above available on Site Structures inspected before each shift. Inspections register kept
Construction. Regulation 10	Formwork & Support work	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Support & Formwork Design drawings available on site Risk Assessment carried out Support & Formwork inspected: - before use/inspection - before pouring of concrete - weekly whilst in place - before stripping/dismantling. - Inspection register kept
Construction. Regulation 14	Scaffolding	Competent persons appointed in writing to: - erect scaffolding (Scaffold Erector/s) - act as Scaffold Team Leaders - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Copy of SABS 085 available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept
Construction. Regulation 11	Excavations	Competent person/s appointed in writing to supervise and inspect excavation work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Inspected: - before every shift - after any blasting - after an unexpected fall of ground - after any substantial damage to the shoring - after rain. Inspections register kept Method statement developed where explosives will be/ are used
Construction. Regulation 19	Explosive Powered Tools	Competent person appointed to control the issue of the Explosive Powered Tools & cartridges and the service, maintenance and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use Work areas are demarcated!
Construction. Regulation 22/Electrical Machinery Regulations 9 & 10/	*Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation.

Electrical Installation Regulations		after alterations and quarterly. Inspection Registers kept Portable electric tools, electric lights and extension leads must be uniquely identified/numbered. Weekly visual inspection by User/Issuer/Storeman. Register kept.
Construction. Regulation 26/ General Safety Regulation 8(1)(a)	*Designation of Stacking & Storage Supervisor.	Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage Written Proof of Competence of above appointee available on Site
Construction. Regulation 27/ Environmental Regulation 9	*Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures Emergency Evacuation Plan developed: - Drilled/Practiced - Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out All Fire Extinguishing Equipment identified and on register . Inspected weekly. Inspection Register kept Serviced annually
General Safety Regulation 3	*First Aid	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aid Officials and Certificates Name of person/s in charge of First Aid box/es displayed. Location of First Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries
General Safety Regulation 2	Personal Safety Equipment (PSE)	PSE Risk Assessment carried out Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE PSE remain property of Employer, not to be removed from premises GSR 2(4)
General Safety Regulation 9	*Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately Equipment identified/numbered and entered into a register Equipment inspected weekly. Inspection Register kept Separate, purpose made storage available for full and empty vessels
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 23	Control of Storage & Usage of HCS and Flammables	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS (including Flammables) Written Proof of Competence of above appointee available on Site Risk Assessment carried out Register of HCS kept/used on Site Separate, purpose made storage available for full and empty containers
Vessels under Pressure Regulations	Vessels under Pressure (VUP)	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on Site Risk Assessment carried out Certificates of Manufacture available on Site Register of VUP's on Site Inspections & Testing by Approved Inspection Authority (AIA): - after installation/re-erection or repairs

		<ul style="list-style-type: none"> - every 36 months. - Register/Log kept of inspections, tests, Modifications & repair
General Safety Regulation 13A	Inspection of Ladders	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and weekly there after. Inspections register kept Application of the types of ladders (wooden, aluminium etc.) regulated by training and inspections and noted in register
General Safety regulation 13B	Ramps	Competent person appointed in writing to Supervise the erection & inspection of Ramps. Inspection register kept. Daily inspected and noted in register

14.2 Education & Training

Subject	Requirement
*Company OH&S Policy Section 7(1)	Policy signed by CEO and published/Circulated to Employees Policy displayed on Employee Notice Boards Management and employees committed.
*Company/Site OH&S Rules (Section 13(a))	Rules published Rules displayed on Employee Notice Boards Rules issued and employees effectively informed or trained: written proof Follow-up to ensure employees understand/adhere to the policy and rules.
*Induction & Task Safety Training (Section 13(a))	All new employees receive OH&S Induction Training. Training includes Task Safety Instructions. Employees acknowledge receipt of training. Follow-up to ensure employees understand/adhere to instructions.
*General OH&S Training (Section 13(a))	All current employees receive specified OH&S training: written proof Operators of Plant & Equipment receive specified training Follow-up to ensure employees understand/adhere to instructions.
*Occupational Health & Safety Promotion	<u>Incident Experience Board indicating e.g.</u> <ul style="list-style-type: none"> * No. of hours worked without an Injury * No. of days worked without an Injury Mission, Vision and Goal Star Grading - Board kept up to date. Safety Posters displayed & changed regularly Employee Notice Board for OH&S Notices. Site OH&S Competition. Company OH&S Competition. Participation in Regional OH&S Competition Suggestion scheme.

14.3 Public Safety, Security Measures & Emergency Preparedness

Subject	Requirement
*Notices & Signs	Notices & Signs at entrances / along perimeters indicating "No Unauthorised Entry" . Notices & Signs at entrance instructing visitors and non - employees what to do, where to go and where to report on entering the site/yard with directional signs. e.g. "Visitors to report to Office" Notices & Signs posted to warn of overhead work and other hazardous activities. e.g. General Warning Signs
Site Safeguarding Security Measures	Nets, Canopies, Platforms, Fans etc. to protect members of the public passing / entering the site. Access control measures/register in operation Security patrols after hours during weekends and holidays Sufficient lighting after dark Guard has access to telephone/ mobile/other means of emergency communication
Emergency Preparedness	Emergency contact numbers displayed and made available to Security & Guard Emergency Evacuation instructions posted up on all notice boards (including employees' notice boards) Emergency contingency plan available on site/in yard Doors open outwards/unobstructed

Emergency Drill & Evacuation	Emergency alarm audible all over (including in toilets) Adequate No. of employees trained to use Fire Fighting Equipment. Emergency Evacuation Plan available, displayed and practiced. (See Section 1 for Designation & Register)
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14.4 Personal Protective Equipment

Subject	Requirement
*PPE needs analysis	Need for PPE identified and prescribed in writing. PPE remain property of Employer, not to be removed from premises GSR 2(4)
*Head Protection	All persons on site wearing Safety Helmets including Sub-contractors and Visitors (where prescribed)
*Foot Protection	All employees on site wearing Safety Footwear including Gumboots for concrete / wet work and non-slip shoes for roof work. Visitors to wear same upon request or where prescribed
*Eye and Face Protection	<u>Eye and Face (also Hand and Body) Protection</u> (Goggles, Face Shields, Welding Helmets etc.) used when operating the following: <ul style="list-style-type: none"> * Jack/ Kango Hammers * Angle / Bench Grinders * Electric Drills (Overhead work into concrete / cement / bricks * Explosive Powered tools * Concrete Vibrators / Pokers * Hammers & Chisels * Cutting / Welding Torches * Cutting Tools and Equipment * Guillotines and Benders * Shears * Sanders and Sanding Machines * CO2 and Arc Welding Equipment * Skill / Bench Saws * Spray Painting Equipment etc.
*Hearing Protection	<u>Hearing Protectors</u> (Muffs, Plugs etc.) used when operating the following: <ul style="list-style-type: none"> * Jack / Kango Hammers * Explosive Powered Tools * Wood/Aluminium Working Machines e.g. saws, planers, routers
*Hand Protection	<u>Protective Gloves</u> worn by employees handling / using: <ul style="list-style-type: none"> * Cement / Bricks / Steel / Chemicals * Welding Equipment * Hammers & Chisels * Jack / Kango Hammers etc.
*Respiratory Protection	Suitable/efficient prescribed <u>Respirators</u> worn correctly by employees handling / using: <ul style="list-style-type: none"> * Dry cement * Dusty areas * Hazardous chemicals * Angle Grinders * Spray Painting etc.
*Fall Prevention Equipment	Suitable <u>Safety Belts / Fall Arrest Equipment</u> correctly used by persons working on / in unguarded, elevated positions e.g.: <ul style="list-style-type: none"> * Scaffolding * Riggers * Lift shafts * Edge work * Ring beam edges etc. Other methods of fall prevention applied e.g. catch nets
*Protective Clothing	All jobs requiring protective clothing (Overalls, Rain Wear, Welding Aprons etc.) Identified and clothing worn.
*PPE Issue & Control	Identified Equipment issued free of charge. All PPE maintained in good condition. (Regular checks). Workers instructed in the proper use & maintenance of PPE.

	Commitment obtained from wearer accepting conditions and to wear the PPE. Record of PPE issued kept on H&S File. PPE remain property of Employer, not to be removed from premises GSR 2(4)
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14.5 Housekeeping

Subject	Requirement
*Scrap Removal System	All items of Scrap/Unusable Off-cuts/Rubble and redundant material removed from working areas on a regular basis. (Daily) Scrap/Waste removal from heights by chute/hoist/crane. Nothing thrown/swept over sides. Scrap disposed of in designated containers/areas Removal from site/yard on a regular basis.
Stacking & Storage (See Section 1 for Designation & Register)	<u>Stacking:</u> <ul style="list-style-type: none"> * Stable, on firm level surface/base. * Prevent leaning/collapsing * Irregular shapes bonded * Not exceeding 3x the base * Stacks accessible * Removal from top only. <u>Storage:</u> <ul style="list-style-type: none"> * Adequate storage areas provided. * Functional – e.g. demarcated storage areas/racks/bins etc. * Special areas identified and demarcated e.g. flammable gas, cement etc. * Neat, safe, stable and square. * Store/storage areas clear of superfluous material. * Storage behind sheds etc. neat/under control. * Storage areas free from weeds, litter etc.
*Waste Control/Reclamation	Re-usable off-cuts and other re-usable material removed daily and kept to a minimum in the work areas. All re-usable materials neatly stacked/stored in designated areas. (Nails removed/bent over in re-usable timber). Issue of hardware/nails/screws/cartridges etc. controlled and return of unused items monitored.
Sub-contractors (Housekeeping)	Sub-contractors required to comply with Housekeeping requirements.

14.6 Working at Heights (including roof work)

Subject	Requirement
Openings	Unprotected openings adequately guarded/fenced/barricaded/catch nets installed
	Roof work discontinued when bad/hazardous weather Fall protection measures (including warning notices) when working close to edges or on fragile roofing material Covers over openings in roof of robust construction/secured against displacement

14.7 Scaffolding / Formwork / Support Work

Subject	Requirement
Access/System Scaffolding	Foundation firm / stable Sufficient bracing. Tied to Structure/prevented from side or cross movement Platform boards in good condition/sufficient/secured. Handrails and toe boards provided. Access ladders / stairs provided. Area/s under scaffolding tidy. Safe/unsafe for use signs Complying with OH&S Act/SABS 085
Free Standing Scaffolding	Foundation firm / stable Sufficient bracing. Platform boards in good condition/sufficient/secured.

	Handrails and toe boards provided. Access ladders / stairs provided. Area/s under scaffolding tidy. Safe/unsafe for use signs Height to base ratio correct Outriggers used /tied to structure where necessary Complying with OH&S Act/SABS 085
*Mobile Scaffolding	Wheels / swivels in good condition Brakes working and applied. Height to base ratio correct. Outriggers used where necessary Complying with OH&S Act/SABS 085
Formwork / Support Work	All components in good condition. Foundation firm / stable. Adequate bracing / stability ensured. Good workmanship / uprights straight and plumb. Good cantilever construction. Safe access provided. Areas under support work tidy. Same standards as for system scaffolding.
Edges & Openings	Edges barricaded to acceptable standards. Manhole openings covered / barricaded. Openings in floor / other openings covered, barricaded/fenced. Stairs provided with handrails. Lift shafts barricaded / fenced off.

14.8 Ladders

Subject	Requirement
*Physical Condition / Use & Storage	Stepladders - hinges/stays/braces/stiles in order. Extension ladders - ropes/rungs/stiles/safety latch/hook in order. Extension / Straight ladders secured or tied at the bottom / top. No joined ladders used Wooden ladders are never painted except with varnish Aluminium ladders NOT to be used with electrical work All ladders stored on hooks / racks and not on ground. Ladders protrude 900 mm above landings / platforms / roof. Fixed ladders higher than 5 m have cages/Fall arrest system

14.9 Electricity (as part of, or additional to the manual "Safety & Switching Procedures for Electrical Installations"- see attached document)

Subject	Requirement
*Electrical Distribution Boards & Earth Leakage	Colour coded / numbered / symbolic sign displayed. Area in front kept clear and unobstructed. Fitted with inside cover plate / openings blanked off / no exposed "live" conductors / terminals/Door kept close Switches / circuit breakers identified. Earth leakage protection unit fitted and operating. Tested with instrument: Test results within 15 – 30 milliamps Aperture/Opening/s provided for the plugging in and removal of extension leads without the need to open the door Apertures and openings used for extension leads to be protected against the elements and especially rain
*Electrical Installations & Wiring	Temporary wiring / extension leads in good condition / no bare or exposed wires. Earthing continuity / polarity correct: Looking at the open connectors to connect the wiring, the word "Brown" has the letter 'R'

	<p>in it, so the b'R'own wire connects to the 'R'ight hand connector. "Blue" has the letter 'L' in it, so the b'L'ue wire connects to the 'L'eft hand connector.</p> <p>Cables protected from mechanical damage and moisture.</p> <p>Correct loading observed e.g. no heating appliance used from lighting circuit etc.</p> <p>Light fittings/lamps protected from mechanical damage/moisture.</p> <p>Cable arrestors in place and used inside plugs</p>
*Physical condition of Electrical Appliances & Tools	<p>Electrical Equipment and Tools: (includes all items plugging in to a 16 Amp supply socket)</p> <p>Insulation / casing in good condition.</p> <p>Earth wire connected/intact where not of double insulated design</p> <p>Double insulation mark indicates that no earth wire is to be connected.</p> <p>Cord in good condition/no bare wires/secured to machine & plug.</p> <p>Plug in good condition, connected correctly and correct polarity.</p>

14.10 Emergency and Fire Prevention and Protection

Subject	Requirement
*Fire Extinguishing Equipment	<p>Fire Risks Identified and on record</p> <p>The correct and adequate Fire Extinguishing Equipment available for:</p> <ul style="list-style-type: none"> * Offices * General Stores * Flammable Store * Fuel Storage Tank/s and catchment well * Gas Welding / Cutting operations * Where flammable substances are being used / applied. * Equipment Easily Accessible
*Maintenance	Fire equipment checked minimum monthly, serviced yearly
*Location & Signs	<p><u>Fire Extinguishing Equipment:</u></p> <ul style="list-style-type: none"> * Clearly visible * Unobstructed * Signs posted including "No Smoking" / "No Naked Lights" where required. (Flammable store, Gas store, Fuel tanks etc.)
* Storage Issue & Control of Flammables (incl. Gas cylinders)	<p>Storage Area provided for flammables with suitable doors, ventilation, bund etc.</p> <p>Flammable store neat / tidy and no Class A combustibles. Decanting of flammable substances carried out in ignition free and adequately ventilated area. Container bonding principles applied</p> <p>Only sufficient quantities issued for one task or one day's usage</p> <p>Separate, special gas cylinder store/storage area.</p> <p>Gas Cylinders stored / used / transported upright and secured in trolley/cradle/structure and ventilated.</p> <p>Types of Gas Cylinders clearly identified as well as the storage area and stored separately.</p> <p>Full cylinders stored separately from empty cylinders.</p> <p>All valves, gauges, connections, threads of all vessels to be checked regularly for leaks.</p> <p>Leaking acetylene vessels to be returned to the supplier IMMEDIATELY.</p>
*Storage, Issue & Control of Hazardous Chemical Substances (HCS)	<p>HCS storage principles applied: products segregated</p> <p>Only approved, non-expired HCS to be used</p> <p>Only the prescribed PPE shall be used as the minimum protection</p> <p>Provision made for leakage/spillage containment and ventilation</p> <p>Emergency showers/eye wash facilities provided</p> <p>HCS under lock & key controlled by designated person</p> <p>Decanted/issued in containers as prescribed with information/warning labels</p> <p>Disposal of unwanted HCS by accredited disposal agent</p> <p>No dumping or disposal of any HCS on or inside the storage area or anywhere else on the project site</p> <p>All vessels or containers to be regularly checked for leaks</p>

14.11 Excavations

Subject	Requirement
Excavations deeper than 1m.	Shored / Braced to prevent caving / falling in. Provided with an access ladder. Excavations guarded/barricaded/lighted after dark in public areas Soil dumped at least 1 m away from edge of excavation On sloping ground soil dumped on lower side of excavation All excavations are subject to daily inspections

14.12 Tools

Subject	Requirement
*Hand Tools	<u>Shovels / Spades / Picks:</u> * Handles free from cracks and splinters * Handles fit securely * Working end sharp and true <u>Hammers:</u> * Good quality handles, no pipe or reinforcing steel handles. * Handles free from cracks and splinters Handles fit securely <u>Chisels:</u> * No mushroomed heads / heads chamfered * Not hardened * Cutting edge sharp and square <u>Saws:</u> * Teeth sharp and set correctly * Correct saw used for the job
*Explosive Powered Tools.	Only used by trained / authorised personnel. Prescribed warning signs placed / displayed where tool is in use. Work area must be properly isolated/demarcated during use of tool. Inspected at least monthly by competent person and results recorded. Issue and return recorded including cartridges / nails and unused cartridges / nails / empty shells recorded. Cleaned daily after use.

14.13 Transport & Materials Handling Equipment

Subject	Requirement
*Site Vehicles	All Site Vehicles, Dumpers, Bobcats, Loaders etc: checked daily before use by driver / operator. Inventory of vehicles used/operated on site Inspection by means of a checklist / results recorded. No persons riding on equipment not designed or designated for passengers. Site speed limit posted, enforced and not exceeded. Drivers / Operators trained / licensed and carrying proof. No unauthorised persons allowed to drive / operate equipment.
Conveyors	Conveyor belt nip points and drive gear guarded. Emergency stop/lever/brake fitted, clearly marked & accessible and tested to be functional under full load.

14.14 Site Plant and Machinery

Subject	Requirement
Brick Cutting Machine	Operator Trained. Only authorised persons use the machine. Emergency stop switch clearly marked and accessible. Area around the machine dry and slip/trip free/clear of off-cuts All moving drive parts guarded/electrical supply cable protected Operator using correct PPE - eye/face/hearing/foot/hands/body.
*Electric Arc Welder	Welder Trained. Only authorised / trained persons use welder. Earth cable adequately earthed to work. Electrode holder in good condition/safe Cables, clamps & lugs/connectors in good condition. Area in which welding machine is used is dry/protected from wet. Welder using correct PPE - eye/ face/foot/body/respirator. Correct transparent screens & warning signs placed
*Compressors	Relief valves correctly set and locked / sealed. Maximum Safe Working Pressure (MSWP) indicated on face of pressure gauge: not on glass cover. All drives adequately guarded. Receiver/lines drained daily Hoses good condition/clamped, not wired Compressed air NEITHER used to dust off clothing/PPE/ and work areas NOR on bare skin
Concrete Mixer / Batch Plant	Top platform provided with guardrails. Dust abatement methods in use. Operators using correct PPE - eye / hands / respirators. All moving drive parts guarded. Emergency stops identified / indicated and accessible. Area kept clean/dry/and free from tripping and slipping hazards. Operators overseer identified and crane signals displayed and used.
*Gas Welding / Flame Cutting Equipment	Only authorised/trained persons use the equipment. Torches and gauges in good condition. Flashback arrestors fitted at cylinders and gauges. Hoses in good condition/correct type/all connections with clamps Cylinders stored, used and transported in upright position. secured in trolley / cradle / to structure. All cylinders regularly checked for leaks, leaking cylinders returned immediately Fire prevention/control methods applied/hot work permits.

14.15 Plant & Storage Yards/Site Workshops Specifics

Subject	Requirements
Section 8(2)(1) General Machinery Regulation 2(1): Supervision of the Use & Maintenance of Machinery	Person/s with specific knowledge and experience designated in writing to Supervise the Use & Maintenance of Machinery Critical items of Machinery identified/numbered/placed on register/inventory Inspection/maintenance schedules for abovementioned Inspections/maintenance carried out to above schedules Results recorded
General Machinery Regulation 9(2): Notices re. Operation of Machinery	Schedule D Notice posted in Work areas
Vessels under Pressure Regulation 13(1)(b): Supervision of the Use & Maintenance of Vessels under Pressure (VuP)	Person/s with specific knowledge and experience designated in writing to Supervise the Use & Maintenance of VuP's VuP's identified/numbered/placed on register/Manufacturers plate intact Inspection/maintenance schedules for abovementioned Inspections/maintenance carried out to above schedules Results recorded/Test certificates available

Lock-out Procedure	Lock-out procedure in operation
Ergonomics	Ergonomics survey conducted – results on record Survey results applied
Demarcation & Colour Coding	Demarcation principles applied All services, pipes, electrical installation, stop-start controls, emergency controls etc. colour coded to own published or SABS standard Employees trained to identify colour coding
Portable & Bench Grinders	Area around grinder clear/trip/slip free Bench grinders mounted securely - grinder generally in good condition - no excessive vibration On/Off switch/button clearly demarcated/accessible Adequate guards in place Toolrest – secure/square/max. 2 mm gap, perpendicular to drive shaft Stone/disk - correct type and size/mounted correctly/dressed Use of Eye protection enforced
Battery Storage & Charging	Adequately ventilated, ignition free room/area/no smoking sign/s Batteries placed on rubber/wooden surface Emergency shower/eye wash provided No acid storage in area Prescribed methods in place and adhered to when charging batteries
Ancillary Lifting Equipment	Chain Blocks/Tirfors/jacks/mobile gantries etc. identified/ numbered on register Chains in good condition/links no excessive wear/checked daily Lifting hooks – throat pop marked/safety latch fitted SWL/MML marked/displayed
Presses/Guillotines/ Shears	Only operated by trained/authorised persons Interlocks/lock-outs fitted/PPE worn or used at all times

14.16 Workplace Environment, Health and Hygiene

Subject	Requirement
*Lighting	Adequate lighting in places where work is being executed e.g. stairwells and basements. Light fittings placed / installed causing no irritating/blinding glare. Stroboscopic effect eliminated (not only reduced) where moving objects or machinery is used
*Ventilation	Adequate ventilation / extraction / exhausting in hazardous areas e.g. chemicals / adhesives / welding / petrol or diesel/ motors running and in confined spaces / basements.
*Noise	Tasks identified where noise levels exceeds 85 dB at any one time. All reasonable steps taken to reduce noise levels at the source. Hearing protection used where noise levels could not be reduced to below 85 dB.
*Heat Stress	Measures in place to prevent heat exhaustion in heat stress problem areas e.g. steel decks, when the WBGT index reaches 30. (See Environmental Regulation 4) Cold drinking water readily available at all times.
*Ablutions	Sufficient hygiene facilities provided - 1 toilet per 30 employees (National Building Regulations prescribe chemical toilets for Construction sites) Toilet paper available. Sufficient showers provided. Facilities for washing hands provided Soap/cleaning agent available for washing hands Means of drying hands available Lock-up changing facilities / area provided. Ablution facilities kept hygienic and clean.
*Eating / Cooking Facilities	Adequate storage facilities provided. Weather protected eating area provided, separate from changing area Refuse bins with lids provided. Facilities kept clean and hygienic.
*Pollution of Environment	Measures in place to minimize dust generation. Accumulation or littering of empty cement pockets, plastic wrapping / bags, packing materials etc. prevented. Spillage / discarding of oil, chemicals and diesel into storm water and other drains or into

	existing or newly dug holes/cavities on site expressly prohibited.
*Hazardous Chemical Substances	All substances identified and list available e.g. acids, flammables, poisons etc. Material Safety Data Sheets (MSDS) indicating hazardous properties and emergency procedures in case of incident on file and readily available. Substances stored safely. Expiry dates meticulously checked where applicable

15. THE PRINCIPAL CONTRACTOR'S GENERAL DUTIES

The Principal Contractor shall at all times maintain his status of an “employer” as referred to in the Act, and will abide by his/her responsibilities, duties and functions as per the requirements of the Act and Regulations with specific reference to Section 8 of the Act.

The Principal Contractor shall keep, and on demand make available, a copy of the Act on site at all times and in addition to that he/she will introduce and maintain a file titled “Health and Safety File”, or other record in permanent form, which shall contain all relevant aspects and information as contemplated in the Construction Regulations. He/she will make this file available to the client or his representative whenever necessary or on request to an interested party.

16. THE PRINCIPAL CONTRACTOR'S SPECIFIC DUTIES

The Principal Contractor’s specific duties in terms of these specifications are detailed in the Construction Regulations as published under government notice No.R1010 dated 18 July 2003.

The Principal Contractor is specifically referred to the following elements of the Construction Regulations:

- Regulation No. 1 - Definitions
- Regulation No. 2 - Scope of application
- Regulation No. 3 - Notification of construction work
- Regulation No. 5 - Principal Contractor and Contractor
- Regulation No. 6 - Supervision of construction work
- Regulation No. 7 - Risk Assessment
- Regulation No. 26 - Stacking & Storage on construction sites
- Regulation No. 28 - Construction welfare facilities
- Regulation No. 29 - Approved Inspection authorities
- Regulation No. 30 - Offences and penalties

The Principal Contractor shall ensure compliance to the Act and its Regulations and specifically to the above regulations, and document each record in the Health and Safety File.

17. THE PRINCIPAL CONTRACTOR'S SPECIFIC RESPONSIBILITIES WITH REGARD TO HAZARDOUS ACTIVITIES

The following activities are identifiable as hazardous in terms of the Construction Regulations.

The contractor shall execute the activities in accordance with the following Construction Regulations and other applicable regulations of the Act:

- Regulation No. 8 - Fall protection
- Regulation No. 9 - Structures
- Regulation No. 10 - Formwork and support work
- Regulation No. 11 - Excavation work
- Regulation No. 12 - Demolition work

Regulation No. 13	- Tunneling
Regulation No. 14	- Scaffolding
Regulation No. 15	- Suspended platforms
Regulation No. 16	- Boatswain's chairs
Regulation No. 17	- Material hoists
Regulation No. 18	- Batch plants
Regulation No. 19	- Explosive powered tools
Regulation No. 20	- Cranes
Regulation No. 21	- Construction vehicles & mobile plant.
Regulation No. 22	- Electrical installations and machinery on construction sites
Regulation No. 23	- Use and temporary storage of flammable liquids on construction sites
Regulation No. 24	- Water environments
Regulation No. 25	- Housekeeping on construction sites
Regulation No. 27	- Fire precautions on construction sites.

All these will be read in conjunction with the relevant regulations and health and safety standards as required by the Act. All documents and records required by the Construction Regulations will be kept in the Health and Safety File and will be made available at any time when required by the client or his representative, or on request to an interested party.

18. GENERAL NOTES TO THE PRINCIPAL CONTRACTOR

Legal Framework

Part of legal obligations

The more important Acts and relevant subordinate/secondary legislation as well as other (inter alia Local Government) legislation that also apply to the State as well as to State owned buildings and premises: -

- (i) The latest issue of SABS 0142: "Code of Practice for the Wiring of Premises"
- (ii) The Local Government Ordinance 1939 (Ordinance 17 of 1939) as amended and the municipal by-laws and any special requirements of the local supply authority
- (iii) The Fire Brigade Services Act 1987, Act 99 of 1987 as amended
- (iv) The National Building Regulations and Building Standards Act 1977 (Act 103 of 1977) as amended and relevant proclaimed Regulations (SABS 0400)
- (v) The Post Office Act 1958 (Act 44 of 1958) as amended
- (vi) The Electricity Act 1984, Act 41 of 1984
- (vii) The Regulations of Local Gas Board(s)
- (viii) Legislation pertaining to water usage and the environment
- (ix) Legislation governing the use of equipment, which may emit radiation (e.g. X-Rays etc.)
- (x) Common Law

19. HOUSE KEEPING

Good housekeeping will be maintained at all times as per Construction Regulation No. 25. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

Particular emphasis is to be placed on the following crucial elements of a construction site:

- Phase priorities and production/plant layout
- Enclosures
- Pits, openings and shoring

- Storage facilities
- Effective, sufficient and maintained lighting or illumination
- Principal sources of injuries e.g. stairways, runways, ramps, loose building material
- Oil, grease, water, waste, rubble, glass, storm water
- Colour coding
- Demarcations
- Pollution
- Waste disposal
- Ablution and hygiene facilities
- First aid

In promotion of environmental control all waste, rubble, scrap etc, will be disposed of at a registered dump site and records will be maintained. Where it is found to be impractical to use a registered dump site or it is not available, the Principal Contractor will ensure that the matter is brought to record with the client or his representative, after which suitable, acceptable alternatives will be sought and applied.

Dross and refuse from metals, and waste matters or by-products whose nature is such that they are poisonous or capable of fermentation, putrefaction or constituting a nuisance shall be treated or disposed of by methods approved of by an inspector.

NOTE: No employer (Principal Contractor) shall require or permit any person to work at night or after hours unless there is adequate, suitable artificial lighting.

20. LOCKOUT SYSTEMS

A system of control shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage to people and equipment as far as is reasonably practicable.

Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged and the system tested before commencing with any work or repairs.

21. INCIDENT INVESTIGATION

Inspection and reporting is the best way in which a responsible contractor can control his area of responsibility. All incidents therefore, whether it gave rise to loss, injury, damage or not, shall be investigated and the results recorded in the Health and Safety File. (attached GAR 9)

22. GENERAL

The project under control of the Principal Contractor shall be subject to periodic health and safety audits that will be conducted by the client at intervals agreed upon between the Principal Contractor and the client, provided such intervals will not exceed periods longer than one month. The Principal Contractor is to ensure that he/she and all persons under his control on the construction site shall adhere to the above specifications, as non-conformance will lead to the client taking action as directed by Construction Regulation 4.1(e). The Principal Contractor should note that he/she shall be held liable for any anomalies including costs and resulting deficiencies due to delays caused by non-conformance and/or non-compliance to the above Health and Safety Specifications and the Health and Safety Plan based on these specifications.

23. IMPORTANT LISTS AND RECORDS TO BE KEPT

The following are lists of several records that are to be kept in terms of the Construction Regulations. The lists are:

- 1 List of appointments
- 2 List of record keeping responsibilities
- 3 Inspection checklist

These lists and documents are to be used as a point of reference to determine which components of the Act would be applicable to a particular site or task or project, as was intended under paragraph 1 ("Preamble") above.

1. LIST OF APPOINTMENTS

ITEM	REGULATION	APPOINTMENT	RESPONSIBLE PERSON
1.	4(1)(c)	Principal contractor for each phase or project	Client
2.	5.(3)(b)	Contractor	Principal Contractor
3.	5(11)	Contractor	Contractor
4.	6(1)	Construction supervisor	Contractor
5.	6(2)	Construction supervisor sub-ordinates	Contractor
6.	6(6)	Health and Safety Officer	Contractor
7.	7(1)	Person to Carry Out Risk Assessment	Contractor
8.	7(4)	Trainer/Instructor	Contractor
9.	8(1)(a)	Fall Protection Planner	Contractor
10.	10 (a)	Formwork & Support Work Supervisor	Contractor
11.	10(e) + (f)	Formwork & Support Work Examiner	Contractor
12.	11(1)	Excavation Supervisor	Contractor
13.	11(3)(b)(ii)(b)	Professional Engineer or Technologist	Contractor
14.	11(3)(k)	Explosives Expert	Contractor
15.	12(1)	Supervisor Demolition Work	Contractor
16.	12(2) + (3)	Demolition Expert	Contractor
17.	12(11)	Explosives Expert	Contractor
18.	14(2)	Scaffold Supervisor	Contractor
19.	15(1)	Suspended Platform Supervisor	Contractor
20.	15(2)(c)	Compliance Plan Developer	Contractor
26.	19(2)(b)	Power Tool Expert	Contractor
27.	19.2 (g) (i)	Power Tool Controller	Contractor
31.	22(d)	Temporary Electrical Installations Inspector	Contractor
32.	22 (e)	Temporary Electrical Installations Controller	Contractor
33.	26 (a)	Stacking and Storage Supervisor	Contractor
34.	27 (h)	Fire Equipment Inspector	Contractor

2. LIST OF RECORD KEEPING RESPONSIBILITIES

ITEM	CR	RECORD TO BE KEPT	RESPONSIBLE PERSON
1.	3(3)	Notification to Provincial Director – Annexure A Available on site	Principal Contractor
2.	4(3)	Copy of Principal Contractor's Health & Safety Plan Available on request	Client
3.	5(6)	Copy of Principal Contractor's Health & Safety Plan As well as each Contractor's Health & Safety Plan Available on request	Principal Contractor
4.	5(7)	Health and Safety File opened and kept on site (including all documentation required i.t.o. OHSA & Regulations Available on request	Every Contractor
5.	5(8)	Consolidated Health and Safety File handed to Client on completion of Construction work. To include all documentation required i.t.o. OHSA & Regulations and records of all drawings, designs, materials used and similar information on the structure	Principal Contractor
6.	5(9)	Comprehensive and Updated List of all Contractors on site, the agreements between the parties and the work being done Included in Health and Safety file and available on request	Principal Contractor
7.	6(7)	Keep record on the Health and Safety File of the input by Construction Safety Officer [CR 6 (7)] at design stage or on the Health and Safety Plan	Contractor
8.	7(2)	Risk Assessment - Available on site for inspection	Contractor
9.	7 (9)	Proof of Health and Safety Induction Training	Every Employee on site
10.	8(3)	Construction Supervisor [CR 6(1)] has latest updated version of	Contractor

		Fall Protection Plan [CR 8(1)]	
11.	9(2)(b)	Inform contractor in writing of dangers and hazards relating to construction work	Designer of Structure
12.	9(3)	All drawings pertaining to the design of structure On site available for inspection	Contractor
13.	9(4)	Record of inspections of the structure [First 2 years – once every 6 months, thereafter yearly] - Available on request	Owner of Structure
14.	9(5)	Maintenance records - safety of structure - Available on request	Owner of Structure
15.	10(d)	Drawings pertaining to the design of formwork/support work structure - Kept on site, available on request	Contractor
16.	11(3)(h)	Record of excavation inspection - On site available on request	Contractor
17.	17(8)(c)	Material Hoist daily inspection entered and signed in record book kept on the premises	Contractor
18.	17(8)(d)	Maintenance records for Material Hoist - Available on site	Contractor
19.	22(d)	Record of temporary electrical installation inspections [once a week] and electrical machinery [daily before use] in a register and kept on site	Contractor
20.	27(f)	Fire Evacuation Plan	Contractor

3. INSPECTION CHECKLIST

Employer Particulars	
Employer:	
Registered Name of Enterprise:	
Trade Name of Enterprise:	
Company Registration No.:	
SARS Registration No.:	
UIF Registration No.:	
COIDA Registration No.:	
Relevant SETA for EEA purposes:	
Industry Sector:	
Bargaining Council:	
Contact Person:	
Address of Premises:	
Postal Address:	
Telephone Number:	
Fax Number:	
E-mail Address:	
Chief Executive Officer:	
Chief Executive Officer Address:	
Competent Person:	
Maximum power demand: in KW	
Health and Safety Representatives:	
Activities, products manufactured and/ services rendered:	
Raw materials, materials and chemical/ biological substances:	
Total Number of Employees:	Male: Female:

Contractor Particulars	
Contractors:	
Site Address:	
Contracts Manager:	
Managing Director:	
Competent Persons:	
CR14: SCAFFOLDING:	
CR15: SUSPENDED SCAFFOLDING:	
CR17(6): MATERIAL HOIST (S):	
CR18(1): BATCH PLANT:	
CR8(1)(a): FALL PROTECTION:	
CR11(1)(1): EXCAVATION WORK:	
CR12: DEMOLITION WORK:	
CR19(2)(b): EXPLOSIVE POWER TOOLS	
CR26(a): STACKING	

INSPECTION		N/A	YES	NO
SECTION/REGS	ITEM CHECKED			
	APPOINTMENTS			
CR6(1)	Supervisor:			
CR6(2)	Assistant Supervisor:			
S17(1)	Health & Safety Representative: (ratio)			
S19(1)	Health & Safety Committees			
CR 12(1)	Demolition Director			
	DOCUMENTS			
GAR 9(1)	Records of Incidents			
GAR 4	Copy of the Act			
GAR 7	Safety Reps Report			
GAR 8	Safety Committee Minutes			
DMR 18(7)	Lifting Machinery Log (Crane)			
CR 3(3)	Notification of Construction Work			
CR 7(2)	Risk Assessment			
CR 7(9)(e)	Proof of the Health & Safety Induction Training			
CR 11(13)(h)	Inspection of Excavation (Records)			
CR 20(g)	Crane Operator Medical Certificate			
CR 21(11)	Mobile Plant Operator Medical Certificate			
CR 18(9)	Batch Plant Repairs & Maintenance Records			
CR22(d)	Temporary Electrical Installation Record			
CR 5(7)	Health & Safety File			
CR 15(11)	Suspended Platforms' Performance Records			
CR 17(b)& (c)	Material Hoists Record Book			
IMPROV NOTICE	Scaffolding Log Book			
CR 21(1)(d)(ii)	Medical Certificate of Fitness			

CR 21(1)(l)	Construction Vehicle & Mobile Plant Register			
CR 22(d)	Electrical Installation & Machinery Register			
	INCIDENTS			
GAR 8(1) S24	Reported			
GAR 9(1)	Recorded Investigated Action Taken			
	PUBLIC SITE			
FR 2(1)	Sanitary Facilities			
CR 28(1) (c)	Changing Facilities for each sex			
CR 25(d)	Perimeter fence & no admittance			
CR 25(e)	Overhead protection netting/falling objects			
NB Notice	Pedestrian warning			
	PERSONAL SAFETY EQUIPMENT			
	Items Issued:			
GSR 2(3)	Items Required:			
S23	(What is the payment on each item?)			
	SAFETY PLANS			
	FIRST AID			
GSR 3(6)	Name(s) of First Aider (s):			
CR 4(1)(3)	Client's Health & Safety Specification			
CR5	Principal's contractor H&S Plan			
	FIRE HAZARD & PRECAUTIONS			
GSR 4	Flammables used, waste, hot work, diesel			
ER 9(1)	Portable Extinguishers			
	ELECTRICAL INSTALLATIONS & MACHINERY			
CR22	Guarding & PPE to Electrical Installations			
	ILLUMINATION			
ER 3(6)	Dangerous Places			
	Housekeeping			
ER6(2)(b),(c),(d)	Clear space storage			
ER6(3)	Disposal of waste			
	EXCAVATIONS			
CR 11(3)(l)	Barricades			
CR 11(3)(c)	Safe Depth Shoring/Bracing			
CR 11(1)(a)	Monitored			
CR 11(3)(h)	Excavation Inspection Record			
	GUARDING			
ER 6(2)(f)	Floor Openings			
	Floor slab sides, Shafts			
	SITE EQUIPMENT			
GSR 13A(a)	Ladders condition, secured			

IMPROV	Scaffold condition, secured			
	Platforms no. of boards condition Support 1.25. Toe Boards			
IMPROV	Hand Rails			
	SITE MACHINES			
DMR 3(2)(3)	Circulars, guards, riving knives			
DMR 2(a)	Mixers guarded			
	ELECTRIC POWER			
EMR 6(1)	Supply Board, condition E.L Relay Test			
GMR 3(1)	Condition of Tools, Leads, Plugs, etc			
	LIFTING MACHINE/TACKLE			
DMR 18(8)	Lifting of persons			
DMR 18(8)	Condition, Securing of Load			
	EXPLOSIVE POWERED TOOLS			
CR 19(1)	Safe Use and Storage			
IMPROV	Warning Notice			
	ROOF WORK			
CR 8(1)	Safety equipment & precautions			
CR 8(2)	Fall protection plan			
CR 8(3)	Updated fall protection plan			
	ASBESTOS CEMENT			
AR 10(a)	Suitable Tools			

WARNING: Under no circumstances shall any work of any nature whatsoever on any ASBESTOS material be undertaken unless the work is entrusted and mandated to a “REGISTERED ASBESTOS CONTRACTOR” in terms of the Asbestos Regulations. [CR 12(9)] (plse. contact the Regional Manager’s Office)

24. HEALTH AND SAFETY FILE COMPILATION AND CONTENT
(Document attached)

25. SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS (Document attached)

NOTE:

The guidelines and conditions provided in this attached document form an integral constituent of the Health and Safety Specifications. It is therefore a condition of acceptance that no Health and Safety Plan shall be complete unless all relevant elements of this document applicable to the above project have been included in the Health and Safety Plan. The final approval of the Health and Safety Plan in terms of CR 4(2) shall be subject to this requirement based on the following certification by the Principal Contractor or his Agent:

“ I hereby certify that I have taken cognisance of the content of the document titled ‘SAFETY AND SWITCHING PROCEDURES FOR ELECTRICAL INSTALLATIONS’ and have included the relevant elements of the document applicable to the above project in my Health and Safety Plan and shall ensure adherence to the requirements thereof.”

The contents of CR 5 is pivotal when mandatory appointments are contemplated.

26. GUIDE TO THE GENERAL ADMINISTRATIVE REGULATIONS
(Document attached)

27. IMPORTANT CONTACT DETAILS (HEALTH & SAFETY ONLY) (Document attached)