



OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION FOR ELECTRICAL UPGRADE PROGRAM ACROSS THE COLLEGE



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1. APPLICATIONS AND INTERPRETATION

This document is to be read and understood in conjunction with the following, inter- alia:

- Occupational Health and Safety Act 85 of 1993 (OHS Act).
- All regulations published in terms of the OHS Act.
- Construction Regulations, 2014
- General Safety Regulations.
- General Machinery Regulations.
- Electrical Machinery Regulations
- Electrical Installations Regulations
- Driven Machinery Regulations
- Hazardous Regulation Regulations
- SABS codes referred to by the OHS Act.
- Contract Documents
- Basic Conditions of Employment Act (Act 75 of 1997)
- National Environmental Management Act 107 of 1998 and all Regulations
- Compensation for Occupational Injuries and Diseases (COID) Act No. 130 of 1993

2. ABBREVIATIONS

- OHS : Occupational Health and Safety
- CEO : Chief Executive Officer
- CR : Construction Regulations
- HCS : Hazardous Chemical Substances
- MSDS : Material Safety Data Sheet
- IA : Approved Inspection Authority
- HBA : Hazardous Biological Agents
- OEL : Occupational Exposure Limit
- EEC : Ekurhuleni East TVET College
- OH&SS : Occupational Health and Safety Specification
- HS&EP : Health, Safety and Environmental Plan
- HS&EF : Health, Safety and Environmental File
- CHSO : Construction Health and Safety Officer



3. DEFINITIONS

The following definitions from the Occupational Health and Safety Act are listed as follows:

Chief Executive Officer

In relation to a body corporate or an enterprise conducted by the State, means the person who is responsible for the overall management and control of the business of such body corporate or enterprise.

Danger

Means anything that may cause injury or damage to persons or property.

Employee

Means, subject to the provisions of Subsection (2), any person who is employed by or works for any employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person.

Employer

Means, subject to the provisions of Subsection (2), any person who employs or provides work for any person or remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in Section 1(1) of the Labour Relations Act, 1953 (Act No. 28 of 1955).

Healthy

Means free from illness or injury attributable to occupational causes.

Machinery

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

Medical Surveillance

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



Plant

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

Properly Used

Means used with reasonable care, and with due regard to any information, instruction or advice supplied by the designer, manufacturer, importer, seller or supplier.

User

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

Reasonably Practicable

Means practicable having regards to:

- a) the severity and scope of the hazard or risk concerned,
- b) The state of knowledge reasonably available concerning that hazard or risk and of any means to remove or mitigate that hazard or risk.
- c) the availability and suitability of means to remove or mitigate that hazard or risk; and
- d) The cost of removing or mitigating that hazard or risk in relation to the benefits deriving there from.

Risk

Means the probability that injury or damage will occur.

Safe

Means free from any hazard.

Standard

Means any provision occurring:

- a) in a specification, compulsory specification, code of practice or standard method as defined in Section 1 of the Standards Act, 1993 (Act No. 29 of 1993); OR
- b) in any specification, code or any other directive having standardization as its aim and issued by an institution or organization inside or outside the Republic which, whether generally or with respect to any particular article or matter and whether internationally or in any particular country or territory, seeks to promote standardization.



The following definitions from the Construction Regulations are listed as follows:

Agent

Means any competent person who acts as a representative for a client.

Competent Person

Means any person having the knowledge, training, experience and qualifications specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training.

Construction work

Means any work in connection with:

- a The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- b The construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or the moving of earth, clearing of land, the making of an excavation, piling or any similar civil engineering structure or type of work.

Construction work permit

Means a document issued in terms of regulation 3;

Contractor

Means an employer who performs construction work.

Hazard Identification

Means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed.

Health and Safety File

Means a file, or other record containing the information required in these regulations.



Health and Safety Plan

Means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

Health and Safety Specification

Means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

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 appointed by the client to perform construction work;

Risk Assessment

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

4. PURPOSE OF THE OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

This specification has been prepared for contractor(s) to comply with the requirements of the Electrical Installation Regulations, General Safety Regulations and General Administrative Regulations.

The purpose of the Occupational Health and Safety Specification is to ensure compliance with legal requirements and to provide health and safety information about the specific project risks known by the Client, Designer and Client Agent to be applicable to this project. This document also provides minimum health and Safety requirements, standards, and expectations that the principal contractor and contractors must adhere to.

The contractor must take into consideration all information in this specification and ensure that their tenders include adequate resources and competence to deal with the matters detailed herein so that all relevant contents are dealt with in a way which is in compliance with the legislation and the ethical concerns for the safeguarding of employees, contractors and other persons affected by the project activities.



This will also assist in ensuring that all the costs related to the compliance with the Occupational Health and Safety Act 85 of 1993 and its regulations as amended are complied with and are taken into consideration at Tender Stage. This document forms part of the contract between EEC (Client) and the principal contractor. The Principal Contractor should make it part of any contract/s that they may have with other contractors and/or suppliers as far as this project is concerned.

Compliance with this document does not absolve the Principal contractor from complying with any other minimum legal requirements and the Principal Contractor remains responsible for the health and Safety of his employees, those he entered into agreement with as well as any person on adjacent properties as far as it relates to the project.

Further, there is no acceptance of liability by the Client which may result from the Principal Contractor failing to comply with the Health and Safety Specification unless the Client has issued an instruction to any requirement i.e. the Principal Contractor remains responsible for achieving the required performance levels.

5. GENERAL REQUIREMENTS IN TERMS OF CONSTRUCTION REGULATIONS 2014 AND OHS ACT AND REGULATIONS

5.1 Construction Work Permit

It must be noted that from August 2015 all projects that meet the following criteria will require a construction work permit to be applied for at least 30 days prior to the work being carried out:

- Exceeds 180 days,
- Will involve more than 1800 person days of construction work,
- Works contract is of a value equal or exceeding thirteen million or Construction Industry Grading Board (CIDB) grading level 5.

It is the client's responsibility to apply for this permit from the Provincial Director and construction work may not commence until the permit has been issued by the Provincial Director.

A copy of this permit will be required to be kept in the principal contractor's safety file, and the site specific number issued by the Provincial Director must be displayed at the site entrance.

5.2 Notification of intention to Commence Construction work

The Principal Contractor shall notify the Provincial Director of the Department of Labour of the intention to commence construction work at least 7 days prior to the works commencing if the intended construction work will:



- Include excavation work,
- Include work at heights where there is a risk of falling,
- Include the demolition of a structure, or
- Include the use of explosives to perform construction work.

If the construction work involves construction of a single storey dwelling for a client, and such client will be residing in such dwelling upon completion, the contractor must also notify the Provincial Director of the Department of Labour at least 7 days before the works commence.

This must be done on a form similar to an Annexure 2 (template of which can be found in the construction Regulations, 2014) A copy of the notification letter to the provincial Director shall be forwarded to the client for record purposes.

5.3 Duties of Principal Contractor

A principal Contractor must:

- Provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's documented health and safety specifications, which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the Principal Contractor as work progresses.
- Open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor, and
- On appointing any other contractor, in order to ensure compliance with the provisions of the Act-
 - Provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications pertaining to the construction work which has to be performed.
 - Ensure that potential contractors submitting tenders have made sufficient provision of health and safety measures during the construction processes:
 - Ensure that no contractor is appointed to perform construction work unless that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
 - Ensure prior work commencing on the site that every contractor is registered with and in good standing with the compensation fund or with a



licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;

- Appoint each contractor in writing for the part of the project on the construction site.
- 'take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
- Ensure that periodic site audit and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
- Stop any contractor from executing construction work which is not in accordance with the Client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
- Where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely;
- Discuss and negotiate with the contractor the contents of their health and safety plan and finally approve that plan for implementation;
- Ensure that a copy of both the principal contractor and contractor's health and safety plan is available on request to any employee, an inspector, a contractor, the client or the client's agent
- Hand over a consolidated health and safety file to the clients upon completion of the construction work, to include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
- In addition to the documentation required in the health and safety file included and make available a comprehensive and updated list of all the agreements between the parties and the type of work being done;
- Ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of annexure 3.

A contractor must prior to performing any construction work-

- Provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification and provided by the principal contractor, which plan must be applied from the date of commencement of and for the duration of the



construction work and which must be reviewed and updated by the contractor as the work progress;

- Open and keep on site a health and safety file which must include all documentation required in terms of the Act and these regulations, and which must be made available on request to an inspector, the client, the client's agent or the principal contractor;
- Before appointing another contractor to perform construction work be reasonably satisfied that the contractor that he or she intends to perform the construction work safely;
- Co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act;
- As far as is reasonable practicable, promptly provide the principal contractor with any information which might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.

5.4 COIDA & Health and Safety incident/accident reporting and investigations

The Principal Contractor on intended projects must have in their possession a COIDA (Compensation of Occupational Injuries and Diseases Act) letter of good standing as proof of registration and shall be kept in the health and safety file. The principal contractor shall report all incidents within 7 days where an employee is injured on duty to the extent that he/she:

- Dies;
- Becomes unconscious;
- Loses a limb or part thereof;
- Is injured or becomes ill to such a degree that he/she is likely either to die or 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;
- 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

The principal Contractor is required to provide the Client and or its Agent with copies of all statutory reports required, copies of all internal and external accident/incident investigation reports, ensure that all employees injured to the extent that they receive first aid or be referred



for medical treatment by a doctor records and all investigations recorded and medical reports so received.

The principal contractor shall ensure that incident investigations also explores the underlying health and safety deficiencies, corrective/preventative actions, continual improvement and communicate the outcome /results and documenting the events of the investigations.

The principal contractor must report near-misses to create a health and safety awareness culture on site and enforce the reporting of near misses as they happen. Principal contractors and contractor shall investigate injuries and incidents and keep records in the form of Annexure 1(General Administrative Regulations) and forward a copy of the investigation report to the Clients Agent forthwith. This compliance requirement shall equally apply to the contractors appointed by the principal contractor.

5.4.1 Health and Safety Policies

The Principal Contractor must submit copies of the Health and Safety Policy signed by their Chief Executive Officers. The policy should outline the objectives to ensure the establishment and implementation of sound health and safety management systems on site. Some policies such as Intoxication policy, HIV Management Policy, smoking policy, PPE policy, Medical examination policy, Subcontractor Management Policy amongst others must be incorporated.

5.4.2 Health and Safety Organogram

The Principal Contractor must prepare an organogram outlining site health and safety management structure including appointments and competent persons. The organogram would be used to indicate intended positions where appointments are or not made and shall be updated on an ongoing basis. These should reflect the responsibility and correspond to the current activities as scheduled and undertaken on site.

5.4.3 Health and Safety Representative (s)

A principal contractor shall appoint health and safety representatives in writing after consultation with the employees and ensure they are trained to carry out such responsibilities. All appointments shall be in writing and expected to carry out regular inspections, keep records and report all findings at a health and safety meeting. Employers will appoint health and safety representatives as soon as 20 employees are



employed on site. A principal contractor shall ensure that health and safety representatives represent Labour/employees and are not part of management.

5.4.4 Health and Safety Committees

A principal contractor shall establish a project health and safety meeting on a monthly basis and keep records of such meetings. Meetings will be chaired and organized by the Principal Contractor's Responsible person (Section 15(2)) or CR 8(1) or as the case may be. The principal contractor shall ensure that all contractors have representation at project health and safety meetings in the form of construction work supervisors and health and safety representatives.

Contractors will also have their own health and safety committees and forward such minutes to the principal contractor on a monthly basis or form part of the principal contractor's health and safety committee.

5.4.5 Induction and Awareness

An initial Induction session shall before commencement of construction activities be undertaken by the H&S Agent to inform all professional team members, contractors' management staff as well as stakeholder with vested interest in the project. This Induction session shall outline H&S responsibilities, observations and expectations on all participants in the project. All persons present at Induction sessions shall acknowledge understanding, commitment of all the established site rules and regulations by signing documentation at such a session.

A principal contractor shall cause every employee to undergo site-specific –Induction training session before commencement of the project. Such details and proof of attendance shall be kept in the safety file. The principal contractor shall ensure that a suitable venue is available to conduct such training. This shall apply to all visitors on site.

A principal contractor must conduct health and safety toolbox talks on a weekly basis. Toolbox talks shall have topics relevant to hazards, risks and safe working procedures on site and proof of such awareness attendance training shall be kept in the safety file. All contractors will ensure that copies of attendance of awareness sessions are submitted to the principal contractor for safe keeping



5.4.6 Site Health and safety rules and security

The principal contractor must develop a set of site-specific H&S rules that will be applied to regulate the compliance to the health and safety plan. These rules must be applied to visitors and no-employees upon entering the site and shall be issued with PPE (Personal Protective Equipment) as and when necessary. Hard hats and reflective vests shall be available for visitors on site. The principal contractor must establish site access rules implement and maintain them throughout the construction period.

5.5 Competence

A principal contractor shall ensure that all employees have the knowledge, experience, training and qualifications specific to the work they have been appointed to supervise, control and carry out the assigned responsibilities pertaining to construction work.

5.6 General Record Keeping

A principal contractor shall keep and maintain all health and safety records aimed at complying with the This Health and Safety specifications, the Occupational Health and Safety Act 85 of 1993 (and all applicable Regulations) as well as Construction Regulations 2014. These records shall include but not limited to all records outlined under the Contents of the Health and Safety File.

The relevant records shall be kept and maintained by contractors including the approved health and safety plan. These records must be consolidated and submitted to the H&S Agent by the principal contractor at the end of the project.

5.7 Health and Safety Audits, Monitoring and Reporting

A health and safety audit of the work operations including a full audit of physical site activities and administration of health and safety shall be conducted by the appointed H&S Agent and he/she shall ensure that a principal contractor also undertakes to conduct similar audits at least once a month for all contractors appointed on site. Reports generated shall be available for discussion during site meetings. The principal contractor shall in response to the audit report made available by the H&S Agent, ensure that a corrective action report with responsibilities, action and target dates is compiled and presented in response to the H&S Agent's report.



5.8 Incident Management

All near misses, incidents and accidents must be recorded, investigated and managed in accordance with the statutory provisions. Each H&S incident and accident must be recorded in a register kept in the H&S file; a template of the register shall be included in the H&S File. Every incident in which an employee sustains any form of injury shall be reported to the Public Health Directorate or its Agent within the working shift in which the incident occurs. Section 24 of the OHS Act and in accordance with regulations 8 and 9 of the General Administrative Regulations, 2003, incidents shall be reported in the prescribed manner to the Department of Labour, to the COIDA Compensation Commissioner in the prescribed manner [Annexure 1 & WCL2] and to the EEC EFM Directorate or its Agent. A record of all incidents and investigations shall be kept. A record / register [matrix] shall be kept to indicate the categories of injuries [first aid / IOD non-disabling, IOD Disabling and dangerous occurrences] sustained by employees, visitors and sub-contractors to date. Each contractor shall ensure that a proper incident reporting and investigation management procedure is documented and a site emergency procedure is formulated, documented, implemented (drills) and is available on site, outlined in detail, and included in the H&S File. The emergency arrangements shall be displayed on site and shall include:

- A comprehensive emergency and evacuation plan;
- A site specific emergency evacuation top down plan/flow chart;
- An updated list of emergency telephone numbers including those of fire, police, ambulance, medical & hospitals.

Emergency procedure(s) shall include, but not be limited to, fire, spills, accidents to employees and injury resulting from the use of hazardous substances, etc. In the event of an emergency arising, the Principal Contractor shall advise the Directorate or its Agent in writing of the incident, together with a record of any action taken, within 24 hours of the emergency occurring.

5.9 First Aid

The principal contractor must provide first-aid equipment (including a stretcher) and have qualified first-aider(s) on site as required by General Safety Regulation 5 of the OHS ACT 85 of 1993. The contingency plan of the principal contractor must include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or of getting emergency medical aid to person(s) that may require. The principal



contractor must have firm arrangements with his other contractors in place regarding the responsibility of the other contractors injured and/or ill employees

5.10 Security

5.10.1 Fencing and Access Control at Site Camp

The Principal Contractor must fence off construction site camp to prevent unauthorised entry and disruptions. The site must be fenced off as follows:

- The fence of minimum of 1.5 meters high
- The contractor is required to maintain fencing intact for the duration of the project
- Lockable gates with warm body security must be provided at the site entrance to ensure control of visitors.

5.10.2 Access to the Site

Must be monitored and controlled with laid down rules implemented and maintained throughout the duration of the construction. A sign displaying an unauthorized person not permitted must be available. The principal contractor must develop a set of project applicable security rules and procedures and maintain these throughout the construction period.

5.11 Traffic Management for the duration of the project

Where construction work is undertaken in, next to or close to a public road, the use of appropriate as well as a sufficient number of road signs is of paramount importance to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/risks/vehicles.

The principal contractor shall ensure that appropriate as well as a sufficient number of road signs are posted to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/vehicles. These signs shall be repeated and utilized, where appropriate, as actual construction work is approached. Where construction work includes excavations in or next to a public road, warning lights or visible boundary indicators should be provided after dark or when visibility is poor. The maintenance of all signage and especially those that is suitable after dark should be duly managed.



Where appropriate duly trained flag persons should be deployed a good distance ahead of areas where traffic is deviated, or lanes closed off. These flag persons should be managed assertively to ensure that they add optimal value, and should they not do so they should be retrained and if necessary, replaced.

5.12 Fall Protection

A pre-emptive risk assessment will be required for any work to be carried out above two metres from the ground or any floor level and will be classified as "work in elevated positions".

As far as is practicable, any person working in an elevated position will work from a stable platform, ladder or other device that is safe if person is working at ground level and whilst working in this position be wearing a single belt with lanyard to prevent the person falling from the platform, ladder or other device utilized. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.

The person will be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system such as life line that is approved by OHS Agent. If necessary provision of extra measures should be applied such as catch net. All lanyard should be load tested yearly, proof of such to be kept in a safety file on site.

5.13 Access Scaffolding

Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulation 14 and SABS 085 entitled (or as per their respective latest amendments. Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be ensured that there is sufficient material available to erect the scaffolding properly.

Scaffolding must be erected, altered or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous supervision of such a person.



5.14 Electrical Installations

The installation of temporary electricity for construction use shall be in accordance with Construction Regulation 22 and the Electrical Installation Regulations. The principal contractor must ensure that:

- Existing services are located and marked before construction commences and during the progress thereof;
- Where the abovementioned is not possible, employees with jackhammers etc. are protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etc;
- Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;
- Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the occupational health and safety file;
- Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the occupational health and safety file; and
- A competent person appointed in writing must control all temporary electrical installations.

5.15 Electrical and mechanical lockout

An electrical and mechanical lockout procedure must be developed by the principal contractor and submitted to EEC for approval before construction commences. All contractors on site must adhere to this lockout procedure.

5.16 Housekeeping

The principal contractor must ensure that:

- Housekeeping is continuously implemented and maintained;
- Materials and equipment is properly stored;
- Scrap, waste and debris is removed regularly;
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- Waste and debris not to be removed by throwing from heights but by chute or crane;
- Where practicable, construction sites are fenced off to prevent entry of unauthorized persons;



- Catch platforms or -nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects;
- An unimpeded work space is maintained for every employee;
- Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done;
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials;
- The walls and roof of every indoor workplace be sound and leak-free; and

5.17 Construction vehicle and mobile plant

A contractor must ensure that all construction vehicle and mobile plant -

- Are of an acceptable design and construction
- Are maintained in a good working order
- Are used in accordance with their design and the intention for which they were designed, having due regard to safety and health
- Are operated by a person who-
 - Has received appropriate training, is certified competent and in possession of proof of competency and is authorized in writing to operate those construction vehicles and mobile plant.
 - Has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner.

5.18 Electrical Installations and Machinery on Construction Sites

A contractor must, in addition to compliance with the Electrical Installations regulations and the Electrical Machinery Regulations, ensure that-

- Before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or in the site.
- All parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites.
- The control of all temporary electrical installation on the construction site is designated to a competent person who has been appointed in writing for that purpose.
- All temporary electrical installations used by the contractors are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site, and



- All electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

5.19 Housekeeping and General Safeguarding on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R. 2281 of 15 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including-

- The proper storage of materials and equipment
- The removal of scrap, waste and debris at appropriate intervals
- Ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways.
- Ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements as set out in the regulations
- Ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons, and
- Ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing off the danger areas if work is being performed above such entrance, passageway or place so as to ensure that all persons are kept safe in the case of danger of possibility of persons being struck by falling objects.

5.20 Stacking and Storage of Materials

In addition to the provisions of the stacking of articles in the General Safety Regulations, 2003, the contractor must ensure that-

- A competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site
- Adequate storage areas are provided
- There are demarcated storage areas; and
- Storage areas are kept neat and under control

5.21 Fire Precautions on Construction

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that-



- All appropriate measures are taken to avoid the risk of fire
- Sufficient and suitable storage is provided for flammable liquids, solids, and gasses
- Smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials
- In confined spaces and other in which flammable gasses, vapours or dust can cause danger-
 - Only suitable protected electrical installations and equipment, including portable lights are used
 - There are no flames or similar means of ignition
 - There are conspicuous notices prohibiting smoking
 - Oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
 - Adequate ventilation is provided.
- Combustible materials do not accumulate on the construction site
- Welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire
- Suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order
- The fire equipment contemplated above is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof
- A sufficient number of workers are trained in the use of fire-extinguishing equipment
- Where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire
- There is an effective evacuation plan providing for all-
 - Persons to be evacuated speedily without panic
 - Persons to be accounted for; and
 - Plant and processes to be shut down; and
 - A siren installed and sounded in the event of a fire.

5.22 Personal Protective Equipment

The contractor shall carry out a PPE or clothing need analysis in accordance with his risk assessment, to determine the necessary PPE or clothing to be used during construction. The Contractor shall make provision and keep adequate quantities of SABS approved PPE or clothing on site at all times.



The contractor must ensure that personnel are trained in the correct use of PPE to be used. The Contractor must ensure that lost, stolen, worn out or damaged PPE is replaced as required and receipt signed for by the employees on site.

5.23 Fire Extinguishers and Fire Fighting Equipment

The contractor shall provide adequate, regularly serviced fire extinguishers located at strategic points on site. The contractor shall keep spare serviced portable fire extinguishers. The contractor shall have adequate persons trained or competent to use the Fire Fighting Equipment.

Signage shall be posted up in all areas where fire extinguishers are located.

5.24 Ladders and ladder work

The contractor shall ensure that all ladders are numbered and inspected regularly keeping record of inspections. It should be noted that Aluminium ladders are preferred or wooden ladders.

5.25 General Machinery

The contractor shall comply with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing and training those that use machinery and enforce compliance.

5.26 Portable Electrical Tools

The Contractor shall comply with the Electrical Machinery Regulations, which include use and storage of all portable electrical tools are in compliance with relevant legislation.

The contractor shall:

- A competent person undertakes routine inspection
- Only authorized persons use the tools
- There are safe working procedures applied
- Awareness training is carried out and compliance is enforced at all times; and
- PPE and clothing is provided and maintained.



5.27 High Voltage Equipment

The contractor shall ensure that, where the work is under, or near high-voltage electrical equipment the electrical Installation Regulations, together with safety instructions (regulations of the owner of the equipment) are complied with. Such equipment includes

- Eskom and the Local authority equipment
- The contractor's own power supply; and
- Electrical equipment being installed but not yet taken over from a Contractor by the Client.

5.28 Welding, Flame-Cutting, Soldering and Similar Operations

No employer or user of machinery shall require or permit welding or flame cutting operations to be taken, unless-

- The person operating the equipment has been fully instructed in the safe operation and use of such equipment and in the hazards which may arise from its use.
- Effective protection is provided and used for the eyes and respiratory system, and where necessary, for the face, hands, feet, legs, body, and clothing of persons performing such operations, as well as against heat, incandescent or flying particles or dangerous radiation.
- Leads and electrode holders are effectively insulated; and
- The workplace is effectively partitioned off where practicable and where not practicable all other persons exposed to the hazards contemplated in paragraph (b) are warned and provided with suitable protective equipment.

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

- Effective ventilation is provided and maintained; or
- Masks or hoods maintaining a supply of safe air for breathing are provided and used by the persons performing such operations.

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

- The insulation of the electrical leads in a sound condition.



- The electrode holder is completely insulated to prevent accidental contact with current-carrying parts
- The welder is completely insulated by the means of boots, gloves or rubber mats; and
- At least one other person who has been properly instructed to assist the welder in case of an emergency is and remains in attendance during operations: Provided that the provisions of this sub-regulation shall not apply to a welding process where the maximum voltage to earth does not exceed 50 Volts.

5.29 Public Health and Safety

The contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from onsite activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

5.30 Working on Elevated Heights

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

5.31 Occupational Health and Safety

Exposure of workers to occupational health hazards and risks are very common in any work environment, especially in construction. Occupational health hazards and risks exposure is a major problem and all contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks.

The occupational hazards and risks may enter the body in three ways:

- Inhalation through breathing e.g. cement dust
- Ingestion through swallowing maybe through food intake
- Absorption through the Skin (pores) e.g. painting or use of thinners.

The contractor is required to ensure that all his personnel are medically fit prior to being allowed onto the work site.

All contractor should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk assessments should identify areas where surveys are to be conducted.



- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fences, boarded over or provided with protection to prevent persons from falling

5.32 Fire Prevention and protection

The Principal contractor must ensure that:

The risk of fire is avoided. Sufficient and suitable storage of flammables is provided, sources of ignition is obviated whenever flammable or highly combustible material is present in the workspace, for example:

- Notices prohibiting smoking is displayed and enforced
- Welding and flame cutting is only allowed under controlled conditions that includes written hot work permits
- Only spark-free hand and power tools are used
- No grinding, cutting and shaping of ferrous metals are allowed using electrically driven power tools that produces sparks
- Flameproof switches and fittings are to be used in the flammable atmosphere
- Good housekeeping is maintained to prevent the accumulation of unnecessary combustibles
- Adequate ventilation is maintained
- Adequate and suitable fixed and portable firefighting equipment are provided and maintained in good working order.

Maintenance must include:

- Regular inspections by a competent person appointed in writing and records of such inspections should be kept in the occupational health and safety file
- Annual inspection and service by an accredited service provider

All employees are instructed in the use of the firefighting equipment and know how to attempt to extinguish a fire;

A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;

Employees are informed regarding emergency evacuation procedures and escape routes;

Emergency escape routes are kept clear at all times and clearly marked; Evacuation assembly points are demarcated and made known to employees;



Evacuation and emergency drills practiced to ensure that all persons are vigilance about that

Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors have been left behind; and

A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

5.33 Excavation/Pilling

Excavations deeper than 1,5 m in depth, the principal contractor must submit a method statement to EEC for approval before commencing with the excavation and the permit to proceed will be issued once the risk assessment and method statement is approved. Excavation work has to comply with the following:

- Excavation work must be carried out under the supervision of a competent person who has been appointed in writing.
- Before excavation work begins the stability of the ground must be evaluated.
- Whilst excavation work is being performed, the appointed excavation supervisor must take reasonable steps to prevent any person from being buried or trapped by a collapsing wall, fall or dislodgement of material.
- No person may be required or permitted to work in an excavation that has not been adequately shored or braced.
- Where the excavation is in stable material or where the sides of the excavation are sloped back to at least the maximum angle of repose measured relative to the horizontal plane, shoring or bracing may be left out but only after written permission has been obtained from the appointed competent person.
- Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.
- Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavator.
- No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load.
- Neighbouring /adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.



- Every excavation must be provided with means of access that must be within 5 meters of any employee within the excavation at any time.
- The location and nature of any existing services such as water, electricity, gas, telkom optic fibre wire, signal cable etc must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.
- Every excavation, including the shoring and bracing or any other method to prevent collapse, must be inspected by the appointed competent person:
 - Daily before work commences
 - After every blasting operation
 - After an unexpected collapse of the excavation or part thereof
 - After substantial damage to any support
 - After rain
- The results of any inspections must be recorded in a register kept on site.
- Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off to at least one-meter-high and as close to the excavation perimeter as practicable.



6. TRAINING, INSPECTIONS AND RECORDS

The contractor must be aware of the Following additional requirements:

WHAT	WHEN	OUTPUT
Awareness training (Toolbox talks)	At least fortnightly and before hazardous work is carried out	Attendance register
Health and Safety Committee Meetings	Monthly	Minutes signed by employer
Health and Safety reports	Monthly	Report covering: Incidents Non- conformances Health and Safety Training HIRA updates Internal and External Audits
General Inspections	As per Health and Safety Specifications and OHS Act	Report of Health and Safety Specifications and OHS Act compliance: Scaffolding Lifting machinery Excavations Construction vehicle
General Inspections	Monthly	Covering: Fire Fighting Equipment Portable electrical Equipment Hand Tools ladders
Record Keeping	On-going/Continuously	Covering: General Complaints Fines General incidents MSDS Surveillance Medicals Inspections registers Department of Labour Notices



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