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Project Name E.9311: Supply, delivery, off-loading, installation and testing of 11 and 33 kV metal enclosed double busbar fixed pattern switchgear		
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<h2 style="text-align: center;">Health and Safety Specification</h2>		

1. INTRODUCTION

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety (OHS) Act (85 of 1993) and the Construction Regulations 2014 issued on 7 February 2014. The Contractor is to complete form '**Annexure 2**' (Appointment of the contractor in accordance with CR 5(1)(k) and '**Annexure 3**'(OHS Act Section 37.2 agreement).

For the purpose of this contract the Contractor is required to confirm his status as mandatory to the Employer (Client) and employer in his own right for the execution of the contract, and he/she shall enter into an agreement in respect of the Occupational Health and Safety Act in the form as included in '**Annexure 3**'.

If the Client (Electricity Unit) is engaging the services of the Client Agent, such Agent will be subject to approval by the Employer (SHERQ and Training Division).

Health and Safety Specifications and Plans to be submitted at Tender Stage

(a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification will be included in the tender documents as part of the Project Specifications.

(b) Tenderer's Health and Safety Plan

The Tenderer shall submit with his/her tender sufficient proof that he/she has a Health and Safety Plan in place. The Contractor will however, have to submit his/her Health and Safety Plan on request by the Client during the tender evaluation stage.

In terms of the Construction Regulations 5(1)(l), the Tender will be disqualified if the tenderer has no Health and Safety Plan.

The Contractor's Health and Safety Plan will be subject to approval by a Contracts Administration, in conjunction with a SHERQ and Training Division Representative prior to commencement of any construction work. The Contractor will not be allowed to commence work or his/her work will be suspended if he/she had already commenced work, before he/she has obtained the written approval of his/her Health and Safety Plan.

The Contractor shall not be entitled to claim for extension of time or standing time and the related costs for any delays due to delayed commencement or suspension of the work arising from the lack of approval of the Health and Safety Plan, or non-compliance with the eThekweni Municipality Health and Safety Specification.

1.1 Definitions

For the purpose of this contract the following shall apply:

- (a) "Agent" means a competent person who acts a representative for a client.
- (b) "Client" means any person for whom construction work is being performed.
- (c) "Construction Manager" means the competent person responsible for the management of Physical construction processes and co-ordination, administration and management of resources on any construction site.
- (d) "Contractor", wherever used in the contract documents and in this specification, shall have the same meaning as "Contractor" as defined in the General Conditions of Contract. In this specification the terms "Principal Contractor" and "Contractor" are replaced with "Contractor" and "Sub-contractor" respectively. For the purpose of this contract the "Contractor" will, in terms of OHS Act (1993), be the mandatory of the Employer, without derogating from his status as an employer in his own right.
- (e) "Employer" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as "Client" as defined in the Construction Regulations (2014). "Employer" and "Client" is therefore interchangeable and shall be read in the context of the relevant document.
- (f) "Engineer/Designer" where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as Agent on behalf of the Employer (the Client as defined in the Construction Regulations).

1.2 Scope

This specification covers the Health and Safety requirements to be fulfilled by the Contractor to ensure a continued safe and healthy environment for all employees under his control, and for all other persons entering the site of works, including the health and safety of members of the public.

This specification shall be read in conjunction with the Occupational Health and Safety Act (85 of 1993) and the corresponding Construction Regulations (2014), the eThekweni Electricity OHM, UGM and Substation Codes of Practice, the eThekweni Electricity Safety Rules, the eThekweni Electricity Operating Regulations and all other safety codes and specifications referred to in the said Construction Regulations (2014).

In terms of Section 37(2) of the OHS Act, the status of the Contractor as mandatory to the Employer (Client) is that of an employer in his own right, responsible to comply with all provisions of the OHS Act and the Construction Regulations.

A copy of this Health and Safety Specification, the Contractor's Health and Safety Plan, as well as the Construction Regulations shall be kept on site and made available for inspection by all employees, inspectors, eThekweni Electricity Unit Representatives and any other persons entering the site of works or the Contractors premises.

1.3 Project Description

This Health and Safety specification covers the health and safety requirement for the supply, delivery, off-loading, installation and pre-commissioning testing of indoor fixed pattern metal enclosed switchgear and ancillary equipment.

1.4 Tenders

The Contractor shall make available the following during the tender evaluation:

- (a) A documented Health and Safety Plan as stipulated in Regulation 7(1)(a) of the Construction Regulations. The Health and Safety Plan must be based on the Construction Regulations (2014) and the eThekweni Electricity Unit's Health and Safety Specification. The Health and Safety Plan will be subject to approval as mentioned above.
- (b) A declaration to the effect that he/she has the competence and necessary resources to carry out the work safely in compliance with the OHS Act, Construction Regulations, the eThekweni Electricity OHM, UGM and Substation Codes of Practice, the eThekweni Electricity Safety Rules and the eThekweni Electricity Operating Regulations.
- (c) The Contractor shall make a provision on the tender documents to ensure that the cost for health and safety is adequately catered for.

Failure to submit the foregoing with his/her tender or during tender evaluation, will lead to the conclusion that the Contractor is not able to carry out the work under the contract safely in accordance with the OHS Act, Construction Regulations, the eThekweni Electricity OHM, UGM and Substation Codes of Practice, the eThekweni Electricity Safety Rules and the eThekweni Electricity Operating Regulations and will result in his/her tender being disqualified.

1.5 Cost of Health and Safety Measures

All Contractors when making a bid for contracts shall provide a breakdown list of all PPE requirements, safety equipment and facilities requirements, training and other health and safety measures required for the project and the costing of such requirements.

2. MINIMUM ADMINISTRATIVE REQUIREMENTS

2.1 Notification of Construction Work

After award of the contract, but before commencement of construction work, a contractor that is issued with construction work shall, in terms of Regulation 4, notify the Provincial Director of the Department of Labour in writing at least 7 days before the work is carried out, if the following work is involved:

- (a) the demolition of structure;
- (b) the use of explosives;
- (c) excavation work;
- (d) working at a height where there is risk of falling.

The notification must be done in the form of the pro-forma included in Annexure 2 of the Construction Regulation (2014).

One copy of the stamped notification form must be kept in the contractors health and safety file. Where it is impractical to notify the Provincial Director of the Department of Labour as a result of Maintenance and/or Emergency work, the contractor must apply for Exemption under Section 40 of the OHS Act.

2.2 Occupational Health and Safety Act (85 of 1993)

All Contractors shall have an up to date copy of the OHS Act (85 of 1993) and supporting regulations kept in a safety file which will be available to all relevant parties.

2.2.1 Section 37(2) Agreement

A section 37(2) agreement must be signed between the eThekweni Electricity Unit and all contracting parties. All Contractors must ensure that a section 37(2) agreement is complied with. A copy of the 37(2) agreement must be kept in the health and safety file.

2.3 Compensation for Occupational Injuries and Diseases Act (130 of 1993)

All Contractors shall be registered with an appropriate employment Compensation commissioner and have available valid letters of good standing from such commissioner. A copy of this letter shall be filed in the Contractors health and safety file.

2.4 Legislative Compliance

All contractors shall comply with the following legislation and eThekweni Electricity standards:

- The Constitution of the Republic of South Africa (particularly Section 24 of the Bill of Rights)
- Occupational Health and Safety Act (85 of 1993) and Regulations
- National Environmental Management Act (107 of 1998)
- National Road Traffic Act (93 of 1996)
- Compensation for Occupational Injuries and Diseases Act (130 of 1993)
- Applicable South African National Standards (SANS)
- eThekweni Electricity OHM, UGM, Substation Codes of Practice
- eThekweni Electricity Safety Rules
- eThekweni Electricity Operating Regulations

2.5 Construction Professional Registration

All Contractors shall be registered in their respective levels as professionals in terms of the requirements of the South African Council for the Project and Construction Management Professions (SACPCMP) and the Construction Regulations (2014). Failure to be in possession of the required SACPCMP professional registration will result in the tender being disqualified.

2.6 Safety, Health, Environment and Quality Policy

All Contractors are required to compile an organizational SHEQ policy in line with their SHEQ responsibilities. The policy must be signed by the organization's CEO or the appointed assistant to the CEO, i.e. OHS Act Section 16(2) appointee.

2.7 Contractor Organogram

All Contractors are required to compile a company organogram, listing the reporting structure from the CEO downwards. The diagram must list the names, positions held and any appointments made. This diagram must be kept up to date and filed in the health and safety file.

2.8 Health and Safety Plan

All Contractors shall demonstrate to the SHERQ and Training Division Representative that they have a suitable and sufficiently documented Health and Safety Plan which complies fully with all applicable requirements of the Health and Safety specification, as well as the necessary competencies, experience and resources to perform the construction work safely. The Health and Safety Plan shall be filed in the health and safety file.

The Contractor shall appoint a suitably qualified person who is registered with a Statutory Body (South African Council for the Project and Construction Management Professions (SACPCMP) to prepare the Health and Safety Plan and to keep it up to date for the duration of the contract. The Contractor could be required to submit the following documentation for perusal and verification by the SHERQ and Training Division Representative prior to all contractors commencing with any work.

- Contractor Organogram
- Environmental Management Plan
- Traffic Accommodation Management Plan
- Medical records for employees
- SHEQ Policy
- eThekweni Electricity Contractor Competencies e.g. OHM, UGM, Substation, Faults man cards

- Health and Safety Competencies of Safety Personnel
- "Letter of good standing" with the Compensation Commissioner or licensed compensation insurer
- Incident Management Procedure
- Medical Surveillance Plan

2.9 Health and Safety File

The Contractor shall in terms of Construction Regulation 7(1)(b) maintain a Health and Safety File on site at all times. The Health and Safety File is a file or other permanent record containing information on aspects of the construction project - which will be necessary to ensure the health and safety of any person who may be affected by the construction work. The Contractor shall appoint a suitably qualified person who is registered with Statutory Body (South African Council for the Project and Construction Management Professions (SACPCMP) to prepare the Health and Safety File and to keep it up to date for the duration of the contract. The Health and Safety file shall include the following information:-

- Notification of Construction Work in terms of Construction Regulation 4 (Annexure 2, where applicable)
- Copy of OHS Act (updated)
- Proof of Registration and Good Standing with a COID Insurer or licensed compensation insurer
- Copy of health and safety plan
- OHS Programme agreed with Client including the underpinning Risk Assessment and Safe Work Procedures
- Designs/drawings
- A list of Contractors (Sub-contractors) including copies of the agreements between the parties and the type of work being done by each Contractor
- All Appointments/Designations forms required by the Act and Regulations
- Relevant Equipment and Tools registers and checklists
- Personal Protective Equipment issue register
- Health and Safety Induction Records
- Incidents Recording and Investigation forms and records
- Emergency Preparedness Plans
- Health and Safety Committee Meetings Minutes
- Medical Certificates of Fitness
- SHEQ Policy

The health and safety file shall be handed over to eThekweni Electricity Unit on completion of the contract.

2.10 Risk Assessment

Prior to the commencement of any construction work, the Contractor shall have a risk assessment performed and recorded in writing by a competent person.

Risk is a measure of the likelihood that the harm from a particular hazard will be realized, taking into account the possible severity of the harm. Harm to people includes death, injury (permanent or temporary), physical or mental health or any combination thereof. Risk management in health and safety includes the identification of hazards, assessing risks, taking action to eliminate or reduce the risk, monitoring the effectiveness and performing regular reviews of the entire process. The Contractor shall compile Written Safe Working Procedures to address or handle the following:

- Hazards particulars to contract
- Identify what could go wrong and how
- Identify the likelihood of this happening
- Identify the persons at risk
- Identify the extent of possible harm
- Measures to eliminate or reduce each risk
- A monitoring plan
- A review plan

Contractors must ensure that all sub-contractors conduct risk assessments for their scope of work as well.

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, employer, engineer, employees, trade unions and health and safety committee members, and must be monitored and reviewed by the contractor on regular intervals agreed to with the Client.

All Contractors must complete a Documented Pre -Task Risk Assessment prior to the commencement of any work or task. Hazards identified and precautionary measures must be discussed before work commences by the Person-In-Charge with all staff concerned. All copies of the Pre-Task Risk Assessment documents must be kept in the health and safety file for inspection by inspectors, eThekweni Electricity Unit Representatives or any other authorised / interested parties.

2.11 Safe Work Procedures

Written safe work procedures must be compiled for the risks and hazards that have been identified during the risk assessments indicating procedures to mitigate, reduce or control the risk and hazards. A safe working procedure should be written when:-

- Designing a new job or task;
- Changing a job or task;
- Introducing new equipment or substances; and

Reviewing a procedure when problems have been identified, e.g. from near miss incidents or an accident / incident investigation.

The safe working procedure should identify:

- The supervisor for the task or job and the employees who will undertake the task;
- The tasks that are to be undertaken that pose risks;
- The equipment and substances that are used in these tasks;
- The control measures that have been built into these tasks;
- Any training or qualification needed to undertake the task;
- The personal protective equipment to be worn;
- Actions to be undertaken to address safety issues that may arise while undertaking the task.

2.12 Legal Appointments

All contractors must make the relevant legislative and non-statutory appointments, which will be required to remain valid throughout the life of the project. All appointees shall be suitably trained and found to be competent for the responsibilities assigned. Copies of all the legal letters of appointments must be kept in the health and safety file.

2.12.1 Construction Manager Appointment - CR 8(1) and CR 8(2) Appointments

The Contractor, must in writing, appoint one full-time competent person as the Construction Manager as defined in the Construction Regulation (2014), with the duty of managing all the construction work, including the duty of ensuring the compliance of health and safety, and in the absence of a Construction Manager an alternate must be appointed by Contractor. The Contractor may also have to appoint one or more competent employees to assist the Construction Manager where justified by the scope and complexity of the works.

2.12.2 Construction Supervisor/Assistant Construction Supervisor - CR 8(7) and CR 8(8) Appointments

The Construction Manager shall appoint a full-time Construction Supervisor with the duty of supervising the performance of the construction work.

The Construction Manager may also have to appoint one or more competent employees to assist the Construction Supervisor where justified by the scope and complexity of the works.

2.12.3 Construction Safety Officer or Client Safety Agent Appointment

Subject to the decision by the Inspector of the Department of Labour or the Client and taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor **may** appoint in writing a Construction Safety Officer. The appointed Safety Officer shall be registered with a Statutory Body, i.e. South African Council for the Project and Construction Management Professions (SACPCMP).

If the Client decides to engage an external Safety Consultant, the Client must first check with SHERQ and Training Division to determine the capacity to handle the proposed project, the Safety Consultant will be appointed by the Client and approved by SHERQ and Training Division in terms of his/her qualifications and experience in the field of construction safety. The appointed Client Agent shall be registered with a Statutory Body, i.e. South African Council for the Project and Construction Management Professions (SACPCMP).

2.13.4 Additional Legal Appointments

In accordance with the Construction Regulations (2014) and depending on the project type the Contractor shall appoint, in writing, competent persons responsible for supervising construction work for the following work situations that may be expected on the site of the works.

- (a) Risk Assessment (Construction Regulation 9);
- (b) Excavation Work (Construction Regulation 13);
- (c) Construction Vehicle and Mobile Plant (Construction Regulation 23)
- (d) Electrical Installation and Machinery on Construction Site (Construction Regulation 24);
- (e) Housekeeping on Construction Sites (Construction Regulation 27)
- (f) Stacking and Storage on Construction Sites (Construction Regulation 28);
- (g) Fire Precautions on Construction Sites (Construction Regulation 29);
- (h) Construction Employee's Facilities (Construction Regulation 30);
- (i) Accident/Incident Investigator (General Administration Regulation 9);
- (j) First Aider (General Safety Regulation 3);
- (k) Health and Safety Representative (OHS Act Section 17);
- (l) Supervision of Machinery (General Machinery Regulation 2.1);
- (m) Assistant Supervision of Machinery (General Machinery Regulation 2.7a)

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work in all the work situations for which he/she has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his/her responsibilities to comply with all requirements of the Construction Regulations.

2.12.5 Principal Contractor Appointment

All Contractors who have been awarded a tender must accept a Principal Contractor's Appointment Letter from eThekweni Electricity Unit in accordance with CR 5(1)(k) of Construction Regulations (2014).

2.13 Health and Safety Induction Training

The Contractor shall ensure that all employees under his/her control attend the eThekwini Electricity health and safety induction training course offered by SHERQ and Training Division. No visitor or other person shall be allowed or permitted to enter any worksite unless such person has undergone eThekwini Electricity's health and safety training pertaining to hazards and risks which may be prevalent on work sites.

2.14 Medical Certificate of Fitness

Prior to induction, all Contractor employees must undergo a pre-employment medical examination and found to be fit for duty.

3. GENERAL HEALTH AND SAFETY PROVISIONS

3.1 Incident Management

NOTE: ALL SERIOUS ACCIDENTS MUST BE REPORTED TO THE RELEVANT CONTROL OFFICER.

In the event of a serious accident occurring, including one involving electric shock, first aid treatment must be commenced immediately if the victim's life is to be saved.

Assistance may be obtained as follows:-

3.1.1 Medical Assistance

It is essential to obtain medical assistance for the patient as soon as possible, and another employee who is not performing first aid and/or C.P.R. or if necessary a passerby, shall be requested to:-
Use the facilities most readily available (Departments telephone numbers listed in the Emergency Request for Assistance Notice) to contact the Control Room staff and report that a serious accident has occurred and the exact address at which it happened and if possible the injured person's name

Injuries of a very minor nature shall be attended to by the Person-In-Charge and the injured person shall continue with his/her normal duties. All injuries that occur after normal working hours must be reported immediately to the appropriate Control Officer. All Contractor vehicles are to have an Emergency Request for Assistance notice prominently displayed.

3.1.2 Accident Investigation

All incidents shall be investigated in terms of the General Administrative Regulations 9. All OHS Act Section 24 and 25 Incidents shall be reported to the Inspector by the Contractor within the prescribed period and in the prescribed manner. Investigations shall be conducted by a competent investigator who shall compile the appropriate incident report form as listed in the General Administrative Regulations Annexure 1.

A comprehensive and detailed investigation report shall be submitted to the eThekwini Electricity Unit Representative within 7 -14 days after the incident. All incidents that were in contravention of any one of eThekwini Electricity Unit Safety Rules, Operating Regulations, Code of Practice must be presented by the relevant contractor management to the eThekwini Electricity Unit Representatives, and where required, to the relevant GMR 2.1 or GMR 2.7(a) Appointee. EThekwini Electricity reserves the right to participate in investigations if the incident is directly linked to any activity within their area of supply and network.

3.1.3 Close Out

All incident investigation reports shall be closed out once all the recommendations to prevent further incidents have been carried out and a copy of the investigation report must be handed to the Electricity Unit SHERQ and Training Division.

3.2 First Aid Box and First Aid Equipment

The requirements of the OHS Act General Safety Regulation 3 must be observed. First Aid appointments must be made to meet the requirements. Each work site must have at least one employee trained in First Aid - Level One, at the minimum. When appointing employees for work sites, cognizance must be taken into account regarding the type of work to be performed, the distance teams are working apart and the terrain to be covered if an emergency should arise. All contractor vehicles to have an Emergency Request for Assistance notice displayed prominently, where it can be easily seen. All contractor vehicles or work sites shall have at least one first aid box, and thereafter additional first aid boxes for every 50 or team of workers on site or part thereof, again taking into account the type of work performed, the distance teams are working apart and the terrain to be covered if an emergency should arise. More first aid boxes shall be provided, if the risks dictate. Boxes must be available and accessible for the immediate treatment of injured persons at any particular work site. The appropriate stick-on signage must be placed on the outside of vehicles and/or mobile equipment to indicate where first aid boxes are located.

Boxes and equipment

The following is a list of minimum contents of a first aid box:

- _ Item 1: Wound cleaner/antiseptic (100ml);
- _ Item 2: Swabs for cleaning wounds;
- _ Item 3: Cotton wool for padding (100 g);
- _ Item 4: Sterile gauze (minimum quantity 10);
- _ Item 5: 1 Pair of forceps (for splinters);
- _ Item 6: 1 Pair of scissors (minimum size 100 mm);
- _ Item 7: 1 Set of safety pins;
- _ Item 8: 4 Triangular bandages;
- _ Item 9: 4 Roller bandages (75 mm X 5 m);
- _ Item 10: 4 Roller bandages (100 mm X 5 m);
- _ Item 11: 1 Roll of elastic adhesive (25 mm X 3 m);
- _ Item 12: 1 Non-allergenic adhesive strip (25 mm X 3 m);
- _ Item 13: 1 Packet of adhesive dressing strips (minimum quantity, 10 assorted sizes);
- _ Item 14: 4 First aid dressings (75 mm X 100 mm);
- _ Item 15: 4 First aid dressings (150 mm x 200 mm);
- _ Item 16: 2 Straight splints;
- _ Item 17: 2 Pairs large and 2 pairs medium disposable latex gloves;
- _ Item 18: 2 CPR mouth pieces or similar devices;
- _ Item 19: 1 Burn shield

A content check list must be available with all boxes and boxes shall be checked on a regular basis, kept clean and dust free.

3.3 Fire Extinguishers and Fire-fighting Equipment

Every contractor vehicle and every work site must have at least one Dry Chemical Powder fire extinguisher, each with a minimum capacity of 4.5 kg, taking into account the type of work performed, the distance teams are working apart and the terrain to be covered if a fire should occur. Every contractor must ensure that every employee is familiar with the use of a portable fire extinguisher. All fire extinguishers in contractor vehicles must:

- Be clearly labelled
- Be conspicuously numbered
- Be entered in a register
- Be inspected monthly by a competent person
- Be tested and serviced annually by an accredited supplier
- Have the results entered in the register and signed by a competent person.
- Be mounted in the upright position for ease of access and secured to prevent dislodgement.

3.4 Personal Protection Equipment and Clothing

All Contractors shall recognize that PPE is the last line of defense, therefore the correct use is vital in ensuring that it is effective.

Requirements:

1. The need for PPE shall be identified for all activities and this assessment shall be recorded (PPE Schedule).
2. All PPE shall comply with SANS standards and/or any other specified standards.
3. Employees shall be educated in the correct use, care and storage of PPE and records shall be kept.
4. Critical to the successful use of PPE, is the enforcement by site supervisors, who shall at all times demonstrate the correct use, personally and in addition carry out inspections to ensure compliance.
5. Once the individual has been trained in the correct care and use of the PPE, it shall be the responsibility of the individual to use the PPE correctly.

Contractor's employees at the construction site, including visitors, shall use the following PPE at all times, as a minimum:

- Head protection (Hard hat) with chinstrap
- Steel toe capped safety boots
- Eye protection - wearing of impact safety spectacles with side shields. Prescription glasses must comply with the same standard or cover impact safety spectacles must be worn over them
- 12,4 arc rated flame retardant long sleeved and long pants Conti suits (Red)
- High visibility vests / overalls with reflective strips

However, if there are particular activities/areas/risk assessments that require a specific type of PPE, then that specific PPE requirement must be adhered to (e.g.: for dusty environments – goggles, for welding – welding helmet, etc.).

Strict non-compliance measures must be administered to any employee not complying with the use of PPE and shall be removed from the work site. When working at height, only double lanyard safety harnesses are allowed and when working on a pole an approved work positioning belt for working at height are to be used. Welders, cutters and aiders shall wear suitable eye protection, gloves and apron spats and screens shall be provided to protect onlookers and passers-by. Suitable impact resistant eye protection shall always be worn for grinding, chipping and chasing, and screens shall be provided to protect onlookers and passers-by. All contractors shall provide PPE free of charge as stipulated in Section 23 of the OHS Act (Certain deductions prohibited) and General Safety Regulations 2(2).

3.5 Housekeeping

All contractors shall maintain a high standard of housekeeping within a worksite, prompt disposal of waste materials, scrap and rubbish is essential. Nails protruding through timber and cable armoring sharp edges shall be bent over or removed so as not to cause injury.

All packaging material including joint boxes, cable drum planks, pallets, crates, etc. to be removed from the work area immediately. On completion of the work, the contractor is responsible for clearing the worksite of all materials, scrap, etc. eThekweni Electricity has the right to instruct the contractor to cease work until the area has been tidied up and made safe. All contractors shall carry out regular safety/housekeeping inspections (at least weekly) to ensure maintenance of satisfactory standards. Housekeeping on/in vehicles is of paramount importance. If contractor employees are to be transported in the back of construction vehicles, then those vehicles are to be fitted with canopies and have fixed and firmly secured seats with seat belts adequate for the number of passengers being transported, tools, equipment and material to be secured in order to prevent movement. All tools, materials and equipment to be stored in their toolboxes, shelves, etc. No materials, tools and equipment is permitted to be left lying around at the back of construction vehicles.

Employees are not be transported in construction vehicles unless the compartment they are travelling in complies with the requirements of the Road Traffic Act, and tools, equipment and materials are physically separated from the employees by a suitable barrier.

3.6 Thermal Conditions

All contractors must protect their employees against the natural thermal conditions, by providing sufficient and suitable cold weather gear for the winter months and suitable rain wear for the rainy seasons.

In hot conditions, contractors must prevent the effects of heat fatigue and heat exhaustion by providing sufficient rest periods, shaded cover where possible, and re-hydration mineral replenishment fluids.

3.7 Night Work

Where any night work is to be performed, then contractors shall provide sufficient lighting to enable the entire worksite to be illuminated to a degree that any employee must not have to work in any dark (un-illuminated) areas. If work is continuing from day light into night, at dusk, a tail gate meeting (Pre-Task Risk Assessment) must be held where all employees must be advised of the hazards of night work and the extra precautions that are required to be taken, i.e. poor housekeeping, stepping on uneven ground, stepping into holes, etc.

The entire work site must be suitably lit to meet the minimum lux guidelines as provided for in the Environmental Regulations for Work Places of the OHS Act.

3.8 Work in Confined Spaces or Enclosures

Confined spaces include joint holes, cable boxes, vessels, transformer tanks, chambers, oil tank compartments, etc.

Attention is drawn to General Safety Regulation 5 (Work in Confined Spaces) of the Occupational Health and Safety Act, 1993. No person shall enter a confined space or enclosure until the degree of oxygen has been established by utilizing an approved monitor, and as the case may be, it has been adequately cleared of any dangerous liquid or purged with air to clear any dangerous concentration of gas or fumes by using ventilation fans. In the case of vessels, transformer tanks, chambers, etc., at least one other person who is adequately trained in rescue and resuscitation procedures shall remain in attendance, outside of and next to the entrance thereof whilst any person is within; and where there is the possibility of the presence of flammable liquids, gases or fumes, effective precautions must be taken to prevent ignition by the avoidance of open sources of heat or light and the formation of sparks by ferrous tools, the generation of static electricity by clothing or by other means.

3.9 Permits for National Key Point areas

It is the responsibility of the contracting company to obtain the necessary permits when work is to be undertaken at a National Key Point Area and all related costs shall be paid by the contracting company.

4. MINIMUM PHYSICAL REQUIREMENTS

4.1 Working at Height

4.1.1 Fall Protection Plan and Fall Arrest Systems

The requirements of Construction Regulation 10 shall prevail. Whenever persons are required to work in an elevated position, a fall protection plan (which includes fall prevention) will be compiled, implemented and reviewed and every possible and practicable means shall be adopted to provide such persons with effective training and safeguards.

Note: All persons required to work in elevated positions shall have valid medical certificates of fitness. Contractors shall stop all persons working in elevated positions during periods of inclement weather, or if the possibility of lightning strikes is present. Provision must be made for employee rescue. Working in elevated positions shall only be carried out under the supervision of a competent person. Lifelines are to be used with safety harnesses when doing steel erection, and other similar activities, such that

persons are not exposed to danger by continuously attaching and detaching the lanyards from the structure (tower).

Provision must be made to prevent objects and/or material from falling from elevated areas and the protection of persons working below. A risk assessment covering all work at elevated positions is to be carried out and appropriate mitigation measures to be put in place. All tools in elevated positions must be attached to lanyards, attached to person or structure or effectively prevented from falling. Equipment in elevated positions must be tied back to the structure. Loose items in elevated positions e.g. bolts and nuts to be kept in tins or similar robust containers and not in paper boxes. When working in elevated positions, nets and/or other suitable material should be used to catch falling debris directly below where the task is being performed.

Fall protection includes:

- Safety harnesses and double lanyards;
- Approved lifelines
- Other approved means

Fall arrest plan and equipment to be implemented where fall prevention is not possible.

All fall protection equipment shall comply with SANS standards and other recognized international standards. The Contractor and/or his/her sub-contractor shall compile a fall protection equipment, inspection and testing and maintenance procedure.

Where required, conduct specific risk assessments to determine the suitability of climbing methods to be used. Cognizance must be made into all the different climbing methods to be used. Ensure that the relevant training in the use, care and maintenance of the appropriate fall protection and rescue equipment is provided.

4.1.2 Working in elevated positions

All employees working above ground level shall use the appropriate fall protection equipment unless working from a solid platform protected by suitable barricading.

4.1.3 Ladders and Ladder Work

Contractors must use ladders that comply with General Safety Regulations 13(a). Contractors undertaking work near live apparatus must use the approved Fiberglass ladders as per the eThekweni Electricity Technical Specification for Fiberglass Ladders. All Ladders shall have an identification tag, logged in a register, and inspected on a monthly basis and prior to use. Damaged ladders shall be marked as 'Damaged' and removed from the worksite. Contractors must visually inspect the rungs, stiles, rope, fittings, pulleys, connections, rivets and hinges before each use and carry out a detailed inspection every month.

4.2. Public Safety

Legislation requires that employers shall be responsible, as far as reasonably practicable, for safeguarding persons other than those in their employment who may be directly affected by their activities so that they are not exposed to hazards to their health or safety (Section 9 of the OHS Act refers).

A member of the public is any company non-employed person(s) who could be directly or indirectly exposed to eThekweni Municipality Electricity Unit's/contractors' products or activities.

eThekweni Municipality Electricity Unit upholds the rights of the members of the public and maintains an awareness and educational programme to protect the public against the risks that may arise out of, and in the course of eThekweni Municipality Electricity Unit's activities. Similarly, contractors shall share the same respect for the public.

Contractors, where working in any area where members of the public have access or can approach work sites, will be approached by the public for reasons of inquisitiveness, members airing complaints, vandalism, theft, public unrest, intimidation, stray/wandering animals, etc. and will then implement such measures that will place great emphasis on public safety.

Contractors shall factor in, in their safety plan, how they intend safeguarding/controlling any members of the public against their activities, without damaging eThekweni Municipality Electricity Unit's name and/or reputation.

4.3. Hazardous Chemical Substances

Where HCS are brought onto the site, the appropriate Material Safety Data Sheets (MSDS) shall be available at that worksite. Contractors are to have and maintain a register with all the HCS that they have on site.

4.3.1 Handling of Hazardous Chemical Substances

All HCS containers to be clearly labelled. Containers that are not marked will not be allowed access to site. No HCS to be stored in food or drink containers. Users of HCS to wear/use the correct PPE as per the HCS Material Safety Data Sheet and risk assessment. Users of HCS to be adequately trained in the HCS that they are handling. Where flammable liquids are used, caution must be exercised of the effects of health risks associated with such liquids.

4.3.2 Storage of Hazardous Chemical Substances

All HCS must be stored in terms of the supplier requirements and as listed on the respective MSDS. Caution must be taken into the hazardous situations (gasses given off, fires and or explosions erupting) that could arise from incorrect storage.

5. PLANT, MACHINERY and EQUIPMENT

5.1 Machinery

All machinery brought to the work sites by contractors must be appropriate to the task being performed, be in a good condition and adequately maintained. Contractors shall ensure that all machinery is to be listed on an inventory list, be inspected regularly and at least monthly or as required by legislation and risk assessments. Machinery should be numbered or tagged so that it can be properly monitored and inspected.

Where required machinery must have the necessary approved test or calibration documentation prior to being brought onto the worksite and the records shall form part of the health and safety plan. Maintenance calibration shall be undertaken in terms of the manufacturer's requirements.

All fuel driven equipment must be properly maintained in accordance with the manufacturer's recommendations and legal requirements.

eThekweni Municipality Electricity Unit reserves the right to inspect items and/or machinery brought to site by contractors. All machine operators shall be certified competent to operate such machines. Copies of their certificate of competencies shall be available at all times for perusal.

5.2 Machine guarding and barricading

Every shaft, pulley, wheel-gear, sprocket, coupling, clutch, friction drum, spindle end screw, key, bolt on a revolving shaft, driving belt, chain rope or similar object shall be securely fenced or guarded. The machines or tool with moving parts should be guarded to prevent limbs or loose clothing from getting under, into, above or around the dangerous moving parts.

Guards should form a permanent part of the machine or tool, easy to remove, non-corrosive, rigged and as far as reasonable, heat resistant.

All machines driven by means of belts, gear wheels, chains and couplings shall be adequately guarded. A machine is guarded when persons cannot gain inadvertent access to the moving parts. All guards must be inspected by a competent person on a monthly basis as well as by users prior to use. These inspections and proof of corrective action taken must be recorded and kept on site.

5.3. Hand tools

All hand tools (hammers, chisels, spanners, etc.) must be recorded on a register and inspected by the construction supervisor on a monthly basis, as well as by users prior to use. Tools with sharp points in tool boxes must be protected with a cover. All files and similar tools must be fitted with handles. No make shift tools are permissible on site.

5.4 Pneumatic tools

It is illegal for a pneumatic tool to be operated by using a compressed gas cylinder. Pneumatic equipment shall only draw supply from mobile air compressors or from compressed air lines installed within the contractor's premises. All pneumatic tools should be numbered, recorded and inspected at least monthly as well as by users prior to use. Where tools have a spindle drive, then the revolutions per minute speed shall be measured in accordance with the manufacturer specifications. When using compressed air hoses with the interlocking type of connection in the hose, connectors shall be secured with wire clips through holes provided to prevent accidental disconnection.

Compressed air shall not be used for any purpose other than that for which it is provided. Compressed air should not be used to remove dust or debris from clothing or for cleaning purposes. Hoses to be orderly routed and elevated if required in order to prevent tripping hazards.

All pneumatic tools operators shall be certified competent to operate such tool. Copies of their of certificate of competencies shall be kept.

5.5 Portable electric tools

All portable electric tools shall be operated through an earth leakage or portable earth leakage system unless they are of the double insulated type. Electrical cords of all portable electrical tools shall be in a good working condition at all times. Any electrical tool that has any defects (including cords) shall be removed from service. All portable electric tool operators shall be certified competent to operate such tool. Copies of their of certificate of competencies shall be kept.

5.6 Lifting machinery

Before using any lifting machinery, the operator should inspect it daily and where the machine appears faulty, it shall be removed from service immediately. All lifting machines shall be examined and subjected to a performance test by an accredited person/company at intervals not exceeding 12 months, as per DMR 18, or more frequently as desired. All hooks shall be fitted with a safety latch/catch, and be in a good operational condition. All lifting machines should be recorded on a register - refer to the requirements of the Driven Machinery Regulations 18.

All lifting machines should be conspicuously and clearly marked with identification particulars and the maximum mass load which it is designed for.

5.6.1 Mobile cranes / Truck Mounted Crane

The mobile crane operator shall be trained for the class of crane they are operating and be in possession of an operators permit. All mobile cranes shall be examined and subjected to a performance test by an accredited person/company at intervals not exceeding 12 months, as per SANS 19 'The Inspection,

Testing and examination of Mobile Cranes'. All mobile cranes shall be subjected to an inspection prior to daily use and a record kept of the inspection. Any hydraulic crane leaking fluid must be taken out of service and be repaired prior to further use. This is for safe stable operations and protection of the environment. Outriggers shall be used every time the crane is to be utilised to lift any sort / size load. Mobile crane operators shall ensure that loads are not carried over the heads of any workmen. The rigger will give warning signals. Riggers shall be utilised when lifting loads and shall direct the crane operators with the appropriate signals.

5.7 Lifting tackle

A Pre-Task Risk Assessment shall be conducted prior to commencing with the task to identify that the correct slinging equipment is used for the specific load. All lifting tackle should be examined at intervals not exceeding 3 months by a competent lifting tackle inspector, who shall record and sign off such examination, such lifting tackle shall be stored accordingly to prevent damage or deterioration when not in use. All lifting tackle should be recorded on a register - refer to the requirements of the Driven Machinery Regulations 18. All lifting tackle should be conspicuously and clearly marked with identification particulars and the maximum mass load which it is designed for. All hooks shall be fitted with a safety latch/catch, and be in a good operational condition.

5.8 Material handling

Guide ropes to be used to prevent loads from swinging. Rigging study should be conducted for all critical lifts to ensure the correct equipment is available. Employees shall keep out from under suspended loads and between a load and a solid object where they might be crushed if the load should swing or fall. They shall not pass or work under the boom or any crane or within a barricaded of area. No user of machinery shall require or permit any person to be moved or supported by means of a lifting machine unless such machine is fitted with a man-cage designed and fabricated according to an approved SANS standard and a risk assessment has been done. Hand signals will be displayed and visible on all cranes and the SANS 1029 standard must be used to ensure uniformity and all the crane operators, riggers must be trained according to SANS 1029.

6. Omissions from safety and health requirements specification

By drawing up this Health and Safety Specification eThekwini Municipality Electricity Unit has endeavoured to address the most critical aspects relating to Safety, Health and Environmental issues in order to assist contractors in adequately providing for the health and safety of employees on site.

Should eThekwini Municipality Electricity Unit not have addressed all health and safety aspects pertaining to the work that is tendered for, the contractor needs to include it in the health and safety plan and inform eThekwini Municipality Electricity Unit of such issues when submitting the tender.

This document should be read in conjunction with the OHS Act (85 of 1993) and it's supporting Regulations, eThekwini Electricity OHM, UGM and Substation Codes of Practice, eThekwini Electricity Safety Rules and the eThekwini Electricity Operating Regulations.