| Eskom | SPECIFICATION | Nuclear Project Management |
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Title: **ATKSS Project SHE Specification**

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| Date: 18/08/2023 | Date: 18/08/2023 | Date: 18/08/2023 |

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**1. Eskom Project Manager*:***

The discipline/contract manager is responsible for managing the contract with the EPC Contractor and ensures that the SHE specifications are developed and issued and that the EPC Contractor's SHE plan is approved prior to commencement of work. He must ensure that all the statutory requirements, Eskom and SHE specification and SHE plan requirements are adhered to by EPC Contractor and (if applicable) their contractors at all times

**2. Eskom Engineering Manager:**

The Project Engineer is the person responsible for ensuring that the designer fulfils his professional and legal obligations with respect to the implementation of his design.

**3. Eskom Health and Safety Manager/ Practitioner:**

The responsibility of the Health and Safety Manager/Practitioner is to provide assurance, as well as advice, assist and support to the **Project /Construction Manager** in the management of the health and safety issues on the project which includes ensuring proper co-ordination amongst the various Contractors. The SHE Manager/Practitioner shall also be responsible for assisting in the development of site and project specific SHE Specifications and ensuring that SHE specification are issued with enquiry documents and that the Contractors SHE plans are submitted; evaluated and approved. She/he shall be responsible for auditing and ensuring compliance to legal requirements.

**4. Designer:**

The Designer is the person responsible for the overall management of the project design as well as ensuring the management of the compliance of the completed works to the design during and after construction on site

**Lesedi Nuclear Services**

**5. Eskom Environmental Control Officer:**

**Note**: This position may be a permanent position on the Project Organogram, or it might be a service rendered by a line Division (which may be managed by a Service Level Agreement).

The responsibility of the Environmental Control Officer is to provide assurance, advice, assist and support to the Eskom Project/Construction Manager in the management of the environmental issues on the project which includes ensuring compliance to the Environmental Authorisation (EA) and the Environmental Management Programme (EMPr).

## 1. Introduction

1. Due to the nature and scope of this contract and role and responsibilities that the Engineering, Procurement and Construction (EPC) Contractor shall be fulfilling, it is to be noted that the duties of the client as referred to in the Construction Regulations 2014 (CR5) of the OHS Act, shall also be fulfilled and complied with in additional to the other applicable statutory OHS requirements. It also must be noted that Eskom as the client still ultimately remains accountable irrespective of the accountability the EPC Contractor has in terms of the Contract, therefore the client reserves the right to be provided with assurance by the EPC contractor and will conduct its own independent assurance through various mechanisms through the duration of the Contract.

   The Safety, Health & Environmental (SHE) requirements referred to in this document are Eskom's minimum requirements and should not be construed as all encompassing. The Engineering, Procurement and Construction EPC Contractors appointed Construction Health & Safety Agent is expected to use these (incl. applicable OHS statutory) requirements, referred to in this document, to build into the projects Site Specific Construction Health & Safety Specification(s) as well as for integration into the OHS management system for the project, which will in turn be used in the integration of their Contractors onto the project. Eskom in no way assumes the Contractors legal responsibilities. The EPC Contractor as a legal entity, and therefore, an employer in their own right (in terms of Section 37(2) of the OHS Act 85 of 1993 (OHS Act), is and remains accountable for the quality and the execution of the safety, health and environmental program for their employees and contractor employees on this project.

   It is internationally accepted that some technologies develop faster than health and safety precautions can keep trend with. The expectation is that the EPC contractor must stay abreast of the latest health and safety developments related to the ATKSS Plant being installed, both from a construction and installed technology perspective.

   Eskom expectation is that the EPC Contractor demonstrates & ensures that is committed to achieving and demonstrating sound Occupational Health and Safety (OHS) management by mitigating OHS risks consistent with its OHS management system and objectives on the ATKSS Project at Ankerlig Power Stations.

   Zero harm is one of ESKOM values. The aim of Eskom's adoption of Zero Harm as one of its values is to strive to, and achieve world class safety, health and environmental performance, where all Guardians (employees and contractors) return home safely every day and without harm done to the environment we operate in.

   The SHE requirements shall be included with the bidding enquiry documentation to the EPC Contractor, to ensure that the bidder is timeously made aware of:

   Eskom's requirements, including

   Information that might affect the health and safety of any person at work whether directly or indirectly.

   Activities that may have an impact on the direct and surrounding environment.

   The EPC Contractor is expected to provide an SHE programme based on the requirements of this document, a detailed plan on how they would fulfil the role of a Designer and Principal Contractor in terms of the Construction Regulations 2014.

   **When there is an amendment to the Acts and/or to the regulations, an OHS plan must be reviewed, updated accordingly and changes must be communicated to all relevant employees.**

## 2. PROJECT AND SCOPE OF WORK DETAILS

### 2.1 LOCATION:

Ankerlig Power Station, Neil Hare Road, Atlantis, Western Cape.


### 2.2 PROJECT DESCRIPTION/DETAILED SCOPE OF WORK:

The Employer has identified the need for a dedicated second offsite power supply for Koeberg Nuclear Power Station (KNPS) with gas turbines as the suitable technology. The name of the Project is Ankerlig Transmission Koeberg Second Supply (ATKSS) Project.

The works is situated in an allocated area within the Ankerlig 2 Power Station in Atlantis, Western Cape, South Africa. The High Voltage (HV) yard for the Project has already been constructed by the Employer. 3 x Combustion Turbine Generators (CTG)s will be supplied by General Electric (GE). Certain civil construction work has been done by others.

Design, manufacture and execution of the Balance of Plant (BOP) Civils and Buildings and the residual scope of works of the project will be executed by a nominated Engineer, Procure and Construction (EPC) Contractor**.**

Access to the construction site is from a service road off Neil Hare Road.

2.2.1. **Time allowed for preparation and signing off of SHE plan:**

2 weeks

2.2.2. **Anticipated date for the commencement of work on site.**

Immediately on receipt of the Construction Work Permit from the Department of Employment and Labour

2.2.3. **Project completion date or project duration.**

Construction period as per the activity schedule.

2.2.4. **Site Details:**

The Plant will be constructed on the existing and partially completed Ankerlig 3 Power Station site, inside a demarcated area. The area is a National Key Point, and the requirements to access the NKP will be applicable.

## 3. Supporting Clauses

### 3.1 Scope

These requirements set out Eskom's expectations regarding the minimum SHE statutory and Eskom requirements for Contractors appointed for the Design, Construction, Supply & Installation of the ATKSS Project within Eskom Holdings SOC Ltd.

### 3.2 Applicability

These requirements are applicable to the Contractor, herein referred to as the EPC Contractor, appointed for the design and construction of the ATKSS project on behalf of Eskom Holdings SOC Ltd.

### 3.3 Effective date

These requirements shall be implemented from date of approval.

## 4. Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed below.

***Note: Where the date for revision of a document on the Eskom Document Centre website has passed, the document is still current, irrespective of its revision date having passed.***

### 4.1 Normative

[1]. 32-727: Safety, Health, Environment and Quality Policy

[2]. 240-62196227: Life-saving Rules Standard

[3]. Occupational Health and Safety Act and Regulations No 85 of 1993 and its Regulations

[4]. Construction Regulations of 2014 or latest edition as per government gazette.

[5]. Hazardous Substances Chemical Substances Regulations of the OHSACT Act 85 of 1993

[6]. National Road Traffic Act, 1996 (Act No. 93 of 1996)

[7]. 240-154140783: ATKSS Security Standard Operating Procedure

[8]. 240-99423606: ATKSS Management of Alcohol and Substance Abuse Procedure

[9]. 240-166927105: Baseline Risk Assessment for Contractor Main Construction Works (ATKSS)

[10]. 240-54937439: Fire Protection/Detection Assessment Standard.

[11]. 32-124: Eskom Fire Risk Management

[12]. 32-123: Emergency Planning

[13]. 32-1126 Eskom Smoking Policy

[14]. 32-1134 Access Control at Eskom Premises

[15]. 240-56296995 Standard for Record Retention Periods

[16]. Eskom Operating Regulations for High Voltage Systems

[17]. Eskom Plant Safety Regulations (Low Voltage Regulations)

[18]. Consolidated COVID 19- Direction on Health and Safety in the Workplace-GG 43400, GNR 639- 4 June 2020

### 4.2 Informative

***Note: The following is a list of documents that can be used as a guide in order to meet legal and Eskom requirements***

[1] 240-56927739- Group Capital Execution Assurance Construction SHEQ Operational plan 2017/18 - 2020/21.

[2] 32-95 Eskom Occupational Health and Safety Incident Management procedure

[3] The Vehicle and Driver Safety Management Procedure ( 240-62946386)

[4] 32-345 Eskom Vehicle Safety Specification.

[5] 240-43848327 Employees' right of refusal to work in an unsafe situation

[6] 32-418: Working from Heights Procedure

[7] 240-100979499: Personal Protective Equipment for work at Heights Specification

[8] 32-520: Procedure Manual for Performing Occupational Health and Safety Management and Environmental Management: Conducting EH&S Risk Assessment

[9] 32-407 Behaviour Safety Observation Procedure

[10] 39-98: Safe use of Lifting Machines

[11] 240-43921084- Fall arrester checklist

[12] ISO 45001:2018, Occupational Health and Safety Management systems-Requirements (Contractor shall use as guideline)

[13] Compensation for Occupational Injuries and Diseases Act

[14] Occupational Health & Safety Act 85 of 1993

[15] 240-155318598 Workplace Protective measures to be taken during the COVID-19 outbreak for GCD Workplaces

[16] 240-159594753 – Revision to the Final Environmental Management Programme for the construction of an additional three (3) 30 MW OCGT units in Atlantis

All contractors are required to execute their works in accordance with this document as well as other applicable legal documents.

## 5. Definitions

### 5.1.1. OHS Act Definitions

**Agent**: (OHS Act) means any person who acts as a representative for a Client.

**Baseline risk assessment**: (32-520) baseline operational risks refer to the health and safety risks associated with all standard processes and routine activities in the business.

**Client**: (OHS Act). means any person for whom construction work is being performed. (In this document, the Client shall also be known as the Eskom Representative.)

**Competent Person**: (OHS Act) 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 South African Qualifications Authority Act, 1995 (Act No. 58 of 1995).

**Contractor**: (OHS Act) means an employer as defined in section 1 of the Act who performs construction work and includes EPC Contractors. In relation to this document, where the word “contractor” is used, it shall mean all or some of the following: EPC Contractors, appointed contractors, contractors, suppliers, vendors, service providers and consultants.

**Construction Work**: (OHS Act) means any work in connection with:

a) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or;

b) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system, or the moving of earth, clearing of land, the making of excavation, piling or any similar civil engineering structure or type of work. of a fixed plant where such work includes the risk of falling persons.

**Designer**: (OHS Act) means any of the following competent persons:

a) a person who prepares a design.

b) a person who checks and approves a design.

c) a person who arranges for any person at work under his/her control (including an employee of his/hers, where he/she is the employer) to prepare a design.

d) a person who designs temporary work, including its components.

e) an architect or engineer contributing to, or having overall responsibility for, the design.

f) building service engineer designing details for fixed plant.

g) surveyor specifying articles or drawing up specifications.

h) contractor carrying out design work as part of a design and build project.

i) temporary works engineer designing formwork and false work; and

j) interior designer, shop fitter, and landscape architect.

The "**Employer**" (OHS Act) means any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him but excludes labour brokers as defined in section I (1) of the Labour Relation Act, 1956.

**Environmental Management Specification:** Instructions and guidelines for specific construction activities designed to help prevent, reduce and/or control the potential environmental implications of these construction activities.

**Fall Protection Plan:** (OHS Act) means a documented plan of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods to be applied in order to eliminate the risk.

**Hazard :**( OHS Act) means a source of or exposure to danger

**Hazard identification:** (OHS Act) 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

**Medical surveillance:** (OHS Act) means a planned programme or 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

**Method Statement:** (OHS Act) 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

**Method Statement:** (Environmental management) A written submission by the Contractor to the Project Manager in response to the Specification setting out the plant, materials, labour, timing, and method the Contractor proposes using to carry out an activity. The Method Statement shall cover applicable details with regard to:

a) Construction procedures.

b) Materials and equipment to be used.

c) Getting the equipment to and from site.

d) How the equipment/material will be moved while on site.

e) How and where material will be stored.

f) The containment (or action to be taken if containment is

g) not possible) of leaks or spills of any liquid or solid

h) material that may occur.

i) Timing and location of activities.

j) Compliance/ non-compliance with the Specifications.

k) Any other information deemed necessary by the CM.

**On Site/Site:** Any workplace where the contractor or his employees performs contract related work.

**Planned Task** Observation: is an independent observation made during the planned period in which the task is being executed.

**Pre-Task Risk Assessment** (DSTI): a meeting which is held prior to the commencement of the day's work with all relevant personnel associated with the work task in attendance.

**Risk Assessment:** (OHS Act) means a programme to determine any risk associated with any hazard at a construction site in order to identify the steps needed to be taken to remove, reduce, or control such hazard.

**Safety Health and Environmental file**: means a file or other record in permanent form, containing the information on the SHE management system during construction including all information relating to construction phase after the handover to the Eskom Representative.

**Safety, Health and Environmental plan:** means a written plan that addresses hazards identified during the risk assessment process as well as the identified impacts in the SHE specification. This would typically include safe work procedures to mitigate, reduce or control the hazards identified and is specific to each construction project undertaken. This is usually compiled by the EPC Contractor or contractor and approved by the Eskom Representative for which contracting work will be performed.

**Safety, Health and Environmental (SHE) Specification**: including the base line risk assessment means a documented specification of significant residual SHE requirements for a construction site, which a competent and resourced EPC Contractor or contractor would not have been aware of. This is to ensure the health and safety of employees and the direct and indirect communities, as well as duty of care for the environment. The Eskom Representative compiles the SHE specification which shall be specific to each construction project.

**Safe work Procedures** means sequence of plan of actions, in consistent with the generally, accepted safe and sound practice, established for the purpose of carrying out work safely

### 5.1.2. Eskom Definitions

**The Client** shall be the end-user, the Eskom Generation (Peaking) Division.

**Eskom** means Eskom Holdings SOC Limited.

**Eskom Representative** shall mean the person appointed by Eskom to represent them as the Client on all project related matters pertaining to, amongst others, safety, health, and environmental matters. This shall also mean the Project Manager in accordance with an NEC.

**Eskom Requirements:** Eskom requirements which evolve from directives, policies, standards, procedures, specifications, work instructions, guidelines, or manuals.

**Site:** Shall be the area at which all construction work for the ATKSS project will take place in the area defined in section 2.1 – Location above.

## 6. Abbreviations

| Abbreviation | Explanation |
|---|---|
| **CBE** | Council for the Built Environment |
| **CHSA** | Construction Health and Safety Agent |
| **CHSM** | Construction Health and Safety Manager |
| **CHSO** | Construction Health and Safety Officer |
| **CM** | Construction Manager |
| **COID Act** | Compensation for Occupational Injuries and Diseases Act |
| **CR** | Construction Regulations 2014 |
| **CSE** | Confined Space Entry |
| **DI** | Disabling Injury |
| **DOEL/DEL** | Department of Employment and Labour |
| **DSTI** | Daily Safety Task Instruction |
| **EA** | Environmental Authorisation |
| **ECSA** | Engineering Council of South Africa |
| **ECO** | Environmental Control Officer |
| **EO** | Environmental Officer |
| **EPC** | Engineering, Procurement and Construction |
| **EMPr** | Environmental Management Programme |
| **EMR** | Electrical Machinery Regulations |
| **ERP** | Emergency Response Plan (aka. Emergency Preparedness Plan) |
| **GCE** | Group Chief Executive |
| **GHS** | Global Harmonised System by the United Nations |
| **GSR** | General Safety Regulation |
| **HBA** | Hazardous Biological Agents |
| **HCA** | Hazardous Chemical Agents |
| **HIRA** | Hazard identification and risk assessment |
| **HV** | High Voltage |
| **ISO** | International Organisation for Standards |
| **JSA** | Job Safety Analysis |
| **LTI** | Lost Time Injury/Incident |
| **LTIR** | Lost Time Incident Rate |
| **LV** | Low Voltage |
| **MSDS** | Material Safety Data Sheet |
| **MT** | Medical Treatment |
| **NQF** | National Qualifications Framework |
| **OHNP** | Occupational Health Nursing Practitioner |
| **OHS Act** | Occupational Health and Safety Act No. 83 of 1993 |
| **OHS** | Occupational Health and Safety |
| **ORHVS** | Operating Regulations for High Voltage Systems |
| **PPE** | Personal Protective Equipment and Clothing |
| **PTO/PJO** | Planned Task/Job Observations |

| Abbreviation | Explanation |
|---|---|
| **CBE** | Council for the Built Environment |
| **SACPCMP** | South African Council for the Project & Construction Management Professions |
| **SANS** | South African National Standards |
| **SAQA** | South African Qualifications Authority. |
| **SDS** | Safety Data Sheet |
| **SHE** | Safety, health, and environment |
| **LTI** | Lost Time Incident |
| **LV** | Low Voltage |
| **MT** | Medical Treatment |
| **NEC** | New Engineering Contract |
| **NEMA** | National Environmental Management Act |
| **NPM** | Nuclear Project Management |
| **NWA** | National Water Act (Act No. 36 of 1996), as amended |
| **OHS Act** | Occupational Health and Safety Act No. 85 of 1993 and Regulations |
| **OHS** | Occupational Health and Safety |
| **OHSAS** | Occupational Health and Safety Assessment Series |
| **PER** | Pressure Equipment Regulation |
| **PPE** | Personal Protective Equipment |
| **PTO** | Planned Task Observations |
| **RoD** | Record of Decision |
| **SACPCMP** | South African Council for the Project & Construction Management Professions |
| **SDS** | Safety Data Sheet |
| **SHE** | Safety, health, and environment |
| **TETA** | Transport Education Training Authority |

## 7. Roles and Responsibilities

### 7.1 Compliance to Construction Regulations

As the EPC contractor will be fulfilling the role of both the designer and the principal contractor, the EPC will need to demonstrate in a procedure to the client that they are able to ensure the requirements of CR 6(g) – (j)

### 7.2 Commitment to SHE

Visible and felt Leadership commitment is essential in providing a healthy and safe work environment, Leadership from all stakeholders (Client, EPC Contractor, Contractors, etc.). Leadership must provide strategic direction and demonstrate commitment in terms of SHE issues both on strategic level and operational level. This must be done by being proactively involved in the day-to-day operations; in particular SHE aspects of any project / contract. Employees also are

expected to demonstrate their commitment. Legislation and the Eskom requirements require that each employee must take reasonable care of themselves and their fellow workers.

### 7.3 Designers (incl. Contractors performing design work)

Designers should ensure compliance with the Occupational Health and Safety Act in terms of Construction Regulations of 2014, Regulations 6 and all other applicable Regulations, standards, and legislations.

Contractors who are required to perform design work and thus be classified as Designers as defined in this document, must be issued with, and are required to comply with the ATKSS Project SHE Specification for Designers (240-155613313) (Annexure A7).

Compliance to these specifications by design contractors is mandatory.

The designer shall consider the hazards associated with the current constructability as well as future maintenance of the designed structure(s) and make provision in the design(s) for the necessary maintenance work to be performed such that the associated risks are minimised. Where possible, Designers should consider the life cycle of the structures, material, finishes & equipment installed in the project from an SHE point of view to ensure that compliance to Construction Regulation 11(2) can be met by the Client on final handover and commencement of operations.

Designers should describe any matters that require particular attention by a contractor that is required for the safe execution of the work during construction phase. Enough information should be provided to alert contractors and others to matters which they could not be reasonably expected to know about, and this will include inherent risks in the design which the contractor will need to be made aware of. Where changes are brought about to the design that significantly impacts the Client in terms of SHE from an operations and maintenance point of view, these need to be raised with the Client.

In cases where overseas designers are utilised, the appointed designers must indicate and submit to the EPC Contractor the legislative requirements/documentation with which they comply to in order to verify whether they meet the South African OHS legislative requirements.

An overseas designer can appoint a local designer to conduct the inspections required by the construction regulations. The responsibility to ensure that all work is conducted according to the design remains the responsibility of the EPC Contractor at all times, and any failure to find or appoint a local designer to conduct these inspections will remain theirs.

Designers must communicate changes with the EPC Contractor on designs, as well as designs that affect environmental authorisations/approval issued.

Layout maps depicting coordinates, all the activities (site camps, laydown area, workshop areas, access road etc.) and sensitive areas (such as heritage sites, wetlands, rivers, protected fauna, and flora etc.)

Final Designs and layout maps must be approved by relevant Authorities, where applicable, before the commencement of construction.

### 7.4 Management and Supervision of Construction Work

The EPC Contractor shall ensure that the performance of all specified work is managed and supervised in accordance with the requirement of OHS Act CR 8 throughout the contract period.

The Contractor shall ensure that the performance of all specified work is supervised throughout the duration of the Contract by a sufficient number of competent appointed representatives of the Contractor, who have experience in the type of work specified.

No work shall commence and/or continue without the presence of an appointed competent Construction Manager (or their alternate), Construction Health & Safety Manager & Officer, Construction Supervisor, or appointed Construction Supervisor Assistants as per Construction Regulation requirements during execution of the work. These supervisors shall be fluent in the language for communications as defined under the Contract.

Construction Managers are required to be competent and should be registered with a professional body of the CBE.

The EPC Contractor is required to ensure that resourcing is in accordance with Project Plan and Schedule for life of work. An estimation of key activities is required to be identified for the life cycle of the project and resource plan requires aligning accordingly. The number of appointed persons shall be determined by the size and the risk of the project.

**The following additional supervisor appointments are anticipated for specific activities:**

| Reference | Description |
|---|---|
| CR 8(2) | Competent Assistant Construction Manager(s) (if applicable) |
| CR 8(8) | Assistant Construction Supervisor appointed by the Contractor's OH&S Act Section 16(2) assignee |
| CR 12(1) | Competent Temporary Works designer (design, inspect and approve) |
| CR 12(2) | Competent temporary works supervisor |
| CR 12(3)(f) | Competent temporary works inspector |
| CR 13(1) | Competent Excavation Work Supervisor |
| CR 14(1) | Competent Demolition Work Supervisor |
| CR 16 (1) | Competent Scaffold Supervisor |
| CR 28(a) & GSR 8 | Competent Person Supervisor for Stacking and Storage |
| ATKSS SHE Specification 43 | Responsible Person (Permits) |
| ATKSS SHE Specification 43 | Permit Issuer |
| ATKSS SHE Specification 43 | Permit Receiver |

**Note:** The above list is not exhaustive and is dependent on the work being performed on site.

### 7.5 Construction Management Professionals

7.5.1. The EPC Contractor should make all efforts to try and have professionally registered persons acting in roles related to Construction Management and Supervision.

7.5.2. Professional Registration should be in professional categories recognised by the CBE. Any other professional registration for the nominated Construction Manager may be accepted on further discussion with the Eskom Representative.

7.5.3. Where a candidate is put forward to fulfil a role as required by the Construction Regulations, they must have a mentor and the Eskom Representative reserves the right to review such appointment before it is confirmed on the project.

7.5.4. All Construction health and safety personnel on the project MUST be registered with the SACPCMP is the relevant category to fulfil their role.

7.5.5. No verification letters will be accepted for Construction health & safety personnel

7.5.6. All persons registered as professionals must be paid up and valid members of the respective professional body

### 7.6 Construction Health and Safety Manager/s and Officer/s

Construction Health and Safety Professionals on this project are required to register as professionals with the SACPCMP.

The following Construction Health & Safety Professionals must be appointed to the project:

1. Construction Health & Safety Managers (CHSM) – shall fulfil the roles and responsibilities in terms of the management of SHE systems and SHE personnel for the construction Contractor(s). It would be ideal for the Contractor to provide a CHSM that is registered in the category of CHSM with the SACPCMP.
2. Construction Health & Safety Officers – shall fulfil the roles and responsibilities in terms of Construction Regulation 8(5) for the construction Contractor(s)

The EPC Contractor and their contractors should make the following appointments in terms of Construction Health & Safety Managers/Officers:

**Table 1: Construction Health & Safety Appointment**

| Title/Role | EPC Contractor | Contractor |
|---|---|---|
| SHE Manager | Required (on-site) | Not Required |
| Construction Health & Safety Officer | Required (1:50 employees or 1:3 sub-contractors) | Required (1:50 employees) |

**Determination of full-time vs part-time Health & Safety Officers:**

The EPC will have full-time health and safety officers on site in accordance with the table above.

Contractors and sub-contractors may have part-time health & safety officers; however, this shall depend on the following:

[1] The EPC contractors' health & safety officers are competent to assist in the day-to-day management of the health & safety of their contractors and sub-contractors

[2] The work/activities do not involve specialist work (i.e., confined space entry)

[3] The number of health & safety officers provided by the EPC contractor can effectively manage the number of contractors and sub-contractors without compromising the EPC contractor's responsibility regarding health & safety on the site

[4] The contractors and sub-contractor's part-time health & safety officers are on site at least twice per week to ensure all SHE files, and documentation is being maintained and provides the necessary support to their supervisors on site.

[5] The contractors and sub-contractor's health & safety officers are still responsible for ensuring that all health & safety files, documentation, etc. required to be maintained and kept up to date in the SHE files.

## 7.7 CONSTRUCTION ENVIRONMENTAL OFFICERS (EO)

7.7.1. The EPC contractor shall appoint a Construction Environmental Officer to manage all environmental aspects of the project against the intended scope of work.

7.7.2. The EO will be responsible for the development of the necessary Environmental plans and procedures for the execution of the work, this includes but is not limited to:

[1] Environmental Management Programme

[2] Waste Management Plan and Procedure

[3] Water management plan and procedure

[4] Flora and Fauna Management and procedure

[5] Oil/Hazardous Material Spill control procedure

7.7.3. The EO will also be responsible for ensuring the Project Environmental Management Programme is always complied with.

## 7.8 OTHER HEALTH & SAFETY APPOINTMENTS

| Reference | Description |
|---|---|
| OHS Act 16(2) | Persons assigned functions to assist the Chief Executive Officer (if required) |
| OHS Act 17 | Health and Safety Representative (where applicable) |
| OHS Act 19 | Health and Safety Committee Member (if there are 2 or more H&S reps there will be a H&S committee) (where applicable) |
| GSR 3 | Qualified First Aiders |
| GSR 5(1) | Person that pronounces & certifies a confined space safe for the duration of work being conducted (applicable for confined spaces) |
| GAR 9(2) | Incident / Accident Investigator |
| DMR18(11) | Competent Lifting Machinery Operator (trained for specific machine) |
| DMR18(5) | Competent Lifting Machinery Inspector |
| DMR 18(6) | Competent Lifting Equipment Inspector |

| | |
|---|---|
| DMR18(10)(e) | Competent Lifting Tackle Inspector |
| EMR 9 | Portable Electrical Equipment Inspector |
| PER 6(1) | Competent person to oversee operation and maintenance of all pressure equipment |
| HCA 4 | Employer representative for management of HCA in the workplace |
| CR 21(2)(b) | Competent Person as Explosive Powered Tool Inspector |
| CR 21(2)(g)(i) | Appointed Person responsible for issuing & collection of Explosive Powered Tools cartridges or nails or studs |
| CR 23(1)(d) | Competent Construction Vehicle or Mobile Plant Operator |
| CR 23(1)(k) | Construction Vehicle and Mobile Plant Inspector |
| CR 24(c) | Competent Person for Inspecting Temporary Electrical Installations |
| CR 29(h) | Competent Person as Fire Fighting Equipment Inspector |
| Eskom Requirement | Emergency Co-coordinator |
| Eskom Requirement | Fire Fighters/Watchers |
| SANS 12480-1&3 | Crane coordinator – Tower crane operations /Appointed Person Mobile Crane operations |
| ATKSS SHE Specification 43 | Permit Receiver |

## 8. GENERAL DUTIES OF MANUFACTURES AND OTHERS REGARDING ARTICLES AND SUBSTANCES FOR USE AT WORK

The EPC Contractor shall ensure compliance with Section 10 of the OHS Act 85 of 1993.

The EPC Contractor shall ensure that the Client (Eskom) is informed of any known or anticipated dangers and hazards relating to any component or piece of equipment used within the ATKSS during construction, operating, maintenance and in the event of any emergency, to ensure safe operating procedures are followed.

The EPC Contractor shall ensure that training is provided on any emergency actions for various applicable scenarios in case of an incident involving the ATKSS Project. At a minimum this training shall be made available to affected staff of the Client

## 9. PROCESS FOR MONITORING

This document is valid for the duration of the works and will be amended, as and when necessary, as requirements are being amended and therefore it will be required for the EPC Contractor and contractor's plan to be amended accordingly.

Conformance to this document shall be via regular safety inspections and Audits.

### 9.1 Related/Supporting Documents

Eskom OHS Act section 37 (2) agreement (to be completed by the Project Manager)

Appendix A.1 – Eskom SHEQ Policy 32-727

Appendix A.2 – Appointments and Competencies

Appendix A.3 – HIRA Template

Appendix A.4 – Contractor Monthly Statistical Report

Appendix A.5 – Contract Weekly Report

Appendix A.6 – COVID-19 Policy

Appendix A.7 – ATKSS Project SHE Specification for Designers

Annexure A.8 – Acknowledgement form for Eskom SHE Rules and other legislative requirements:

## 10. SHE SPECIFICATION

### 10.1 SHE ACCOUNTABILITIES AND RESPONSIBILITIES ORGANOGRAM INCL. THE SHE FUNCTIONAL DEPARTMENT RESOURCE PLAN

The EPC Contractor shall provide an organisational organogram related to this project, listing all the levels of responsibility from the Chief Executive down to the supervisors responsible for the project. The diagram must list the names of appointees and their roles and responsibilities.

Provide a proposed SHE resource plan. For each position, stipulate the position titles, qualifications, and competencies.

For the duration of the contract, the EPC Contractor shall ensure that competent persons are appointed in writing in terms of the requirements of the OHS Act 85 of 1993 and its Regulations; and or other statutory requirements and that all their appointees are made aware of their accountabilities and responsibilities and have been suitably trained in terms of their appointment, and advice and assist these appointees in the execution of their duties.

Copies of all the appointments shall be kept in the SHE File during the project duration. All organograms shall be updated timeously when appointments are changed and filed in the project SHE file.

### 10.2 APPOINTMENT OF CONTRACTORS

The EPC Contractor may appoint contractors to assist in the contract. All appointments shall be done in writing. The appointed Contractors shall after having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards and risks on the site, appoint full-time construction health and safety officers and managers. Registration with SACPCMP is mandatory.

The Contractor involved in Construction Work shall comply with the requirement stipulated in the Construction Regulations 2014 of the OHS Act 85 of 1993, including all the other applicable statutory requirements for their contracted scope of work. Adequate training and instruction must be given to the appointees and ensure that all appointed contractors understand their roles and responsibilities.

The EPC Contractor shall ensure that all their employees and contractors undergo the relevant Eskom induction and company's induction prior to starting the works.

The EPC Contractor shall when selecting contractors to assist on this project carry out a selection process, and vet potential contractors. Once the selection process is completed, then such contractors shall be appointed in writing for the relevant period as required

## 11. SHE/Q POLICY

The EPC Contractor and the contractor companies shall each have an Occupational Health and Safety Policy authorised by their Chief Executive (OHS Act Section 16(1) appointee) that clearly states overall SHE objectives and commitment to improving Occupational Health and Safety performance and must be displayed and shared with all stakeholders.

Eskom has a SHEQ Policy that clearly states the policy principles by which Eskom operates and the commitment to SHEQ excellence and is authorised by the Eskom Group Chief Executive. (See Annexure C)

## 12. SHE REQUIREMENTS

The Client expects the EPC Contractor to engage in safety culture initiatives in line with the Eskom SHEQ Policy and value, Zero Harm.

It is required that the EPC Contractor comply with the relevant applicable legislation, specifications, and standards in accordance with the scope of the project.

A section 37(2) agreement must be signed between the Client and the EPC Contractor at the time of awarding the contract. A signed copy of this agreement is submitted to the Client prior to commencement of any activities.

The EPC Contractor must ensure that a section 37(2) agreement is signed between them and all their appointed contractors for the contract.

The EPC Contractor, at all times, considers itself to be the “Employer” for the purposes of the OHS Act, and shall not consider itself under the supervision of the Client regarding compliance with the SHE Requirements.

The EPC Contractor shall furthermore not consider itself to be a subordinate or under the supervision of the Client in respect of these matters. The EPC Contractor is at all times responsible for the supervision of its employees and contractors and assumes full responsibility and accountability for ensuring they are competent, aware of the SHE Requirements and execute the works in accordance with the SHE Requirements and legislative requirements.

The EPC Contractor must implement their SHE management system and requirements and incorporate the applicable Eskom requirements into their system.

The EPC Contractor shall ensure that all statutory appointments and appointments required by the Management system are in place, and that all appointees fully understand their responsibilities and are trained and competent to execute their duties. The EPC Contractor supervise the execution of their duties by all such appointees.

The EPC Contractor is expected to provide a SHE plan based on the requirements of this document (in terms of CR5 (b)) for the proposed scope of work which meets these requirements as well as the relevant applicable legislation.

The EPC Contractor shall ensure that the contractors comply with the requirements of Construction Regulations 2014, of the OHSACT 85 0f 1993 (including Construction Regulations 7- (Duties of EPC Contractor and Contractor).

## 12.1 ESKOM SPECIFIC SHE REQUIREMENTS

The following documentation (procedures and policies) must be incorporated and integrated in the SHE Plan that is developed by the EPC.

### 12.1.1. **General:**

[1]. 32-727: Safety, Health, Environment and Quality Policy

[2]. 240-62196227: Life-saving Rules Standard

[3]. 32-37 Substance Abuse Procedure

[4]. 32-123: Emergency Planning

[5]. 32-1126 Eskom Smoking Policy

[6]. 32-1134 Access Control at Eskom Premises

[7]. 240-56296995 Standard for Record Retention Periods

[8]. 32-477 Safety, Health and Environmental Training and Development Procedure

[9]. 240-43848327 Right of Refusal to work in the case of an unsafe work situation

[10]. 32-407 Behavioural Safety Observations

[11]. 240-93261649 Project Close Out and SHE Documentation

### 12.1.2. **Health & Safety:**

[1]. 32-95 Occupational Health & Safety Incident Management Procedure

[2]. 240-114036246 Occupational Hygiene Hazard Identification and Risk Assessment

[3]. 32-520 Occupational Health and Safety Risk Assessment Procedure

[4]. 240-131838225 Occupational Health and Safety Incident Management Definitions and Classification Parameters

[5]. 32-481 Work at Height Standard

[6]. 32-136 Contractor Health & Safety Requirements Standard

[7]. Eskom Operating Regulations for High Voltage Systems

[8]. Eskom Plant Safety Regulations (Low Voltage Regulations)

[9]. 32-98 Safe Use of Lifting Machines and Lifting Tackle

[10]. 240-54937439: Fire Protection/Detection Assessment Standard.

[11]. 32-124: Eskom Fire Risk Management

[12]. 240-44175132 Eskom Personal Protective Equipment Specification

[13]. 240-75885882 Safe Use of Vehicles on Construction Sites

[14]. 32-123 Emergency Planning Procedure

[15]. 32-425 Hearing Conservation Procedure

[16]. 240-84520108 Public Safety

[17]. 240-100979499 Personal Protective Equipment for Work at Heights Specification

12.1.3. **Environmental:**

[1] 32-245 Eskom Waste Management Standard

[2] 240-133087117 Environmental Incident Management Procedure

[3] 39-55 Monitoring, Measurement, Analysis and Evaluation of Environmental Performance

[4] 240-41781068 Environmental Risk Assessment

[5] 240-70172585 Vegetation Management and Maintenance within Eskom Land, Servitudes, and rights of way Standard

## 13. UPDATES AND REVIEWS

Where statutory/legislative updates potentially impact the project, these must be reviewed, and a consultation process must be initiated with all affected parties on these changes.

Where Eskom updates per the documents listed in section 10 above, or where new documents are added that impact the SHE operations on the project, these should, in consultation with all parties, be considered for amendment or as an addition to the SHE Specifications.

This is to ensure that if costs are involved due to these changes, that all parties are involved in the decision-making process.

It is expected that the EPC maintain their own legal register, which will include the Eskom requirements, and maintain this to ensure continuous alignment to Eskom and statutory requirements.

## 14. COMPLIANCE AND NON-CONFORMANCES

As legislation forms part of any country's legal system, the Client requires the EPC Contractor and all contractors to comply with legislation as part of the contract. All expenses which result from compliance with this legislation as well as special requirements specific to the site will be for the EPC Contractor account.

Should the EPC Contractor appoint a contractor, the EPC Contractor would then have the same role and responsibility in relation to the contractors, in a similar way as the Client has in relation to the EPC Contractor.

The Client representative reserves the right to stop work and issue a non-conformance report whenever SHE violations are observed after engaging and making the EPC Contractor aware of such. Expenses incurred as a result of such work stoppage and standing time shall be for the EPC Contractor's account. Any non-conformances/findings/observations found in these audits/inspections on contractors shall be raised and discussed with the agent.

The requirements within this document should not be considered to be exhaustive and the Client reserves the right to add, delete or modify conditions where it is considered to be appropriate.

**No claim will be accepted as a result of any costs or delays being incurred due to the EPC Contractor or his contractors not complying with legislation, applicable Eskom Procedures and Standards.**

## 15. LEGAL AND OTHER REQUIREMENTS

It is the duty of the EPC Contractor and all contractors to ensure that they are familiar with the necessary OHS legislation required.

The EPC Contractor shall compile a legal register listing all applicable legislation and standards that may have an impact on the scope of work that they are performing on the construction project. The Client shall have access to the legal register.

The register shall be updated at intervals defined by the EPC Contractor.

## 16. ENFORCEMENT OF SHE REQUIREMENTS AND NON-COMPLIANCE

The EPC Contractor shall submit their procedure on how they would deal with enforcement and non-compliance to SHE requirements.

## 17. HAZARDOUS WORK BY CHILDREN (CHILD LABOUR)

The constitution of the Republic of South Africa, in the “Bill of Rights” is clear on the rights of children, especially when it comes to:

*a) being protected from exploitative labour practice.*

*b) not to be required or permitted to perform work or provide services that*

i. Are inappropriate for a person of that child’s age; or
ii. Place at risk the child’s well-being, education, physical or mental health or spiritual, moral, or social development; and the Basic Conditions of Employment Act, Chapter six Section 43 “Prohibition of employment of children”.
iii. Before resorting to the use of child labour, due consideration must be given to the rights of the child in terms of the constitution.

Where work is being performed which is not prohibited in terms of the constitution, then such work must be conducted in terms of the OHS Act “Regulations on Hazardous Work by Children in South Africa” with emphasis on paragraph 2 Purpose and Interpretation.

Eskom does not condone the use of child labour and therefore all efforts must be exercised to avoid it.

## 18. COST ALLOCATION FOR OHS COMPLIANCE

The EPC Contractor shall ensure that they have adequately made provision for the cost of Occupational Health and Safety measures for the project.

The costing must adequately cover aspects of people, equipment, material, training, and PPE that is required to manage the implementation of PPE on the project.

**Note: the costing for OHS must be detailed that is itemised based on the overall contracted scope of the project.**

## 19. AUDITING AND MONITORING ON ACTIVITIES.

Eskom reserves the right to monitor and conduct unannounced audits to ensure compliance and provide assurance to the Client representatives and their key stakeholders.

These will be used to ensure compliance by the EPC and to confirm conformance to the requirements that are set out in this document.

The client will perform legal compliance audits monthly, as well as implement other monitoring processes to ensure continuous compliance by the EPC to their approved SHE Plan. Upon receiving the audit report, the EPC must ensure they respond with the action plan within 3 working days with responsibilities and closing dates for the findings.

## 20. PROJECT STATISTICAL AND NON-STATISTICAL INFORMATION

The Client will request on a regular basis (weekly and/or monthly), specific information related to SHE statistics that needs to be communicated to the Client.

The EPC is to make use of the template that may be provided by the Client for the recording of these statistics.

All statistical and non-statistical information must be provided to the Client by the 3rd working day of the month.

**NB:** All statistical information must be submitted to the Client on the 1st of each month and whereby the 1st is on weekend the following Monday must be submitted.

## 21. PROJECT OBJECTIVES AND TARGETS

The EPC is to align themselves to all SHEQ Objectives and Targets that are set on annual basis by the Client. The EPC contractor will be assessed and measured against these objectives and targets on a regular basis. The EPC contractor should have a plan/programme in place on how they plan to meet these objectives of the project.

Fatalities – 0

Occupational Diseases – 0

Lost Time Injury Rate – 0,11 (Koeberg)

Lost Time Injury Rate – 0,30 (Eskom)

Environmental Legal Contravention – 0

Medical Surveillance – 100%

First Aid – 1< per month

Medical - <1 per quarter

Emergency drills/exercises – 4x per year

SHE Work stop/stand-downs – 2x per year (between April and March)

**Safety Observations and Reporting:**

| | |
|---|---|
| Management team members | 1 per month |
| Construction & SHE Managers | 1 per week |

| | |
|---|---|
| Construction Health & Safety | 2 per week |
| Construction Supervisors | 2 per week |

## 22. SHE TRAINING

The aim of this section is to outline Eskom's expectations with respect to the scope of the training which the EPC Contractor and contractor employees receive. The scope of the training includes, but is not limited to, the type of work being performed and the relevant procedures. In addition to the requirements, the EPC Contractors and contractors' employees would require the appropriate qualifications, certificates, and tickets, and be under competent supervision. Records of all training and qualifications of all contractor employees must be kept.

The contractor must have proof of this on site for verification.

The contractor must develop a training matrix for all their employees.

### 22.1 INDUCTION TRAINING

The EPC Contractor is to develop a site-specific induction training programme to manage all persons, contractors, consultants, suppliers, etc. entering the site.

This induction should be aligned to the Eskom ATKSS induction and should be conducted by in a language that can be easily understood by the specific audience being presented to.

It is suggested that the main languages to be considered are:

- English
- Afrikaans
- isiXhosa

The induction should as a minimum cover the following topics:

- Rules of the site (incl. Eskom Life Saving Rules)
- Access and security
- Eating and rest areas
- Facilities
- Personal hygiene
- General construction related hazards and risks to the project
- Occupational hygiene hazards and risks
- Occupational health hazards and risks
- Safety signage and flagmen
- Emergency preparedness and plans
- Incident management and reporting (OHS and Env)
- Environmental management and control

- Waste management and housekeeping
- PPE Management and Control

All persons on the site should be able to demonstrate their understanding of the SHE induction by completing a simple knowledge test after the training. The EPC Contractor must ensure only those that are able to demonstrate their understanding are able to work on the site. Opportunity for re-training and re-assessment must be provided.

Persons who are off-site for an extended period (more than 2 months) and/or post mandatory industry breaks must undergo a new induction.

### 22.2 FORMAL TRAINING (CLASS BASED)

The contractor must ensure that the formal training providers are accredited and registered with SETA according to the relevant unit standards. The training must be done against the relevant unit standard where these are applicable, and the certificates must indicate as such.

Formal accredited training will take precedence to Site based or informal training in terms of hierarchy. It is up to the contractors to research and find out what formal training is in place for the work/activity being undertaken and required by the employees. Types of work that may need formal training as example may be confined space work, scaffolding, temporary work structures, etc.

### 22.3 SITE BASED TRAINING

Where no formal or SETA Accredited training exists, the contractors can develop their own on-site training programs to assist in the further development of knowledge and skills of employees on the project.

Training can be in the form of classroom based or field-based training.

Examples of the type of training that may be necessary includes (but are not limited to):

[1] Use of power tools and safe operation

[2] Completing a Daily Safe Task Instruction

[3] Hazardous Chemical Agents (as per the regulations)

[4] Ergonomics (as per Ergonomic Regulations)

[5] Personal Protective Equipment

[6] Work Permits

[7] Etc.

### 22.4 SUPERVISOR SPECIFIC TRAINING

All appointed supervisors and persons overseeing/managing teams shall be trained internally on the following documentation:

a. DSTI – usage, completion, and maintenance

b. Hazard and Risk identification and communication
c. Workplace safety
d. PPE identification for activities
e. Performing pre-job briefs
f. Completion of inspection records and registers
g. Maintaining records at the site work area
h. Reporting incidents/accidents in the work team/area
i. Role and responsibility in incidents/accidents
j. Housekeeping and environmental responsibility

Records of this training must be kept for auditing and record purposes.

## 23. TRAINING

The EPC Contractor and Contractor need to ensure that the resources to work on the project have the required related training, knowledge, and experience specific to the scope of work/services.

The scope of the training includes but is not limited to the type of work being performed and the relevant procedures. In addition to the requirements, the EPC Contractor and contractor employees would require the appropriate qualifications, certificates, and tickets, and be under competent supervision. Records of all training and qualifications of all contractor employees must be kept. The EPC Contractor shall maintain comprehensive records of all employees under his control (including all employees of the contractor) attending induction training. Acknowledgement of receiving and understanding the induction must be signed by all persons receiving the induction respectively.

The EPC Contractor must ensure that the training providers are accredited and registered with SETA according to the relevant unit standards.

The contractor must have proof of this on site for verification.

The EPC Contractor and its contractors must develop a training matrix for all their employees.

## 24. ACCESS AND SECURITY CONTROL

Access and Security control shall be done according to the ATKKS Access Control Procedure.

EPC Contractor employees, contractors and visitors shall be subjected to induction training and substance abuse tests when entering Eskom sites, or as and when required whilst on Eskom sites.

It may be required that prior to access being granted that person(s) complete the required training e.g., plant access training, employee training, occupational health and safety training or any other prescribed training.

The following are prohibited items and shall not be allowed on Eskom sites unless the necessary authorisation for possession has been obtained:

a. Firearms and ammunition (excludes Eskom official firearms/ ammunition and firearms/ ammunition issued to the South African Security Forces)
b. Liquor/ Alcohol
c. Dangerous weapons

d. Drugs
e. Any other items that may be declared prohibited

The EPC Contractor and contractor shall provide suitable safety signs, including traffic routes signage's (traffic & pedestrian arrangement) & warning notices/ signs to indicate restrictions or prohibited items, where authorisation is to be obtained.

**The EPC Contractor shall have system/ process to manage vehicle access to site. The EPC Contractor must develop a process to manage the ingress and egress of machinery, tools, material and equipment that is accepted by the Eskom Representative.**

## 25. WORKPLACE PROTECTIVE MEASURES TO BE TAKEN DURING THE COVID-19 OUTBREAK

The EPC Contractor and contractor shall ensure that measures required by the applicable latest COVID-19 directives, guidelines and work instructions are strictly complied with.

The EPC Contractor and contractor shall provide procedures/work instructions/plans to ensure that measures required by COVID-19 directives and guidelines are strictly complied with.

A detailed cost for the health and safety aspect should be included in the bill of quantities which should include a detailed Covid-19 cost proposal.

Consideration for the management of COVID must consider the requirements in terms of the Hazardous Biological Agents regulations under the OHS Act.

## 26. FIRE SAFETY PLAN (REFER TO 32-124)

The EPC Contractor shall develop and implement an adequate fire safety plan to ensure the overall fire safety, fire prevention and fire protection measures, deemed suitable and necessary for the ATKSS projects.

The EPC Contractor will need to take into consideration the lack of facilities on the existing Ankerlig Power Stations and ATKSS project site when determining the specific needs for fire management on the project.

The EPC Contractor shall enforce the principles of fire safety both on and off the site.

## 27. EMERGENCY PREPAREDNESS AND RESPONSE PLAN (REFER TO 32-123)

The EPC Contractor shall, in consultation with the Client regarding the Client's site-specific emergency preparedness plan, develop and implement an emergency preparedness and response plan to ensure an adequate level of preparedness, response and recovery for the ATKSS project, to minimise the impact of an emergency pertaining to human life, the environment, security and property.

The EPC Contractor shall enforce the principles of emergency preparedness both on and off the site.

The EPC Contractor shall provide training on the approved plan to all the applicable stakeholders.

### 27.1 Emergency Response Plan (ERP)

Based on the capabilities of Local Authority Emergency Services, the EPC Contractor must identify the most appropriate first response actions and minimum safety precautions that first responders must implement during incidents, inclusive of firefighting.

Due to the different approaches by Local Authorities on the provision of fire and emergency services, the EPC Contractor shall verify the capabilities of the local authority emergency services or such reasonably practicable alternative arrangements to ensure access to fire and emergency response in the event of emergencies.

The EPC Contractor shall provide a detailed plan as how to access the local authority fire and emergency services or indicate what provision is always made for fire and emergency response services and assistance on the project. This shall form part of the EPC Contractor Health and Safety Plan.

Establish and test the fire and emergency response component of the emergency preparedness plan.

The EPC contractor will be able to use the ATKSS Emergency Preparedness Plan as a baseline from which to develop their own ERP. The EPC should expand on this with relation to their own task specific rescue requirements (i.e. Work at height rescue, trench collapse, etc.)

## 28. RESCUE PROCEDURES, PLANS AND EQUIPMENT

The EPC Contractor must provide suitable rescue plan(s) for any of their activities that involve, working at height (incl. from mobile elevated working platforms, work in confined spaces, work at risk of engulfment (fire, fuel, etc.) and work in excavations.

The rescue plans must make consideration for the following:

[1]. Equipment, plant, or machinery required to perform the rescue

[2]. Training and competent persons required to perform the task (considering acts, regulations, and standards)

[3]. Location and equipment available from local emergency services

[4]. Time required to safely rescue a person or group of people

[5]. Access and routes for getting emergency services safely onto the site

[6]. Reaction times for first respondents to the scene

Upon conducting the emergency drill which must be conducted 3 times a year, the EPC must ensure they submit action plan within 3 working days with responsibilities and closing dates for the findings and observations.

## 29. TRAFFIC MANAGEMENT PLAN

The EPC Contractor shall develop and implement an adequate traffic management plan, taking into account the safe access and egress of all anticipated traffic, pedestrians, and vehicles to all working areas of the site including the core construction area, the lay down areas and site offices. Such traffic safety measures shall include the separation of vehicle and pedestrian traffic to prevent injuries. All vehicles shall be operated by competent and authorized personnel

The EPC Contractor shall enforce the principles of road safety both on and off the site. This shall include the control of vehicles on site, road worthiness, vehicle maintenance programmes, signage, speed limits, flagmen, warning lights and high-level flags if required.

Where access roads pass underneath overhead power lines, the EPC Contractor shall provide suitable height limitation barriers (goalposts) as agreed upon with the Client.

Ensure that all drivers and passengers wear seatbelts, while travelling in a motor vehicle. Vehicles not fitted with seatbelts must be retrofitted according to the vehicle manufacturer's specifications.

Ensure that no employees, including contractor employees, when performing work for Eskom, are transported at the back of bakkies / vans and trucks.

## 30. CONTRACTOR'S SITE FACILITIES

Site facilities shall be established and maintained by the EPC Contractor. The facilities include, but are not limited to the following: (refer to OHS Act Construction Regulation 30)

a. Temporary Facility Layout Plan
b. Sheltered eating facilities
c. Change rooms
d. Ablution facilities
e. Site Sheds, Offices and Amenities
f. Lay down and Storage
g. Temporary Site Services

Reasonable and suitable living, off-site accommodation may be provided for employees who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available

## 31. PROJECT AND SITE RULES (ZERO HARM TO PEOPLE AND THE ENVIRONMENT)

The objective of this section is to define the rules that are over and above the internal regulations and procedures of Eskom and relevant legislation which will ensure zero harm to persons and the environment. These rules will be specific to the project and site.

### Eskom Life Saving Rules

Five Life Saving rules have been developed that will apply to all EPC Contractor employees, Agents, consultants, contractors, and visitors. Failure to adhere to these rules will be considered a serious transgression. These rules are being implemented to prevent serious injury or death of any employee, labour broker or contractor working in any area within Eskom.

The rules are:

| RULE | DESCRIPTION OF RULE |
|---|---|
| Rule 1 | **OPEN, ISOLATE, TEST, EARTH, BOND, AND/OR INSULATE BEFORE TOUCH**<br>(That is plant, any plant operating above 1000 V) |
| Rule 2 | **HOOK UP AT HEIGHTS**<br>Working at height is defined as any work performed above a stable work surface or where a person puts himself/herself in a position where he/she exposes himself/herself to a fall from or into. |
| Rule 3 | **BUCKLE UP**<br>No person may drive any vehicle on Eskom business and/or on Eskom premises:<br>Unless the driver and all passengers are wearing seat belts. |
| Rule 4 | **BE SOBER**<br>No person is allowed to be under the influence of intoxicating liquor or drugs while on duty |
| Rule 5 | **PERMIT TO WORK**<br>Where an authorisation limitation exists, no person shall work without the required permit to work. |

**Eskom will take a stance of zero tolerance on these rules**

a. Any non-compliance to any health and safety requirement in this OHS specification is subject to discipline/removal of person from the project site.
b. Non-compliance to a Life Saving rule will be considered serious misconduct and will lead to serious disciplinary action, which may include dismissal.
c. This is to ensure that every person who works on or visits an Eskom work site returns home safely to his or her family
d. No person shall damage, alter, remove, render ineffective, or interfere with anything that has been provided for the protection of the site, or for the health and safety of persons.
e. No person under the influence of alcohol, drugs, or medication (in a state of intoxication) or any other condition that may render him incapable of controlling himself or of other persons under his charge shall be allowed to enter the site.
f. All safety and warning signs shall be obeyed at all times.
g. Entering or leaving the Site will only take place at official access control points and may only be done via the official designated walkways.
h. All employees shall adhere to the OHS and other site-specific rules.
i. The EPC Contractor must have a process in place to address employees that have contravened Health and Safety Requirements.

**Cellular Phones**

a. Do not use Cellular phones in areas where cell phone usage is prohibited.
b. A contractor shall develop and implement a risk-based cell phone policy for a particular construction site.

**Substance and Drug Abuse Management**

The EPC Contractor shall provide a Substance Abuse management policy which is in line with the Eskom Procedure (Eskom Substance Abuse Procedure 32-37)

Alcohol and substance abuse poses a significant threat to any business, more so in industrial incidents and the driving of vehicles. Eskom is therefore, entitled to take reasonable steps to ensure that intoxicated persons are identified and prevented from entering Eskom.

General Safety Regulation 2A is clear on the legal stance regarding intoxication.

The alcohol and drug permissible level is 0%.

All contractors shall comply with Eskom's procedure 32-37 ("Substance Abuse Procedure"), taking into account that this is an Eskom Life-saving Rule number 4: BE SOBER"), this means anyone entering the Eskom will be subjected to ad hoc alcohol testing.

Contractors are encouraged to compile their own manual and to carry out regular alcohol testing of their own employees. The legislative alcohol level is deemed to be zero.

Test records must be treated as "Confidential" and filed in the employees' personal file.

## 32. HAZARD IDENTIFICATION AND RISK ASSESSMENT

### 32.1 OVERVIEW OF RISK ASSESSMENTS

32.1.1. The EPC Contractor shall develop a Risk Assessment in line with Construction Regulation 9 (1) (a-e), in alignment to Eskom 32-520 procedure.

32.1.2. Emerging risks and hazards must be managed during construction work. This means that if there are significant changes to a process or activity, or any new process, then these should also be subjected to risk assessment.

32.1.3. All risks must be rated against a logical matrix

32.1.4. Risks related to each hazard shall not be grouped together, particularly when distinguishing between health, safety and environmental risks for a particular hazard

32.1.5. Hierarchy of controls must always be considered, with PPE and Administrative being the last and least effective control

32.1.6. All risks must be re-evaluated once controls are defined to determine the residual risk.

**Note: Consequences of a risk should not be changed following implementation of controls unless there has been a specific engineering change.**

32.1.7. Activity based risk assessments shall be conducted by an appointed and competent person of the Principal Contractor.

32.1.8. Contractors must develop a core risk assessment team which will include the following mandatory persons:

[1] Competent Risk Assessor (Risk assessment team lead)

[2] Construction Manager

[3] Construction Health & Safety Officer (if not Risk Assessment team lead)

[4] Supervisor overseeing the task/activity

[5] Specialist performing the task (where necessary)

32.1.9. Ergonomic risks must be included in all risk assessments with specific reference to the Ergonomic Regulations 2019 and Construction Regulations 2014. Ergonomic risks related to physical & psychosocial risks. Consideration must be given to the following with regards to the Ergonomic risks:

[1] The activity to be performed

[2] Equipment, machinery, and tools involved in the activity

[3] Short- and long-term impacts of the activity on the individual

[4] Technological or engineering alternatives

[5] Change in method of work

### 32.2 BASELINE RIKS ASSESSMENTS

A Baseline project construction risk assessment must be developed by the EPC contractor. This Baseline risk assessment is not to be confused with the Eskom Baseline Risk Assessment that is issued to the EPC.

### 32.3 SHE RISK REGISTER

The Contractor must develop and maintain through the duration of the contract a SHE Risk Register which should include at least the following information:

a. Activity/nature of hazard identified
b. General risk rating of the activity risks or hazard identified
c. Potential date for realisation of the anticipated activity/hazard
d. Actions in progress/being taken to address the risks related to the activity/hazard
e. Status of the actions
f. Responsible party/person/contractor for addressing the risk
g. Document reference for the completed actions
h. Review date for specific activity/hazard

### 32.4 HIGH LEVEL OHS RISKS AND SUGGESTED MITIGATING FACTORS (BUT NOT LIMITED TO):

This list is to be transferred to the Risk Register that the EPC Contractor will update and maintain at regular intervals.

| RISKS | Suggested Mitigating Factors | Responsible Person |
|---|---|---|
| Non-Compliance to applicable legislations and standards | Compile a legal register listing all applicable legislation and standards that may have an impact on the scope of work. The register shall be updated regularly. | EPC Contractor |

| | | |
|---|---|---|
| | Identify all applicable OHS permits related to the scope of work. Apply for the permit with relevant authorities. | EPC Contractor |
| Working on an existing operational site | Works coordination process to be established with inputs from all affected stakeholders | EPC Contractor |
| Weather Conditions | Obtain site data info | Client |
| Road /Terrace Condition<br>Increased Volume in the area | Consider all roads inside and outside site in the Traffic Management Plan.<br>Movements of vehicles, mobile plants and pedestrian on site and surrounding areas. | EPC Contractor |
| Availability of Medical facilities and services | Provide a detailed plan as to how access to or provision of medical facilities, services and assistance is rendered on the project at all times. This shall form part of the EPC Contractor Health and Safety Plan.<br>Establish and test an Emergency medical response plan and ensure that it is aligned with emergency response plan | EPC Contractor |
| Delivering of construction material. | To be considered in the Traffic Management plan, taking into account the road conditions. | EPC Contractor |
| Storage of Hazardous Chemical Substances on site | Comply with the Hazardous Chemical Substance Regulations of the OHS Act and Major Hazard Installation Regulations (if applicable). | EPC Contractor |
| Spillages, explosives, and fire | Fire Safety and Emergency Preparedness Plan, including the provision for resources and equipment to perform these activities on site. Also include potential for labour/contractor unrest. | EPC Contractor |

## 33. HIGH RISK ACTIVITIES

When the EPC Contractor and/or his contractors are working in an area where a high health and safety hazard exists or engaging in an activity deemed as high risk, the EPC Contractor shall:

Ensure approved designs are provided by the necessary Competent Persons where applicable.

Ensure that permanent and adequate on-site supervision is available for the entire duration of the work that is being conducted.

Ensure the use of safety standbys in areas of high-risk activities, and activities that fall within the scope of the permit to work system.

Provide, erect, and maintain all the required barricading, lighting, flags, flashing lights, or other safety control equipment to enable operations to proceed in a safe manner.

Maintain, at all times, defined access ways, which are clear of objects or obstructions, to allow for emergency vehicle entry; and

Provide any temporary protective shielding required for protecting nearby operations from the construction activities, at their own cost.

EPC Contractor shall ensure that whenever mobile cranes/ lifting machinery are operated onsite, the booms are retracted and safe clearances from overhead power lines, communication lines or other overhead obstructions are observed and maintained as per Electrical Machinery Regulations 19 & 21, Eskom Procedure “Operating Regulations for High Voltage Systems (ORHVS)-32-846” Section 5.03.6.3 (Work in close proximity to live conductors / apparatus). Supervisors shall be trained in the Eskom ORHVS (see above).

What are your company’s critical success factors, plans, and requirements in managing high risk construction activities such as (if applicable):

- Civil works
- Lifting and rigging
- Crane Coordinator
- Blasting
- Hot work
- Work at height
- Stacking and Storage
- Manual Handling
- Electrical safety/ Close Proximity to live apparatus
- Hazardous Chemical Substances
- Confined Spaces
- Construction traffic and vehicles etc.
- Transportation of staff
- Temporary work activities (As per Construction Regulations)

Please don’t limit response to the above list.

## 34. OCCUPATIONAL HYGIENE

EPC Contractor is required to develop an Occupational Health and Hygiene program. The program is intended to ensure that the risks to occupational health and hygiene are identified and controlled.

The Occupational Hygiene management plan and programme for Occupational Health & Hygiene must be developed by an Approved Inspection Authority (AIA).

The occupational hygiene programme should include, but not be limited to the following elements:

a. Occupational health risk assessment as a background.

b. Occupational health risk exposure profiles

c. Occupational hygiene monitoring program and ensure that monitoring is performed by an approved Inspection Authority.

d. Communication of occupational hygiene results and requirements

e. Proof of awareness training.

f. Documentation and control of records (Records to be kept for 40 years)

Where there are occupational hygiene stressors, the contractors shall ensure that programs are developed and in place to address the said stressors. These programs may include but not be limited to:

a. Hearing Conservation Program.

b. Respiratory Protective Program

c. Hazardous Chemical Substances Program

d. Procedure for the use and management of radioactive sources

e. Heat Stress Management Program

EPC Contractor and contractors shall report to the Department of Employment and Labour on the occupational hygiene milestones (e.g., crystalline silica). Evidence of reporting to the Department of Employment and Labour and copies of such reports shall be made available to Eskom SHE manager/practitioner.

Copies of all occupational hygiene surveys conducted by the EPC Contractor and contractor must be submitted to the Eskom SHE manager and practitioners. The EPC Contractor shall establish a database of occupational hygiene surveys and corrective plans.

The EPC Contractor and contractors shall describe in detail how they would implement an Occupational Hygiene programme and provide an outline of the programme as well.

## 35. OCCUPATIONAL HEALTH

The following elements must be considered by the EPC Contractor with regards to the development of the Occupational Health Management Plan. The plan should include a Health Risk Assessment performed by a suitably qualified and competent person.

### 35.1 EMPLOYEE HEALTH AND WELLNESS PROGRAMME

The EPC Contractor shall submit details of their Employee Health and Wellness Programme as part of their Health and Safety Plan which should include a Medical Surveillance Program and an Employee Assistance Program.

Where the EPC contractor and contractors do not have EAP service providers, then Eskom's EAP service provider is available to provide assistance. All costs shall be borne by the EPC Contractor. Details are: ICAS – Tel. No.: 0800 611 059

### 35.2 MEDICAL SURVEILLANCE PROGRAMME

The EPC Contractor shall ensure that his employees and contractor employees are registered on a medical surveillance programme and are in possession of a valid medical certificate of fitness. The medical certificate of fitness shall be relevant to the type of work (risk based) that the employee will

be exposed to. This will require each employee to have a risk-based person job specification that will be used as a basis for medical examination.

The EPC Contractor must ensure that his employees and contractor employees have undergone pre-entry medical examination before starting work on site, ***no employee will access site without a valid medical certificate of fitness.***

The EPC Contractor and contractor employees must ensure that all their 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.

The frequency to renew the medical certificate of fitness shall be determined by the risk profile and or as per the recommendation of the Occupational Health Practitioner.

On completion of the project an exit medical examination shall be conducted, unless otherwise advised by the Occupational Health Practitioner.

All employees shall be issued with the required medical records to prove medical status at the time of exiting the construction project.

The EPC Contractor shall provide a documented process for managing those employees who are issued with a conditional certificate of fitness or restrictions.

**Note:** *Eskom will only accept medical surveillances conducted by an Occupational Health Practitioner who holds a qualification in occupational health*.

### 35.3 MEDICAL SERVICES AND MEDICAL EMERGENCIES.

Due to the unavailability of Eskom in-house medical facilities in the areas of work, the EPC Contractor shall investigate alternative arrangements to ensure access to adequate medical assistance in the event of emergencies. This includes detailing in risk assessments the level of risk to a person's life and the response times to deal with a medical related emergency.

The EPC Contractor shall provide a detailed plan as to how access to or provision of medical facilities, services and assistance is always rendered on the project. This shall form part of the EPC Contractor Health and Safety Plan.

Establish and test the Emergency medical response component of the emergency preparedness plan.

### 35.4 FIRST AID

[1] The number of first aiders must be appointed in accordance with General Safety Regulations.

[2] Each contractor must always have at least one first aider on site to deal with any first aid treatment injuries that may occur within their area of responsibility, unless agreement is in place between the EPC and the contractor concerned on the management and treatment of first aid injuries being performed by the EPC.

[3] Contractors must determine the level of competency of first aiders that they require by taking into consideration the following:

a. The activities to be performed by the contractor on site

b. The types of injuries that may occur in the workplace that a first aider may need to deal with (i.e., loss of limb, fires/burns, electrocution, etc.) This must be clearly demonstrated in the contractors' risk assessment

c. Work at height and confined space entry rescue team first aiders must be Level 2 as a minimum

[4] First aid equipment and boxes must be adequate to deal with the potential types of first aid treatments that may be encountered on the construction site. This means that first aid kits will be required to be over and above the minimum requirements as per the General Safety Regulations. To determine the contents of the first aid boxes, the contractor must perform a risk assessment and indicate what first aid will be required to manage the risk (i.e., thermal blanket for shock, additional splints for multiple injuries, eye wash kit for dust intrusion)

[5] First aiders on the site must be clearly identifiable and made known to all other employees on site.

[6] First aid equipment must be kept in a location where the first aiders can immediately access to provide treatment to an injured person(s) and provide support to the emergency team. This means that first aid kits should be on the construction site and allocated to the responsible first aider.

[7] Where a paramedic or other medically trained person is provisioned for on the site, they will oversee all medical injuries that can be treated on site, and First Aiders are to take direction from them in case of any medical incidents which they are required to assist on.

### 35.5 COMPENSATION OF OCCUPATIONAL INJURIES AND DISEASES ACT (COIDA)

The EPC Contractor shall submit proof of registration and letter of good standing with the compensation fund or with a licensed compensation insurer for his company; based on South African legislative requirements. This must remain valid for the duration of the contract. The Letter of Good Standing shall reflect the name of the EPC Contractor. The Contractors are expected to provide the same to the EPC Contractor.

For foreign contractors who do not have a registered company in South Africa, they must be able to provide evidence that their employees are covered for compensation for work outside of their country.

## 36. PERMIT TO WORK (PTW)

The EPC Contractor shall provide and obtain acceptance from Eskom for a Work Permit System to control identified high risk construction activities. The Work Permit System shall be different from the Permit to Work System as defined by the Employers Plant Safety and Operating Regulations for High Voltage Systems (ORHVS). There shall be only one accepted Work Permit system on the construction site to manage the construction related risks. The Work Permit system must include a training and examination process before persons are deemed competent to perform their roles.

The Permit to Work System must, as a minimum, manage the following risks on the project

a. Hot work

b. Confined space entry work

c. Lifting and rigging works
d. Simultaneous operations
e. Excavation work
f. Temporary works
g. Demolition Works
h. Explosive Actuated Fastening Device operations

Persons are to be categorised into designated roles in terms of the Permit to Work System and must be deemed competent following the attendance of a formalised training session on each type of permit and after completing a written examination to test their knowledge. All supervisors and SHE Officers who do not fulfil the role of a Permit Receiver or Issuer must also undergo training on the PTW System.

The following roles must be assigned in accordance the Permit to Work System

a. PTW Responsible person

b. Permit Issuer

c. Permit Receiver

## 37. ELECTRICAL INSTALLATIONS (INCLUDING TEMPORARY)

All electrical installation work on site must comply with the relevant regulations and standards.

Electrical work should also be handled with a permit to work system for activities involving work on live/energised systems, or the process of energising or making live an electrical system.

Certificates of Compliance must be issued for all temporary electrical connections on site.

## 38. CONSTRUCTION VEHICLES AND MOBILE PLANT (INCL. GENERAL VEHICLES)

All construction vehicles and equipment shall meet the legislative requirements pertaining to the OHS Act Construction Regulations 23, the National Road Traffic Act, National Environmental Act and Eskom Vehicle Safety Specification Procedure 240-62946386.

The EPC contractor must ensure that vehicles entering and exiting the site are compliant to the following:

[1]. Valid drivers' licence for all drivers (incl. transport vehicles) and PrDP's are in place where applicable.

[2]. Vehicle is in a roadworthy condition and licenced.

[3]. Vehicles used for transport of employees have seatbelts in place for each passenger.

[4]. Vehicles used on the construction site and laydown areas are free of any hydrocarbon-based fluid leaks. Vehicles that are leaking will be removed immediately from the construction site area to a safe area for repairs and prevent further spread of leaking fluids.

[5]. Drip trays must be constructed from a material that is suitable to hold the spilt material – i.e., the drip tray should not:

a. disintegrate or dissolve as a result of the material spilt,

b. warp or become brittle or change shape/size due to exposure to the elements,

c. have any openings that could cause it to leak.

[6]. Geyser trays will not be accepted as drip trays.

[7]. The shape, size and weight should also be considered for easy manoeuvrability around the site.

[8]. Every construction vehicle when parked or standing in any site or laydown area must have a drip tray in place underneath it.

[9]. Construction plant movements are controlled at all times by trained flagmen when moving on the construction or laydown areas.

[10]. All construction vehicles maintenance, service & testing records are available at all times.

## 39. WORK AT ELEVATED POSITIONS, SCAFFOLDING AND LADDERS

All work at height must be conducted according to a fall protection plan that is developed by a competent fall protection developer.

The fall protection plan must be able to display compliance by:

a. It considers all the various work at height activities that are conducted by the responsible contractor

b. Considers that hazards and risks of the activity being performed

c. Considers the appropriate and effective controls to manage fall related risks of the activity and sets about practical requirements to ensure that all employees working at height are protected/prevented by falls from height.

d. Where controls fail, that effective emergency and rescue plans are in place and that there is sufficient persons to execute a rescue from height within the safe limits of saving a persons suspended at height.

e. Tools, equipment, machinery and personnel required to execute work at height rescue are available at all times during work at height activities.

### 39.1 WORKING AT ELEVATED POSITIONS AND ROOF WORK

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

b. Whenever there is any potential of falling either **from or into**, a fall protection plan and risk assessment (which includes fall prevention) shall be compiled, implemented and reviewed and every possible and practicable means shall be adopted to provide such persons with effective training and safeguards.

c. The Principal Contractor shall ensure that all work performed at elevated positions shall conform to the requirements of the OHS Act, the relevant SANS standards, and Eskom Procedure 32-418 (Working at Height Procedure).

d. Appropriate full body safety harness shall be worn when working at an elevated position - refer to SANS 50361.

e. Working in elevated positions shall only be carried out under the supervision of a competent person in accordance with SANS 229995.

f. Fall arrest/protection plan and equipment shall be implemented where fall prevention is not possible.

g. All fall protection equipment shall comply with SANS Standards and other recognised international standards.

h. The Principal Contractor and/or his contractor shall compile a fall protection equipment, inspection, testing and maintenance procedure.

### 39.2 SCAFFOLDING

The Principal Contractor shall employ a specialist, competent scaffolding contractor to plan manage and control the erection and maintenance of all scaffolding structures required for the execution of construction work

39.2.1. All scaffolding structures shall comply with the requirements stipulated in the OHS Act and Regulations and in SANS 10085.

39.2.2. All persons involved in the erection and inspection of scaffolding structures shall be trained and declared competent as specified in SANS 10085.

39.2.3. All scaffolding will comply to Construction regulations on temporary work

### 39.3 LADDERS (PORTABLE)

39.3.1. All ladders used on the site shall comply with the OHS Act and Regulations and be built to standard

39.3.2. Damaged ladders shall be marked as “DAMAGED” and removed from the project site.

39.3.3. Prior to work being performed, a risk assessment shall be conducted, and work shall be conducted in accordance with General Safety Regulation 6 and 13A and Construction Regulation 10 of the OHS Act

39.3.4. Ladders must be suitable for the task being performed (i.e. no aluminium ladders for live electrical work)

39.3.5. Ladders used for access will be suitably secured at both the bottom and top of the ladder.

39.3.6. Only straight ladders may be used for access. A-frame ladders will not be used for this purpose.

## 40. HOUSEKEEPING

[1]. The EPC Contractor and his contractor shall maintain a high standard of housekeeping within the site. Waste separation and waste removal is for the account of the EPC Contractor in accordance with the requirements stipulated in the EMP, Construction regulations 27 and 28 and Site Safety Rules. Prompt disposal of waste materials, scrap and rubbish is essential.

[2]. The EPC Contractor shall carry out regular safety/housekeeping inspections (at least weekly) to ensure maintenance of satisfactory standards. The EPC Contractor shall document the results of each inspection and shall maintain records for viewing.

[3]. Daily housekeeping shall be done before the end of the shift to ensure all work areas are safe before employees leave the site. Where hand over to another shift/team is to take place, the necessary housekeeping is to be done as part of the hand-over process.

***NOTE:*** Nails protruding through timber shall be bent over or removed so as not to cause injury.

## 41. ENVIRONMENTAL AWARENESS

[1]. Environmental awareness and training is an important aspect of the implementation of the EMPr.

[2]. An initial environmental awareness training session for all of the Contractor's staff is required prior to any work commencing which shall be conducted by a suitably qualified person.

[3]. The Eskom Representative *(or* ECO/Eskom EO) will provide the Contractor with the course content for the environmental awareness training course, and the Contractor shall communicate this information to his employees on the site, to any new employees coming onto site, to his subcontractors and to his suppliers.

[4]. The training session shall be delivered in the languages of the site staff.

[5]. The emphasis should be on any (potential) environmental impacts relating to the construction activities to be undertaken on site and the related environmental precautions, which need to be taken to avoid or mitigate these impacts.

[6]. Training shall cover:

a. The importance of the EMPr.

b. Specific details of the EMPr.

c. Employees' role in compliance with the EMPr.

d. Training targeted at specific personnel for example operators of heavy machinery.

e. The environmental impacts, actual or potential, of their work activities.

f. The environmental benefits of improved personal performance.

g. Their roles and responsibilities in achieving conformance with the environmental policy and procedures.

h. Emergency preparedness and response requirements.

i. The potential consequences of departure from specified operating procedures.

j. The mitigation measures required to be implemented when carrying out their work activities.

k. Environmental legal requirements and obligations.

l. Details regarding floral/faunal species of special concern and protected species and the procedures to be followed should these be encountered.

m. The consequences of poaching of animals or removal of indigenous vegetation.

n. The importance of pollution control.

o. The importance of using supplied toilet facilities.

p. The need to use water sparingly.

q. Details of and encouragement to minimise the production of waste and re-use, recover and recycle waste where possible.

r. Details regarding archaeological and/or historical sites which may be unearthed during construction and the procedures to be followed should such be encountered.

**Records of training session including attendance, nature of training and date of training shall be kept to ensure all staff members have received the necessary training.**

## 42. SIGNAGE

All symbolic safety signage that the EPC Contractor or his contractors are to use/display shall comply with the requirements of SANS 1186.

The display of the following signage is mandatory:

a. For Contractors with Site Establishment: The Contractor company sign shall be posted at their site offices to reflect the name and contact details of the: Construction Supervisor; Health and Safety Manager/Practitioner; First Aider; Health and Safety Representative and Evacuation warden.

b. The Contractors shall provide the signage where work is conducted and where unauthorised entry is prohibited and/or where alerting and cautioning passers-by to be aware of potential dangers

c. The Contractors shall provide the signage in accordance with the scope and work occurring in the immediate area.

## 43. HAZARDOUS CHEMICAL AGENT MANAGEMENT

[1]. HCA shall be managed in accordance with HCA Regulations of the OHS Act 85 OF 1993.

[2]. All labels and warnings on HCA's used on site will be according to the GHS.

[3]. Prior to any HCA being brought onto the site or produced on the site, the EPC Contractor and his contractors shall supply the Eskom Representative with the following:

a. Safety Data Sheets (SDS) in accordance with the requirements of the regulation.

b. Proof of training and awareness to all employees regarding the HCA's that they will be working with in accordance with the HCA Regulation 3(2).

c. Proposed arrangements for safe storage.

d. Proposed methods for handling/usage.

e. Proposed method of disposal.

f. Proposed method for safe cleaning of any hazardous chemical spillages, including the temporary storage of this waste.

**The information is to be provided at least two (2) working days prior to the expected delivery on site.**

[1]. Risk assessments for HCA's must make consideration for the potential reactions/interactions of the volumes and type of HCA's being stored on site. This in turn must be considered into the Emergency management plan for the contractor storing the HCA.

[2]. Fire-fighting equipment must be suitable to handle the volumes of all flammable HCA's being stored

[3]. All HCAs must be properly labelled and identifiable as per the HCA Regulation

[4]. No HCA may be brought onto the site until the Eskom Representative is satisfied that the above requirements are in place.

## 44. FUELS (PETROL AND DIESEL) AND OIL

[1]. Unless unavoidable, fuel should not be stored on site, but shall be transported to the site in small quantities as and when required, and vehicles to be fuelled off site.

[2]. The location of the fuel storage area shall be approved by the ECO.

[3]. Areas for the storage of fuel and other flammable materials shall comply with standard fire safety regulations.

[4]. Fuel and chemical depot(s) shall be located at least 100 m from any water body.

[5]. Fuel storage on site above ground may not exceed 30 $m^3$ in volume. Fuel must be in compliance with the SANS specification for that type of fuel

[6]. The Contractor shall ensure that all liquid fuels and oils are stored in tanks with lids and that these are kept firmly locked at all times. The design and construction of the storage tanks shall be in accordance with a recognised code and as approved by the CM.

[7]. The tanks shall be lined and be situated in a bunded area that has a volume of at least 1.5 times of the volume of the largest tank. The floor of the bunded area must be impermeable and the bunds must be without leaks.

[8]. A separate container must be made available for the biological treatment of soil polluted by oil.

[9]. At least one person trained in first aid and the handling of Hazardous fuels must be available to the construction team at all times.

[10]. Storage tanks are to be removed on completion of the works.

[11]. No smoking shall be allowed in the vicinity of the fuel storage area. At least one no-smoking warning sign must be erected and be clearly visible at the fuel storage area to warn all staff of associated dangers.

[12]. There shall be adequate firefighting equipment at or close to the fuel storage and dispensing area(s).

[13]. Fuel shall be kept under lock and key at all times.

[14]. Where reasonably practical, plant shall be refuelled at a designated refuelling area that is accepted by the Eskom Representative. The surface under the temporary refuelling area shall be protected against pollution to the reasonable satisfaction of the CM prior to any refuelling activities.

[15]. In the case of a spill, contaminated material must be removed from the site immediately and disposed of at an appropriate hazardous waste facility.

## 45. OTHER HAZARDOUS SUBSTANCES

[1]. All potentially hazardous raw and waste materials are to be handled by the Contractor's trained staff and stored on site in accordance with manufacturer's instructions and legal requirements.

[2]. All hazardous waste must be disposed of in accordance with national, regional, and local legislation.

[3]. Appropriate training for the handling and use of such materials is to be provided by the Contractor as necessary. This includes providing for any spills and pollution threats that may occur.

[4]. Products shall be clearly labelled, and symbolic safety/ hazard warning signs shall be provided.

[5]. If potentially hazardous substances are to be stored on site, the Contractor shall provide a Method Statement detailing the substances/materials to be used together with the procedures for the storage, handling, and disposal of the materials in a manner which will reduce the risk of pollution that may occur from day-to-day storage, handling, use and/or from accidental release of any hazardous substances used.

[6]. The relevant Safety Data Sheets (SDS) shall be available on site. Procedures detailed in the SDS shall be followed in the event of an emergency.

[7]. Where hazardous substances are removed from site for disposal, proof of disposal for auditing purposes shall be kept in the form of disposal certificates.

[8]. Any spillages that occur shall be treated in accordance with the requirements indicated on the MSDS.

## 46. DEMOLITION WORK

[1]. All work must be done in compliance to the relevant section of the Construction Regulation

[2]. All demolition work must be done under the supervision of a demolition supervisor who shall at all times have a copy of the engineers' method statement and sequence for the safe demolition of a structure at hand.

[3]. All areas where demolition work is taking place shall have the appropriate signage and be controlled to ensure unauthorised persons do not enter the area.

[4]. A permit to work system must be part of the demolition work process

## 47. CONFINED SPACE ENTRY

[1]. All confined space entry (CSE) work must be done under the management of a supervisor who shall ensure all safety measures are in place for the confined space activities.

[2]. All confined space activities must be done under the following conditions:

a. Confined space work permit

b. Confined space monitoring team and safety watch

c. Confined space entry and exit registers (indicating name and time of entry and exit)

d. Rescue equipment in place – this may include rescue from height equipment for scaffold/work at height taking place inside the confined space.

e. Rescue team on standby: The rescue team should not be carrying out critical functions that may result in them being the victim of an incident and thus unable to initiate a rescue. However, if more than one person is trained, this may allow them to be part of the work crew.

f. Gas/Oxygen testing/monitoring equipment and calibration certificates available

g. Confined space work training and certificates (available in SHE File)

[3]. Records of all confined space entry must be kept and saved in the SHE file on a daily basis.

[4]. Daily records for the Gas/Oxygen monitor equipment pre-use must be kept - the information hereon should at least include all the necessary checks that are done before the equipment is used on site.

[5]. CSE work must be done under a PTW system

## 48. BARRICADING (GUARDING OF EXCAVATIONS, TRENCHES AND FLOOR OPENINGS)

[1]. **Requirements for Barricading** (if risk assessments require more stringent mitigation measures, then those stringent measures shall apply): -

a. Name and contact detail of person and Contractor Company that is responsible for the excavation shall be posted on the barricading at the excavation.

b. All barricading shall be of the rigid type and be able to withstand an impact of at least 200 kg.

c. Where the barricading indicated in 2 above is not practical or cannot be implemented, only orange (snow) netting will be used. Where these are used around excavations, trenches, or openings, they shall be placed at a minimum of 1.5x the depth away from the edge of the excavation, trench or opening.

d. Bollards/jersey barriers (containers filled with liquid) can be used as solid barricading, especially where mobile plant is moving.

[2]. No danger tapes are allowed for barricading purposes.

## 49. RADIOGRAPHY, ULTRASONIC, NON-DESTRUCTIVE TESTING (NDT)

[1]. The Contractor carrying out radiography, ultrasonic or other non-destructive testing (NDT) on the site shall comply with the requirements of the relevant legislations, codes of practice and any project specific or Eskom procedures. In particular, the Contractor shall ensure that:

a. no radioactive sources may be brought onto site without prior written consent of the Eskom Representative.

b. where a statutory appointment exists, the Contractor shall appoint in writing a suitably qualified and experienced Radiation Protection Officer to provide advice on the observance of the law and other relevant health and safety matters.

c. radiography areas are clearly identified by the erection of suitable barriers, sirens, warning notices and / or flashing lights.

d. vehicles transporting radioactive materials/isotopes shall be clearly identified.

e. radiation operators submit proof of certification.

f. sources are stored according to legal requirements.

g. all Contractors are informed of X-ray activities; and

h. X-ray work may only commence with a valid permit to work.

***Refer to requirements in:***

[6] Eskom Standard: Radioactive sources for non-nuclear stations

[7] SANS code of practice: 100228: “Code of Practice for the Identification and Classification of Dangerous Substances and Goods”. Published by the South African Bureau of Standards.

## 50. EXCAVATIONS, TRENCHES AND FLOOR OPENINGS

[1]. Requirements in Construction Regulation 13 of the OHS Act shall be adhered to.

[2]. Barricading must comply to the requirements of this specification.

[3]. Adequate precautions shall be taken by the Contractor to prevent slumping of excavations, as well as to prevent rocks and loose material falling onto workers.

[4]. All excavations done by the Contractor are to be clearly demarcated and barricaded to prevent accidental access.

[5]. If an excavation or trench endangers the stability of buildings or walls, shoring, bracing, or underpinning shall be provided.

[6]. Excavations and trenches that are adjacent to backfilled excavations or trenches, or which are subject to vibrations from the operation of machinery (e.g., shovels, cranes, trucks), must be secured by a support system, shield system or other protective systems (i.e., sheet pile shoring, bracing).

[7]. Where it is impracticable to provide fixed guard railing, effective removable barriers shall be provided at all unguarded openings in guard railing or floors and shall be maintained in position at all times until the hazard no longer exists.

[8]. Warning signs and flashing warning lights at night shall be displayed in suitable positions to warn any persons approaching the area of the location and extent of any excavation.

[9]. No material shall be placed within 3m of the excavation edges.

[10]. All excavations must be on the register and inspected daily and declared safe by the Contractor’s appointed competent person before work commences and after inclement weather. His findings shall be noted in the said register.

[11]. There shall be a supervisor present at all times while work is being performed in an excavation.

[12]. No work shall commence in an excavation unless the excavation has been declared safe in writing by the appointed competent person.

[13]. Excavation work shall be part of the permit to work system

## 51. LIFTING AND RIGGING REQUIREMENTS

All lifting and rigging activities shall be conducted as prescribed on **Driven Machinery Regulations 18.**

1. The Contractor shall be responsible for all rigging and lifting requirements to implement the works as required in this specification.
2. The Lift Plans shall be compiled and documented in a Rigging File, also included in the Rigging File should be the rigging personnel qualifications and certification and the rigging and lifting equipment inspection certificates.
3. The EPC / Contractor shall ensure there is a responsible competent and appointed rigging supervisor at all times during the activity.
4. All workforce/employees/personnel in a work area where a lifting and rigging operation is being conducted should be essentially well trained on the lift & rig work scope, associated various hazards, and rectification and mitigation of the task.
5. The EPC / Contractor shall have a documented rigging and lifting plan, an authentic and proper lift plan ensures the required rigging, angles of equipment, lifting capacities/capabilities and integrity, etc. are thought about before the start of the lift or rigging work, the dimensions and masses of components / assemblies to be rigged shall be clearly indicated
6. Plan the travel area and potential lines of fire before the lift. This helps to avoid striking other objects or having to move objects or equipment after the load is already in the air.
7. Inspect all rigging before using it for a lift.
8. The EPC / Contractor shall frequently evaluate, observe and closely check the strength and capability/integrity of the lifting machinery and associated devices throughout the day if there is more than one lift.
9. All rigging operations/activity should be essentially and properly maintained and stored after lifting operations are accomplished.
10. Well-planned, secure, safe, and appropriate storage always assist to prevent the rigging from being damaged or any other deterioration.
11. Always keep and maintain a safe distance and keep away from the load. Try to have a plan and apparent aim of tackle to utilize the tag lines or push sticks to make sure well and proper space from the load being lifted or rigged, this will enhance the safety of all areas including assets, machinery, environment, and personnel involved in the lifting and rigging activity.
12. The Rigging File must be submitted to the Employer/Client for review and approval before any rigging and lifting activities commence.

**Team responsibilities.**

**Rigging Supervisor/Rigging Technician**

Provides in-field support and oversight for Lifting and Rigging activities associated with individual projects and jobs. Ensures proper inspection documentation for contractor/vendor equipment is received and approved prior to rigging and lifting activities. Ensures site and contractor/vendor rigging and lifting equipment is inspected in accordance requirement, Inspection and Storage requirements of Load Handling Equipment.
Ensures proper storage/control and maintenance/inspection of portable hoisting/rigging equipment specifically used for their activity. Compiles, review or authorises complex lift plans

**Rigging Artisan**

Ensure their qualifications are valid and applicable prior to performing rigging operations. Are limited to: Rigging configurations where the slings are equal to or greater than 30- degree angles from the horizontal or less than 60- degree angles from the vertical. No complex lifts unless: Lift is specifically addressed via an existing plant procedure. Lift is being overseen/supervised by an Advanced Rigger, Rigging Supervisor/Technician familiar with the lift to be performed. Completes lift plan checklist, Determine weight and centre of gravity of the load. Select proper rigging and lifting equipment for the lift. Ensures rigging and lifting equipment inspections are performed prior to use. Set up boundaries and control lift exclusion areas. Determine whether the rigging operation is a common/complex lift. Perform inspection on lifting machines coming to site and ensures proper inspection documentation for contractor/vendor equipment is received and valid prior to rigging and lifting activities. Directly oversees pre-lift testing for personnel lift using a man-cage. Perform signalman duties as required. Perform a pre-use inspection for Lifting Machines coming on site.

**Signalman (Banksman)**

The signalling person is responsible for signalling and directing the crane driver so as to ensure safe crane and load passage. Shall wear a brightly coloured top (e.g. red, green, and orange) so as to be clearly distinguished from other personnel in the area with both his hands clearly visible to the crane operator at all times during the rigging and lifting operation. May not be required if dose rates are unacceptably high as determined by the supervisor in agreement with the ALARA co-ordinator and the crane driver. Shall be in constant communication with the crane driver either through visible hand signals or radio communication. Should a need arise for the signalman to be involved with the rigging and lifting activity, the signalman shall take off the brightly coloured top before doing so. A Signalman is not required when pendant or remote-controlled overhead cranes are utilised providing the operator is within the lift exclusion area, on the same level as the load being lifted and able to view all the attachment points on the load.

**Spotter**.

Spotter is responsible and accountable for directing the safe transport of the load. Be aware of the surrounding environment and ensure that there is a clear travel path for the load. During lifting operations, the Spotter shall remain attentive to the lifting task, focused on the transport of the load and shall not be distracted by other individuals. Communicate with the signal man through a predetermined means of communication (i.e. hand or voice communication) and shall stop the activity if the load cannot be moved safely. Ensure individuals are not positioned between load and surrounding objects. Watch for individuals entering load path and ensure individuals clear the area. Rigging/Lifting Task Planning Requirements. Each lift must be analysed to determine the classification, (Common or Complex) load drop consequences, and personnel safety risks. Lifts performed where the load travels directly above in-service systems must be evaluated for load drop consequence. Lift Plans shall be used for all complex lifts and lifts exceeding 1000kg performed by Supplemental Personnel (excluding Supplemental Personnel contracted to MSS Rigging).

**Lift Plans can vary in detail depending on lift complexity the contractor shall have a procedure and method statement depending on the complexity of the load.**

**They will include at a minimum:**

- Description of lift.
- Total weight the lifting device will be subjected to (load weight plus rigging weight).
- Centre of gravity of the load.
- Calculation of sling tension.
- List of the rigging equipment being used.
- Rigging instructions and any steps or special precautions for the safe execution of the lift (attach sketch, rigging configuration, attachment points and CoG if necessary)
- Type and capacity of the lifting device utilised.
- Precautions when using multi crane operations.
- Description and sketches of intended load path, lay down areas, and potential interferences. Obtain engineering approval if required.
- Verification that the laydown area is capable of carrying the load (Weight and volume).
- Investigate and document interferences and potential load drop areas.
- Resources required with defined roles and responsibilities.
- Identify areas to be barricaded to ensure personnel not directly involved in the activity are not affected by the immediate risks in the demarcated area.

**The contractor shall ensure the following when conducting the activity:**

- Ensure that the load is free before lifting and that all sling legs are taking them appropriate share of the load.
- The load should be kept under control at all times and maintained as low as possible above the floor or ground during travel.
- Loads should be safely landed and properly blocked before being unhooked and un-slung.
- Hands should be kept away from pinch points as the slack of ropes and slings is being taken up.
- Personnel shall not ride on a load that is being lifted.
- Loads shall not be left suspended in the air when the hoist or crane is unattended except with permission from a Supervisor/Rigging Technician.
- Lifting operations shall be stopped when the recorded wind speed reaches or gusts in excess of **40 km/h**. This speed can be reduced after assessing the wind sail area. Crane wind speed meters, current meteorological reports or handheld anemometers shall be used to determine wind speeds.
- Loads should be lowered onto adequate blocking/cribbing to prevent damage to the slings.

**The following must be considered at Lift Exclusion Area**

- The Lift Exclusion Area shall be conservatively set during the risk assessment phase prior to the lift. It shall be set such that personnel not directly involved in the activity are not affected by the immediate risks considered in the demarcated area.
- The Lift Exclusion Area shall be barricaded in order to ensure that the personnel not directly involved in the lift cannot enter the said Lift Exclusion Area at any time during the lift.

- The barricading shall be treated as an obstacle or barrier to control, block or force the flow of traffic around the Lift Exclusion Area.

**Selection of Rigging and Lifting Equipment**

- Equipment shall be selected with sufficient load bearing capacities without use of the built-in safety factor.
- If equipment considered for use approaches its SWL (greater than 80%) then different equipment or different rigging configuration should be considered such as changing the lift angles of the rig.
- Only rigging equipment that has a current inspection shall be used. Along with this requirement a visual inspection of all lifting equipment shall be conducted prior to and after each use. Rigging inspections shall be performed as necessary during its use to ensure that it continues to be in good working condition.
- Manufacturers' stamps, labels or written instructions shall be considered governing information for SWL limits on all equipment.
- Every link of the leg (hoist, slings, shackles, eyebolts, etc.) must have sufficient capacity to adequately support the legs' calculated load/tension requirement.
- Protection of slings during lifts will be performed with softeners or edge protectors.
- Protection of load contents from rigging equipment damage shall be considered if rigging configurations present such risks.
- Spreader bars shall be used between the legs of slings to prevent excessive side pressure on the load if the load is susceptible to such stress.

**Lifting Gear and Records**

All lifting gear must be of good construction, regularly inspected and maintained in a good state of repair. Trained appointed persons must operate this equipment. All lifting gear must be inspected in terms of the Driven Machinery Regulations of the Occupational Health and Safety Act.

**Lifting Gear.**

- Slings, drain pullers, tirfors, etc. may only be used up to its rated load.
- Strictly no off-centre sling loading on crane hook.
- Sling angle is not to exceed 90 degrees to the vertical when two or more slings are used. The preferred angle between the legs of the sling is from 60 degrees to 90 degrees as a lesser angle produces damage of to balance; a wider angle greatly increases tension in the sling legs.
- Always protect slings from sharp corners by using rubber pads or blocks of wood.
- Slings are not to be dragged from under loads. Use when placing loads to prevent damage to slings.

**Lifting Machine Inspector (LMI)**

- Lifting Machine Inspector (LMI) Shall inspect, test, thoroughly examine and perform load testing of all lifting equipment at KOU (DMR 18 and SANS 10375).
- Shall submit the report on the same day where possible, but not later than two days after the inspection/service must be completed to allow the rigging supervisor and Cranes to take the necessary action within the required period as described in the Classification of Maintenance Activities.

- If, whilst carrying out an examination, the LMI sees that the lifting equipment or an accessary is not safe for any reason, this in addition to defect caused by deterioration, the LMI shall report to the rigging supervisor and Cranes immediately.

**Cranes**

Overhead cranes may not be operated unless the overhead Crane Pendant Station course has been completed. Notwithstanding the provisions of the Driven Machinery Regulations promulgated by Government Notice No.R.533 of 16 March 1990, as amended, a contractor shall ensure that where tower cranes are used.

- Account is taken of the effects of wind forces on the structure;
- Account is taken of the bearing capacity of the ground on which the tower crane is to stand.
- The bases for the tower cranes and tracks for rail -mounted tower cranes are firm and level.
- The tower cranes are erected at a safe distance from excavations;
- There is sufficient clear space available for erection, operation and dismantling.
- The tower crane operators are competent to carry out the work safely; and;
- The tower crane operators are physically and psychologically fit to work in such an environment by being in possession of a medical certificate of fitness.

**Using Appropriate Communications and Hand Signals**

Standard signals to the operator shall be in accordance with the standards prescribed Rigger's Handbook unless voice communication equipment (telephone, radio, or equivalent) is utilised. Signals shall be discernible or audible at all times.

**NB: Crane operator response shall be made only if signals are clearly understood.**

For special conditions that may occur, additions to or modifications of the standard signals may be required. (Such as the crane operator being unable to see one of a signalman's hands as in the signal to slowly raise or lower the load.) In all such cases, these special signals shall be agreed upon in advance by both the operator and the signal person, and should not be in conflict with standard signals.

In general only one person shall be designated as a signalman for a lift. The signalman shall wear a vest of contrasting colour from the remainder of the crew to designate the individual. Signalman's gloves, if worn, shall be of sufficient colour contrast from the vest to be distinguishable from the signalman's vest.

**Fall Zone**

The Fall Zone is an area that does not only apply to the area directly under the load, it is an area in which the load has a possibility to fall causing injury to personnel or damage to plant equipment. The Fall Zone shall be set during the planning phase prior to the lift, with consideration to load swinging and bouncing if the rigging were to fail. Under no circumstances must staff be directly under the suspended load unless prior authorisation is obtained. The Fall Zone is an area not less than twice the width by twice the length of the load, with the most dangerous zone being 1,5 times the width by 1,5 times the length.

## 52. DOCUMENTATION AND RECORDS MANAGEMENT

The EPC Contractor shall establish and maintain a documentation and records management system where all project and scope OHS related documentation and records are kept and maintained.

The SHE file shall be handed over to the Client (Eskom) at the end of the EPC Contractor's contract.

The Client shall have access to this system

## 53. NIGHT WORK

The EPC should avoid night work as far as possible, however, where this is unavoidable, sufficient controls must be put in place to ensure that work can be executed as safely as it was being performed during day light.

## 54. EMPLOYEES' RIGHT OF REFUSAL TO WORK IN AN UNSAFE SITUATION

Employees have a duty to take reasonable care of their own as well as other person's health and safety at work and to cooperate with the employer, carry out lawful orders, including reporting unsafe situations and incidents.

Refer to Eskom Procedure 240-43848327- Employees' right of refusal to work in an unsafe situation. The aim of the procedure is to ensure that an environment is created that promotes zero harm by empowering employees and contractors to take responsibility for their own safety and that of others.

The EPC Contractor shall provide an Employees' right of refusal to work in an unsafe situation procedure which is in line with the Eskom Procedure 240-43848327.

***NOTE:*** *Work stoppages that are initiated due to SHE related incidents shall not warrant any financial compensation claim lodged against Eskom.*

## 55. WORK STOPPAGE

The EPC contractor is to develop a system to manage the effective stopping of work due to SHE related concerns.

The temporary stoppage of an activity/activities or task(s) may be owing to SHE concerns, including the following circumstances, which shall not warrant any financial compensation:

[1] Ad hoc safety intervention by Eskom management: All work of a similar nature may be stopped as the result of an occurrence of a serious incident. The relevant supplier shall be required to comply with, and/or verify, the conditions stipulated in the work stoppage instruction pack.

[8] Ad hoc safety intervention by any person, especially SHE functionaries, may be owing to unsafe work or unsafe behaviour by the Contractor. The conditions that gave rise to the work stoppage will determine the corrective measures to be taken urgently to protect the health and safety of employees and protect the environment and plant or equipment, etc.

## 56. SHE AUDITS

The Eskom Representative reserves the right to conduct unannounced audits on Contractors

### 56.1 COMPLIANCE AND APPROVAL OF CONTRACTOR SHE PLAN

The Contractor's SHE Plan shall be audited against a compliance checklist so as to confirm compliance to the requirements in the Eskom SHE specifications. Once there is compliance, only then will the Contractor's SHE plan be approved by the Eskom Representative. The implementation of the SHE Plan shall be assessed by conducting a systems and physical conditions evaluation.

### 56.2 CONTRACTOR SHE PERFORMANCE EVALUATION

The Eskom Representative shall evaluate Contractor SHE performance on an ongoing basis against the Eskom requirements.

### 56.3 INTERNAL AUDITS

Contractors are required to conduct internal audits on both their employees and their contractors on the implementation of their SHE Plan on a monthly basis or when the scope of work changes. A summary of the findings and the proposed corrective actions shall be submitted to the Eskom Representative (Project/Construction Manager) on the last day of the audit. The report shall be submitted within one week after completion of the audit.

### 56.4 THIRD PARTY LEGAL COMPLIANCE VERIFICATION AUDITS

If Contractors have a third-party legal compliance verification audit that is to be conducted on the site activities, then a copy of the summary of the findings and the proposed corrective actions shall be submitted to the Eskom Representative (Project/Construction Manager). The written report shall be submitted within one week after the completion of the audit.

### 56.5 SHE PLAN AUDITS

There shall be monthly audits conducted by the Eskom Representative on the EPC Contractor/s and/or contractors. These audits shall be attended by the Contractor's site manager or his representative.

## 57. INCIDENT INVESTIGATION

All SHE incident reporting, recording, classification and investigation will be done according to the requirements set out in the Eskom document 32-95 (OHS Incidents) and 240-133087117 (Environmental Incidents)

All incidents must be reported to the Client or their representative within a 24hr period using an Incident/Accident Flash report.

## 58. INVESTIGATION OF FATALITIES / INJURIES / DISEASES / NEAR MISSES (EPC CONTRACTOR AND SUB- CONTRACTORS)

[1]. The EPC Contractor shall report all incidents/accidents within 24 hours or before the end of the work shift and as required in terms of legislation. These include near miss incidents, first aid, medical treatment, lost time incidents (lost time injuries and fatalities); Section 24 and 25 incidents; electrical contact; major equipment damage; chemical spillage and other environmental incidents.

[2]. All incident reporting, recording, classification and investigation shall be done according to the requirements set out in the Eskom document 32-95 (latest revision).

[3]. Accidents/incidents shall be investigated and recorded in terms of the requirements of the Occupational Health and Safety Act, the National Environmental Management Act and National Water Act as applicable.

[4]. All fatal incidents, employee, and Contractor incidents, shall be reviewed by the ATKSS SHE committee within one week after the incident. Preliminary investigation information shall be shared.

[5]. All employee and Contractor incidents that were in contravention of any one of the Eskom Lifesaving Rules must be presented by the relevant Business Unit Manager or the Managing Director of the contracting company.

[6]. If it is found that the EPC Contractor or his contractor are hiding/not reporting incidents, then steps (which may include disciplinary action) shall be taken against the Line Management of the EPC Contractor and contractor.

[7]. A comprehensive and detailed investigation report shall be submitted to the Eskom Representative within 7 -14 days after the incident.

[8]. The EPC Contractor shall ensure that all accidents/incidents are investigated by him and are discussed at the Project Executive SHE committee meeting held on site.

[9]. The Eskom Representative shall be allowed to participate in any accident/incident investigation if the accident/incident is directly linked to any activity within the scope of the construction project.

[10]. Case studies will be compiled for all near misses, lost time incidents and fatalities.

[11]. The EPC Contractor shall keep on site/workplace a record of all accidents and incidents reported in the form of the OHS Act Annexure 1 investigation form as referenced in the OHS Act. (Incident Investigation Report)

[12]. The EPC Contractor shall provide SHE related statistics to the Eskom Representative at the end of each month.

[13]. The Eskom Representative reserves the right to conduct an independent investigation in any incident.

[14]. In addition to the EPC Contractor and his contractor investigations, the Eskom Representative will also, separately, conduct its own separate investigation. The EPC Contractor and contractor would be required to co-operate with the Eskom investigation committee. No joint investigations would be held, i.e.: with Eskom and EPC Contractor. The Eskom Representative shall define Parties to be involved in the investigations.

[15]. All investigation teams must include at least one (1) person from both Eskom and the EPC Contractor that is competent in Root Cause Analysis Technique.

[16]. Contractors shall ensure the incident/accident scene is not disturbed until after the investigation is complete unless it is done to prevent further injury or for rescue purposes (OHS Act, Section. 24(2) applies). Investigation shall begin promptly after the incident/accident. Where applicable and with proper authorization, photographs may be taken of the scene of the incident as well as any equipment involved in the incident. The results of the investigation together with the Root Cause Analysis of the incident and the committee's recommendations for preventative action(s) shall be submitted to *the Eskom Representative*, within 3 days after the incident occurred unless proof can be given that due to technical or other difficulties, more time is needed.

[17]. Contractors shall also review and analyse all incidents; to establish trends that may indicate deviations from established work standards and safe working procedures/practices. The Contractor shall take appropriate corrective action and submit reports to the Eskom Representative.

[18]. The Contractor shall investigate all incidents immediately and give the Eskom Representative a report within the specified time frame, which shall include:

a. Date, time, and place of incident.

b. Description of incident.

c. Root cause of incident/accident.

d. Type of injury (if any).

e. Medical treatment provided (if any).

f. Persons involved.

g. Names of witness/s.

[19]. Corrective action to prevent recurrence (with clear deadlines and responsible persons): It is required that all corrective action is closed out within 3 months. If this is not practicable within the time frame, then it is to be submitted at a later date agreed to by the Eskom Representative.

**Please note**: The Accident/incident investigation report does not exempt the EPC Contractor from providing accident reports required by Statutory Authorities, in particular, the Contractors' responsibility for reporting accidents in accordance with the requirements of the OHS Act and COID Act.

[1]. It is essential that the EPC Contractor demonstrate that corrective action has been taken and that correction action is communicated by a predetermined means to all Contractors staff affected. All corrective actions must be closed within 3 months from the date of issuing of investigation report.

[2]. Feedback on the status of close out of corrective actions must be communicated at the relevant forums.

[3]. The Contractor shall compile and implement a procedure for:

a. Reporting and investigation of incidents – This document sets out the procedures to be followed when reporting, recording, and investigating incidents that occur on a construction site.

b. Workplace Injury and Disease Recording – The purpose of this document should be a guide to the EPC Contractor on how to accurately evaluate, define and

categorise fatalities, injuries, and occupational diseases in a data format for the calculation of performance indicators for health and safety.

## 59. HEALTH AND SAFETY BEHAVIOUR OBSERVATIONS AND INSPECTIONS

The objective of behavioural safety observations is to assess and address the actual safe and unsafe behaviours of people in the workplace; as well as workplace conditions which are caused by the actions or non-actions of employees, Contractors, or their supervisors. (Refer to Eskom Behavioural Safety Observations procedure 32-407)

## 60. SHE STATISTICAL AND NON-STATISTICAL REPORTS

The EPC Contractor must report to the Eskom Representative, no later than Monday morning at 10am for weekly statistics and the 2nd of every month for monthly statistics, the required SHE information for statistical and non-statistical purposes.

All information shall be completed on the templates provided in Annexure A4 & A5.

## 61. CONTRACTORS SHE PLAN

[1]. All Contractors must use the applicable SHE information herein to develop a suitable and sufficient SHE plan, which shall indicate to the Eskom Representative the level of compliance to the SHE requirements. The safety, health and environment plan shall identify each construction activity to be undertaken by the Contractor, the foreseeable internal and external hazards, the specific precautions, and controls that shall be necessary to ensure that the works proceeds safely and without risks to health or adjacent operations.

[2]. The SHE Plan should be developed around the principle of addressing the control measures as determined in the baseline risk assessment of the contractors and should focus on using the plan to develop basic procedures/processes to adequately address the residual risks arising from the baseline risk assessments.

[3]. Upon discussions with the EPC Contractor, a final accepted SHE plan would be signed and approved. The EPC Contractor is thereafter required to do the same when procuring other contractors. The EPC Contractor shall not be allowed to commence work on site until the SHE plan has been approved.

[4]. When an EPC Contractor intends appointing a contractor, the EPC Contractor shall ensure that his SHE Plan is based on the ATKSS Project SHE Specification that was issued for the project and he shall furthermore ensure that the activities of the contractor are included in the SHE Plan to be submitted for approval.

[5]. The plan shall demonstrate management’s commitment to SHE and shall be signed off by both the 16.2 Appointee and Construction Manager for the project. The plan shall also be communicated to all managers and supervisors, and acknowledgement of this communication must be provided (this may be done by emailing the document to all parties and them acknowledging receipt and having read the document)

[6]. The safety plan shall be reviewed to ensure that it fully addresses all the issues and complies with the requirements of the SHE Specifications and contract. If necessary, the Contractor shall amend the SHE Plan as required by the Eskom Representative.

**When there is an amendment to the legislation or the contract, the SHE plan must be reviewed, updated accordingly and changes must be communicated to all relevant employees and contractors**.

## 62. PROCEDURES TO BE INCLUDED IN THE SHE FILE/PLAN

The following procedures should be included in the SHE File/Plan that are developed by the EPC Contractor and their contractors for the duration of the project.

a. Pre-Task Assessment (DSTI/JSA, etc.)

b. Method Statement and Risk Assessment review and acceptance by the CHSA

c. Planned Task-Observations (PTO)

d. Visible Felt Leadership (VFL)

e. Behavioural Safety Observations (BSO)

f. Transportation of employees

## 63. FORUMS FOR SHE GOVERNANCE AND COMMUNICATION

[1]. Effective governance and communication structures shall be established on each project site where project SHE matters shall be discussed. Attendance registers shall be kept for all the health and safety meetings. The terms of reference shall be established for each governance structure on the project.

[2]. The ATKSS Project team shall define the project SHE governance and communication structures.

[3]. The EPC Contractor and their contractors shall provide a communication plan outlining the discussions and decisions to their staff, the mediums they will employ and how they will measure the effectiveness of their SHE communication.

[4]. Every meeting conducted on site shall include SHE as a standing agenda point and minutes of these meetings shall be available on site at all times.

**NOTE**: *These meetings do not replace or act as a substitute for the required SHE statutory meetings.*

Statutory SHE Committees in terms of Section 19 and 20 and General Administrative Regulations 5 of the OHS Act and Eskom requirements shall be established.

## 64. OMISSIONS FROM THIS SHE SPECIFICATION

By drawing up this SHE specification, the Eskom Representative has endeavoured to address the most critical aspects relating to SHE issues in order to assist the Contractor in adequately providing for the health and safety of employees on site.

Should the Eskom Representative not have addressed all SHE aspects pertaining to the work that is tendered for, the Contractor needs to include it in the SHE plan and inform the Eskom Representative of such issues when submitting the tender.

## 65. PLANNED WORK STOPPAGES/STAND-DOWN

The EPC contractor must provision for bi-annual mandatory work stoppages/stand-downs to address either major SHE concerns on the project or Eskom dictated topics.

The stand-down is to be attended to by all contractors on the project and should at least be a one (1) hour engagement with the contractors and their employees.

## 66. SHE FILE

[1]. The Contractor must have a SHE file in which records of this specification and the SHE plan are kept. All information required in the specification and plan is to be recorded in the file for the duration of the EPC Contractor and contractors' contracts.

[2]. The SHE file that will be maintained shall be per construction site.

[3]. The EPC Contractor must also record on the file:

a. Hands-on information about equipment needing cleaning and maintenance, for future purposes

b. Type, location, and markings of services

c. As-built drawings

[4]. The file must be kept on site and must be available on request for audit and inspection purposes.

[5]. The SHE file shall be handed over to the Eskom Representative at the end of the EPC Contractor's contract.

## 67. HOURS OF WORK

All work conducted on site shall fall within the legal requirements in accordance with the Basic Conditions of Employment Act and the Environmental Management Programme

Contractors shall notify the Eskom Representative in writing 5 days in advance of any **planned** work that needs to be performed after hours according to the agreed arrangements. (The application needs to be submitted timeously). Where applicable, the notification should include proof of application, for overtime, to the Department of Employment and Labour and /or the letter of approval form the Department of Employment and Labour

## 68. ENVIRONMENTAL MANAGEMENT

The EPC contractor is to consult the approved Revision to the Final Environmental Management Programme for the construction of an additional three (3) 30 MW OCGT units in Atlantis (240-159594753) along with the Environmental Authorisation for requirements to comply to environmental management on the project.

## 69. ACCEPTANCE

The following persons have reviewed and accepted this document:

- Junaid Khan – ATKSS H&S Officer
- Gregory Jacobs – ATKSS Contracts Manager

- Chris Pretorius – ATKSS Contracts Specialist

## 70. REVISIONS

| | | |
|---|---|---|
| Revision 6 | July 2020 | Updated and full review of ATKSS Project SHE Specifications due to changes in project |
| Revision 7 | September 2021 | Change from Group Capital to Nuclear Project Management.<br>Updates to legislation – Ergonomic Regulations and Hazardous Chemical regulations<br>Expansion of First aid section<br>Guidance on appointment of full-time vs part-time health & safety officers<br>Update to LTIR target to KOU |
| Revision 8 | May 2022 | Updated Annexures A1 – A4 and added Annexures A5 – A7.<br>Re-aligned SHE Specifications to management of an EPC contract. |
| Revision 9 | August 2023 | **Updated the auditing and monitoring on activities, project statistical and non-statistical information, rescue procedures, plans and equipment.** |

# APPENDIX A – RELEVANT DOCUMENTATION

## A.1 – ESKOM SHEQ POLICY 32-727

SHEQ Policy poster.pdf

## A.2 – APPOINTMENTS AND COMPETENCIES

Legal Appointments and Competencies.dc

## A.3 – HIRA TEMPLATE

Occupational Health and Safety Ba

## A.4 – CONTRACTOR MONTHLY STATISTICAL REPORT

Monthly Contractor Stats Report.xlsx

## A.5 – CONTRACTOR WEEKLY SHE REPORT

Contractor weekly stats.xls

## A.6 – COVID-19 POLICY

ESKOM COVID-19 HEALTH AND SAFETY

## A.7 – ATKSS PROJECT SHE SPECIFICATIONS FOR DESIGNERS

240-155613313_ATK
SS_Project Designer

## A.8 - ACKNOWLEDGEMENT OF LIFE SAVING RULES

240-63942960 - Life
Saving Rules Ackno

## A.9 - LIFTING AND RIGGING PROGRAM

KSA-132 REV 2.pdf

# APPENDIX B– SHE RETURNABLES FOR CONSTRUCTION WORK PERMIT

## B.1 DOCUMENTS TO BE PROVIDED TO THE ESKOM REPRESENTATIVE FOR THE CONSTRUCTION WORK PERMIT APPLICATION

i. Designers CV and acceptance as designer for the project

ii. Latest HAZOP/Risk study of the construction work/Constructability

iii. SHE Plan for the intended construction work as per this SHE Specification

iv. Copy of latest and valid Workmen's Compensation Assurance letter

v. Copy of Company Project Profile/Portfolio with representation of projects completed of a similar nature

vi. Copy of Construction Industry Development Board (CIDB) Grading certificate

vii. Signed and accepted 37.2 Mandatory Agreement and Appointment as Principal Contractor form

viii. Appointment of Construction H&S officer(S) and proof of registration and valid membership with the SACPCMP

ix. Appointment of Construction Manager and evidence of Competency to fulfil the role per the Construction Regulations

x. Evidence of costing for H&S for the project based off the SHE Specification which should be broken down into relevant sections as per the SHE Specification