



 Eskom	SAFETY, HEALTH AND ENVIRONMENTAL (SHE) SPECIFICATION FORM	Group Capital Division
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Title	Project	Document Identifier	74
	Kendal Refurbishment and Construction Project - Continuous Ash Disposal Facility - Mechanical, C&I, Electrical and Civil	Project Reference Number	240-145376822
		Revision	1

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1. Eskom Project Manager:

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

V Mlandu

Initial and Surname

2. Eskom Construction Health and Safety Agent:

Where a Construction Work permit is required as contemplated in terms of Construction Regulations 3(1), the Client must without derogating from his or her health and safety responsibilities or liabilities, appoint a competent person in writing as an agent to act as his or her representative, and where such an appointment is made the duties that are imposed by the Construction Regulations 2014 upon a client, apply as far as reasonably practicable to the agent so appointed.

The Construction Health and Safety Agent/Manager shall be registered with the SACPCMP Council of South Africa. He or she is responsible for developing and implementing the client SHE Specification and defining the systems of SHE management required for the safe execution of the Kendal Refurbishment and Construction Projects.

MK Landman – CHSM #466/2018

Initials and Surname

3. 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.

S Mazibuko

Initials and Surname

4. Eskom Project/site Manager:

He/She is responsible for the overall management of the project on-site.

P Khanyile / S Moloi (Acting)

Initials and Surname

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5. 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 / Site 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 will 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 will be responsible for auditing and ensuring compliance to legal requirements.

MK Landman

Initials and Surname

6. 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.

The designer shall ensure compliance with the Occupational Health and Safety Act in terms of Construction Regulations 2014, Regulation 6.

S Govindasami

Initials and Surname

7. Eskom Environmental Manager/Advisor/ 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 Manager / Advisor / Officer is to provide assurance, advice, assist and support to the Eskom Site / *Project Manager* in the management of the environmental issues on the project which includes ensuring compliance to the Environmental Authorisation (EA) and the Environmental Management Plan (EMP), Water Use License (WUL), Waste Management Licence (WML), Tree cutting permits, Atmospheric Emission License (EAL), Eskom standards and any environmental compliance obligation applicable to the Project. .

D Nkosi

Initials and Surname

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8. Eskom: Environmental Control Officer

The *Project Manager*, in consultation with the Kendal Refurbishment and Construction Projects Site *Project Manager* and client SHE Manager and Senior Environmental Advisor/Practitioner, and in accordance with the NEMA Act and Kendal Power Station EMP, must where required, appoint the services of an independent Environmental Control Officer who will advise the *Project Manager* on environmental matters and furthermore ensure compliance to all legislative requirements pertaining to the construction project.

Furthermore, the responsibility of the Environmental Control Officer is to provide assurance, advice, assist and support to the Eskom Site/*Project Manager* in the management of the environmental issues on the project which includes ensuring compliance to the Record of Decision (ROD) and the Environmental Management Plan (EMP).

External Consultant

Initials and Surname

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1. Introduction

Eskom Kendal Refurbishment and Construction Project is committed to achieving and demonstrating sound Safety, Health and Environmental (SHE) management by controlling SHE risks/impacts consistent with its SHEQ policy and objectives.

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 aim of the Safety, Health and Environmental (SHE) specification is to provide Contractor/s with:

- The overarching framework within which the Contractor is required to demonstrate compliance with certain high level requirements for SHE.
- Establishes the manner in which the Contractor is to manage SHE risks in the execution of the contract, and
- The mandatory high level project & scope of work specific SHE requirements that the contractor needs to adhere to in order to align & demonstrate commitment towards the zero harm of the persons during the duration of the contract.

The SHE Specification shall be included with the tender enquiry documentation to ensure that the tenderer is timeously made aware of:

- Eskom's requirements, including
- Eskom's compliance obligations (including Funders SHE requirements)
- 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 *Principal Contractor* and their *Contractors* are expected to develop a SHE plan which complies with these requirements as well as the relevant applicable legislation.

This specification may not thoroughly address all hazards and aspects associated with any specialised activity or operation. In such situations, *Contractors* shall be responsible for developing their own health and safety plans/procedures/manuals/work instructions to adequately address their specialised activities and scope of operation.

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2. Supporting Clauses

2.1 Scope

This specification sets out the minimum legislative and organisational requirements for construction work that is specific to the scope of work, site and type of project.

2.2 Purpose

This specification covers the following scope:

- a) Tender Enquiry and evaluations;
- b) Site establishment of a contractor;
- c) The Kendal Refurbishment and Construction Project execution phase;
- d) Contractor Site de-establishment.

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

2.3 Applicability

This specification is applicable to all *Principal Contractors*, *Contractors*, Service Providers, Suppliers and all the activities and processes carried out for and on behalf of Kendal Refurbishment and Construction Project where **construction work** is performed.

For best practice reasons, where the work scope does not fall within the definition of Construction Regulations 2014, then this specification shall also apply as a minimum as long as the applicable Eskom and statutory SHE requirements are identified in relation to the scope of work.

2.4 Effective date

This specification shall be on the signing thereof by the Kendal Refurbishment and Construction Project Site Manager.

3. Normative/Informative References

Parties using this specification 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.

3.1 Normative

- [1] 32-727: Safety, Health, Environment and Quality Policy
- [2] 240-62196227: Life-saving Rules Standard

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- [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] Mine Health & Safety Act No. 29 of 1996 and Regulations
- [6] OHS Act 85 of 1993 and its regulations
- [7] Hazardous Substances Act 85 of 1993
- [8] The Constitution of the Republic of South Africa (particularly Section 24 of the Bill of Rights)
- [9] Mechanical, C&I, Electrical and Civil and Building Work Act
- [10] Compensation for Occupational Injuries and Diseases Act
- [11] National Environmental Management Act 107 of 1998
- [12] National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)
- [13] National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)
- [14] National Water Act 36 of 1998
- [15] Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
- [16] Animals Protection Act, 1962 (Act No. 71 of 1962)
- [17] National Road Traffic Act, 1996 (Act No. 93 of 1996)
- [18] National Heritage Resources Act No. 25 of 1999
- [19] Fencing Act, 1963 (Act No. 31 of 1963)
- [20] Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)
- [21] National Veld and Forest Fires Act, 1998 (Act No. 101 of 1998)
- [22] Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947)
- [23] 240-56927739- Group Capital Execution Assurance Construction SHEQ Operational plan 2017/18 - 2020/21.
- [24] 32-95 Eskom Occupational Health and Safety Incident Management procedure
- [25] The Vehicle and Driver Safety Management Procedure (240-62946386)
- [26] 32-345 Eskom Vehicle Safety Specification.
- [27] 32-126 Contractor health and safety requirements.
- [28] 32-37 Substance Abuse Procedure
- [29] All relevant South African legislation (national, provincial, and local)
- [30] Applicable South African National Standards (SANS) for the scope of work/Project.
- [31] Applicable International Standards
- [32] Environmental Management Plan
- [33] Environmental Authorisation
- [34] Licenses/Permits

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- [35]32-245: Waste Management Standard
- [36]32-345 Eskom Vehicle Safety Specification
- [37]32-124 Eskom Fire Risk Management
- [38]32-136 Contractor Health and Safety Requirements
- [39]240-43848327 Employees' right of refusal to work in an unsafe situation
- [40]32-418: Working from Heights Procedure
- [41]240-100979499: Personal Protective Equipment for work at Heights Specification
- [42]32-520: Occupational Health & Safety Risk Assessment Procedure
- [43]32-123: Emergency Planning
- [44]32-407 Behaviour Safety Observation Procedure
- [45]32-726: SHE Requirements for the Eskom Commercial Process
- [46]39-98: Safe use of Lifting Machines
- [47]32-524 Manual, Developing a SHE Specification
- [48]32-1126 Eskom Smoking Policy
- [49]32-1134 Access Control at Eskom Premises
- [50]240-44175132 Eskom Personal Protective Equipment Specification (PPE)
- [51]240-56296995 Standard for Record Retention Periods
- [52]32-477 Safety, Health and Environment Training and Development Procedure
- [53]240-43921084- Fall arrester checklist
- [54]Eskom Operating Regulations for High Voltage Systems
- [55]Eskom Plant Safety Regulations (Low Voltage Regulations)
- [56]32-736 Eskom land and Biodiversity Policy
- [57]32-246 Work instruction for Reporting on Environmental Expenditure and Income
- [58]240-13307117 Environmental Incident Management Procedure
- [59]32-815 Land and Biodiversity standard
- [60]240-701725/32-247 Vegetation management and maintenance within Eskom Land, servitude and rights of way.
- [61]240-142585644 Environmental Requirements for Contractors and Suppliers Working on Gx Coal Projects

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3.2 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] OHSAS 18001:2007 / ISO 45001:2018, Occupational Health and Safety Management systems-Requirements (Contractor shall use as guideline)
- [2] ISO 14001:2015, Environmental Management Requirement System
- [3] Relevant South African National Standards for the task/Project.

4. Definitions

Agent: means a competent person who acts as a representative for a client.

Aspect: An activity, product or service of the organisation which can/or has potential to interact with the environment.

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: any person for whom construction work is being performed.

Competent Person: means:

a person who has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act;

Construction Manager: means a competent person responsible for the management of the physical construction processes and the co-ordination, administration and management of resources on a construction site.

Construction site: means a work place where construction work is being performed

Construction Work: means any work in connection with:

- The construction, erection, alteration, renovation, repair, demolition or dismantling of, or addition to, Building or any similar structure;
- The construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runaway, sewer or water reticulation system, or the moving of earth, clearing of land, the making of excavation, piling or any similar Mechanical, C&I, Electrical and Civil engineering structure or type of work.

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

Critical Lifts: There are five categories for which a lift can be defined as a Critical Lift; (1) any lift weighing in excess of 20 tons, (2) any lift involving a crane suspended work platform (man cage), (3) any lift over critical operating and/or process equipment and (4) any lift that exceeds 85 % of the crane’s load chart (5) any lift that utilises more than one lifting device (Tandem Lift).(6) Load transfers.(7) night lifting.

Designer: means any of the following persons:

A competent person who:

- Person who prepares a design
- Person who checks and approves a design
- Person who arranges for any person at work under his/her control to prepare a design, including an employee of that person where he or she is the employer, or designs temporary work, including its components,
- An architect or engineer contributing to, or having overall responsibility for, the design
- A Building services engineer designing details for fixed plant
- A Surveyor specifying articles or drawing up specifications
- A Contractor carrying out design work as part of a design and building project, or an interior designer, shop-fitter or landscape architect.

Environmental risk assessment means a systematic process of evaluating the potential risks that may be involved in a projected activity or undertaking.

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

Fall Protection Plan: means a documented plan which includes and provides for:

All risks relating to working from a fall risk position, considering the nature of work undertaken, the procedures and methods to be applied in order to eliminate the risk of falling, and a rescue plan and procedures.

Hazard: means a source of, or exposure to danger

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

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Impacts: Any change to the environment whether adverse or beneficial, wholly or partial resulting from environmental aspects.

Medical surveillance: 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: is a written document detailing work procedures and sequences of operations.

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: the probability that injury or damage will occur.

Risk Assessment: 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 Client.

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 *Principal Contractor* or contractor and approved by the Client/Agent 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 *Principal Contractor* or sub-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 Client/Agent compiles the SHE specification which shall be specific to each construction project.

Safe Work Procedures: Safe work procedures are a series of specific steps that guide a worker through a task from start to finish in a chronological order. Safe work procedures are designed to reduce the risk by minimizing potential exposure.

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5. Abbreviations

Abbreviation	Explanation
ASIB	Automatic Sprinkler Inspection Bureau
COID Act	Compensation for Occupational Injuries and Diseases Act
CR	Construction Regulations 2014
CoC	Certificate of Compliance
DMR	Driven Machinery Regulations
DOL	Department of Labour
DSTI	Daily Safety Task Instruction
EA	Environmental Authorisation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme Report
EMS	Environmental Management System
GCD	Group Capital Division
GSR	General Safety Regulations
HCS	Hazardous Chemical Substances
HIRA	Hazard identification and risk assessment
HV	High Voltage
ISO	International Organisation for Standards
JSA	Job Safety Analysis
LTIR	Lost Time Incident Rate
LV	Low Voltage
MHS Act	Mine Health and Safety Act (Act No. 29 of 1996)
MSDS	Material Safety Data Sheet
NEC	New Engineering Contract
NEMA	National Environmental Management Act
NWA	National Water Act (Act No. 36 of 1996), as amended
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

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Abbreviation	Explanation
PTO	Planned Task Observations
SACPCMP	South African Council for the Project & Construction Management Professions
SACNASP	South African Council for Natural Scientific Professions
SANS	South African National Standards
SAQA	South African Qualifications Authority.
SAQCC	South African Qualification and Certification Committee
SHE	Safety, health, and environment
TETA	Transport Education Training Authority
WUL	Water Use License

6. Roles and Responsibilities

6.1 Project Commitment to SHE

Visible and felt commitment is essential in providing a healthy and safe work environment. Management, employees and *Contractors* at all levels must demonstrate their commitment by being proactively involved in the day to day operations, in particular SHE aspects of any project / contract. Legislation and the Eskom values require that each employee must take reasonable care of themselves and their fellow workers. Senior Management must provide strategic direction and demonstrate commitment in terms of SHE issues both on strategic level and operational level.

6.2 Designers

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.

The designer shall take into consideration the health and safety specification submitted by the Client. (The designer shall then submit to the client the receipt of acknowledgement of the health and safety specification document. This shall serve as proof that the designer has taken the H&S requirements into consideration during the design stage).

The designer shall take into account the hazards associated with the 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.

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They should describe any matters that require particular attention by a contractor. Enough information should be provided to alert *Contractors* and others to matters which they could not be reasonably expected to know about.

In cases where Eskom uses overseas designers, the appointed designers must indicate and submit to Eskom the legislative requirements/documentation with which they comply in order to verify whether they meet the South African SHE legislative requirements.

An overseas designer can appoint a local designer to conduct the inspections required by the construction regulations.

Designers must communicate changes with the *Project Manager*, SHE Agent / Manager / Environmental Snr Advisor/Officer and Environmental Control Officer (ECO) on 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 before the commencement of construction.

6.3 *Principal Contractor's* accountabilities for their *Contractors*

- In the event that the *Principal Contractor* needs to introduce a new contractor, the *Principal Contractor* must first inform the Client. Such *Contractors* must, in every respect, meet the Client's SHE requirements.
- Should the *Principal Contractor* appoint a contractor, the *Principal 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 *Principal Contractor*.
- The *Principal Contractor* is directly accountable for the actions of his *Contractors*. The *Principal Contractor* will also be responsible for initiating any remedial action (recovery plan) that may be necessary to ensure that the contractor complies with all requirements.
- The *Principal Contractor* shall ensure that the *Contractors* appointed have the necessary competencies and resources to perform the work safely.

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- The *Principal Contractor* shall provide any contractor who is making a bid or appointed to perform construction work, with the relevant sections of the documented SHE specification, who would in turn provide the client/agent with a SHE plan for review.
- The *Principal Contractor* shall carry out audits on a monthly basis to ensure that their SHE plan is being implemented and maintained. Monthly audit reports should be submitted to the *Project Manager*.
- The *Principal Contractor* shall carry out audits on the contractor monthly to ensure that the Environmental authorisation, Water use license, waste management license, and other applicable permits conditions and Environmental Management Programme / Plan is being implemented and maintained. Monthly audit reports should be submitted to the *Project Manager*.
- The Client/Agent and/or the *Principal Contractor* shall stop any contractor from executing construction work which poses a threat to the safety and health of persons or the environment or if it does not comply with the approved SHE plan.
- The *Principal Contractor* shall have a disciplinary process and an organisational structured procedure to deal with employees who have transgressed organisational and legal requirements.
- The *Principal Contractor's* Construction Manager/Supervisor shall provide a list of names and contact telephone numbers of all his employees as well as the contractor employees on site. This list shall be updated as and when new *Contractors* commence on site.
- The *Principal Contractor's* Construction Manager/Supervisor shall keep a record of all employees including the contractor employees, including date of induction, relevant skills and licenses, and be able to produce this list at the request of the relevant officials. These records shall be filed in the SHE File.
- The *Principal Contractor* shall ensure that his managers and supervisors give clear and unambiguous instructions for the work in hand to the personnel for whom they are responsible for. The instructions shall include, but not necessarily be limited to:
 - description of the objective/scope of work
 - sequence of work/method statements
 - hazard identification and risk assessment (prior to commencement of work)
 - Precautionary/preventative measures that are to be taken.
 - Identification of sensitive features that may be impacted upon by the project.

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- Employees are responsible for their own health and safety and that of their co-workers in their respective areas of work on the project. They must be made aware of their responsibilities during induction and awareness sessions some of which are:
 - Familiarising themselves with their workplaces and health and safety procedures.
 - Working in a manner that does not endanger them or cause harm to others.
 - Keeping their work area tidy.
 - Reporting all incidents/accidents and near misses
 - Protecting fellow workers from injury.
 - Reporting unsafe acts and unsafe conditions.
 - Reporting any situation that may become dangerous.
 - Carrying out lawful orders and obeying health and safety rules.
 - Declaring to the employer if taking medication which may have intoxicating effects.
- Every employee must undergo site induction provided by the Client before commencement of the contracted work. Only once this induction has been received, will each employee receive a site access permit.
- It must be highlighted to all employees, that anyone who becomes aware of any person disregarding a health & safety notice, instruction or regulation shall immediately report this to the person concerned. If the person persists, stop the person from working and report the matter to the Eskom *Site/Project Manager* and the *Principal Contractor* Supervisor immediately.
- Over and above induction training, *Contractors* are required to ensure, before an employee commences work on the project, that the supervisor in control with responsibility for the employee has informed the employee of his/her scope of authority for that site/workplace.

7. Management and Supervision of Construction Work

The *Principal 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 *Principal Contractor* shall appoint a full-time Construction Manager in accordance with the requirement of CR 8(1). The Project & Construction Manager shall be registered with the SACPCMP.

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The *Principal Contractor* and 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 Construction Manager, Construction Health & Safety Manager / Officer, Construction Supervisor or appointed Assistant Construction Supervisor(s) from the *Principal Contractor* 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.

The *Principal Contractor* and contractor require ensuring 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.

8. Construction Health and Safety Manager/s and Practitioner/s

The *Principal Contractor* and contractor shall appoint a full-time Construction Health and Safety Manager and Practitioners. Number of SHE Practitioners shall be done considering the nature and the scope of work being performed in accordance with the requirement of CR 8 (5)(6). The Construction Health and Safety Managers and Practitioners shall be registered with the SACPCMP.

Note 1: All Construction Health and Safety Manager/Practitioners appointed in terms of the CR, regulation 8(5), to the Kendal Refurbishment and Construction Projects, must have the minimum criteria of exposure to Mechanical, C&I, Electrical and Civil work construction, as is stipulated by the SACPCMP Council.

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Note 2: A competent person who has successfully applied to the SACPCMP Council for professional registration, and has received a confirmation letter of acceptance, after being assessed and found competent to proceed to the examinations, may be appointed to the Kendal Refurbishment and Construction Projects on a temporary basis, pending the outcome of the examination and final registration as a Construction Health and Safety Manager / Practitioner. Should the candidate complete the examinations and fails, the Contractor must inform the *Project Manager*, and after consultation with the *Project Manager* and Construction Health and Safety Agent/Manager, ensure such a person is removed from the Kendal Refurbishment and Construction Projects and replaced with a suitable competent person.

If the competent person is deferred by the SACPCMP Council to that of a Candidate Construction Health and Safety Manager/Practitioner, the Contractor shall place such a person under the direct supervision of a fully registered Construction Health and Safety Manager/Practitioner. A Candidate Construction Health and Safety Manager/Practitioner may not operate in the capacity of a Construction Safety Manager/Practitioner on his or her own and may not be appointed in terms of CR regulation 8(5).

8.1 Construction Professional Registration

The *Principal Contractor* and all his/her appointed *Contractors* shall be registered in their respective levels as professionals in terms of the requirements of the SACPCMP.

The SACPCMP web address is <http://www.sacpcmp.org.za>

SHE professionals are required to register as professionals with the SACPCMP.

Construction Managers are required to register as professionals with the SACPCMP.

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 *Principal Contractor* and contractor's plan to be amended accordingly.

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

9.1 Related/Supporting Documents

Eskom OHS Act section 37 (2) agreement (to be completed by the *Project Manager*) (24077037682)

Acknowledgement Form for Eskom SHE Rules and other requirements (32-726)

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Annexure A – Client non-negotiable OHS requirements
Annexure B – Client non-negotiable Environmental requirements
Annexure C - SHEQ Policy 32-727
Annexure D- Form 75 Contractor Monthly Statistical Report
Annexure E – Safe Work Procedure and Job Observation Template
Annexure F- HIRA Template
Annexure G- Requirements for identification lamps
Annexure H – Kendal Access Form
Annexure I – Kendal Induction booking form
Annexure J – Construction Regulations, Annexure 3 (Medical Man job)
Annexure K – Vehicle inspection checklist
Annexure L – Man-hours checklist

10. Document Content

10.1 Note to *Principal Contractor* and its *Contractors*

The SHE specifications are Eskom's minimum requirements. The Contractor is expected to establish a SHE Plan which includes all these requirements as well as all the relevant applicable legislation. Eskom in no way assumes the *Contractors* legal responsibilities. The Contractor as a legal entity, therefore an employer in their own right is and remains accountable for the quality and the execution of the health and safety program for their employees and contractor employees. This document reflects minimum requirements and should not be construed as all encompassing. The Contractor is expected to have a recognised OHS Management system that will incorporate these requirements as well as all the relevant applicable legislation.

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11. SHE Specification

11.1 Project and Scope of Work Details

Location:

Kendal power station is located 40 km west of Witbank in Mpumalanga. The GPS Co-ordinates as per Google Maps: 26.0897° S, 28.9671° E.

More detail of Kendal Power Station is captured on the works information and tender documents.



Project description/detailed scope of work: (High level)

The Bulk Materials Handling scope of the *works* includes the provision for the design, manufacture, factory testing, supply, delivery, off-loading, erection, installation, site testing, commissioning and performance testing of new mechanical Plant and Material forming part of the *works*.

11.1.1 The Bulk Material Handling Plant includes but not limited to the following:

- Detail Design of upgrades required to the existing Ash Extendable (ETK 13 & 23) and Shift able (ETK 14 & 24) conveyor systems and Crawler mounted Ash Spreader and Stacker tripper cars, for the full ADF development.
- Construction of the mechanical *works* on both Extendable and Shiftable conveyor systems, including Crawler mounted Ash Spreader and Stacker tripper cars for the full development of the ADF.

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11.1.2 Mechanical LPS

The Low Pressure Services scope of the *works* includes the provision for the design, manufacture, factory testing, supply, delivery, off-loading, erection, installation, site testing and commissioning of the new Low Pressure Services Plant and Material forming part of the *works*.

The Low Pressure Services Plant includes but not limited to the following:

- Dust suppression and irrigation is required to mitigate ash blow off into the surrounding environment. This works information will detail the design for the dust suppression and irrigation system.

The Low Pressure Services scope of work will entail:

- Installing a new ring main pipeline
- Pump stations at the new dams.
- Road tanker filling points.
- Dust suppression and irrigation on the ash dump.

Major LPS Systems and Equipment

- Dust suppression and irrigation equipment
- Road tanker filling points
- Pump stations at the new dams
- Pipelines

Design Philosophy

- The ash dump layout area will be supplied with water from the existing pumps at the existing clean water dam pump station.
- The dust suppression will be provided from a ring main situated around the outside of the ash dump. Sprinklers from this ring main piping shall provide dust suppression. The same type of sprinkler that is currently used in the ash dump will be used.
- Road tanker filling points shall be installed on the new pipeline.

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11.1.3 Control and Instrumentation:

The Control and Instrumentation scope of the *works* includes the provision for the design, manufacture, factory testing, supply, delivery, off-loading, erection, installation, site testing and commissioning of new equipment and material forming part of the *works*.

The detailed mechanical scoping requirements are contained within the mechanical documents as referenced, but are briefly described here:

- a) Increasing the capacity of the Extendible and the Shiftable Conveyors (BMH).
- b) Building of additional Dams and Pump Stations (LPS).

To meet these requirements, the following forms part of the C&I scope of work:

- c) Engineering of additional conveyor belt protections to meet the function requirements of extending the conveyors.
- d) The Head End Control Unit (HECU) forms an important component of the conveyor protection systems. In order to increase the capability of the Ash Dump Facility, the protection system needs to be extended with addition protection devices and configured within the HECU protection systems.
- e) Modification to the Long Line Protection (LLP) and extension of the Pulley forms part of the work. The LLP needs to run along the entire length of the conveyors and with the capacity increase, the LLP needs to be increased in length to, with all the required infrastructure necessary.
- f) The new pumps to be installed are to be utilised around the Ash Dump for dust suppression and irrigation. To support the operation of the new and existing pumps, level & control instrumentation will be installed and interfaced to the Siemens PLC's located within the electrical substations. New Input / Output cards associated cabling and infrastructure will be installed to control the system from the PLC.

11.1.4 Electrical

The Electrical Scope of work includes design, manufacture, factory testing, supply, delivery, off-loading, hauling, move into the erection position, installation, site testing and commissioning of the 400V MCC's and Type B Mini-substations.

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The Electrical Scope of work for the Overhead Lines (OHL) and the associated equipment is for design, size, supply, installation, site testing and commissioning.

The Electrical Scope of work for cables is for calculating, sizing, selecting, supply, delivery, installation and testing before energising of the power cables.

The Electrical Scope of work further includes construction of the Earthing Network (grid/mesh).

11.1.5 Civil and Structural

The Civil and Structural scope of the *works* includes the provision for the design, manufacture, supply, delivery, off-loading, construction, installation, site testing and commissioning of all Civil & Structural infrastructure required to support the Mechanical, Electrical and Control & Instrumentation *works*.

The *Contractor*:

- Provides all foundations on which the conveyors systems are constructed, which include conveyor structures and take-up systems
- Provide all structures for take-up systems, drive systems and tripper car modifications.
- Provides all foundations and associated infrastructure for pump stations and pipelines including fencing around pump stations.
- Provides all foundations on which mini-substations are erected.
- Provides Cable tunnels / Servitudes where cabling is to pass under roads.
- Provides cable trenches for the electrical and control & instrumentation systems for the ADF.
- Provides complete construction of the earth grid/mesh of the earthing network for the pumps stations, mini-substations and all mechanical plants that require common grounding potential.
- Analysis and verification of any existing structures required for re-use including the design and construction of any modifications to existing structures.

Program details:

- Submission of final SHE Plan must be before site establishment. Final SHE plan needs to be submitted five (5) working days after contract award for works permit application.
- Anticipated date for the commencement of work on site: 30 March 2020
- Project completion date or project duration: 30 October 2022

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Site Details:

- Schematic layout of project site including site plans/services and surrounding land uses or any sensitive features will be issued to the contractor when successful.

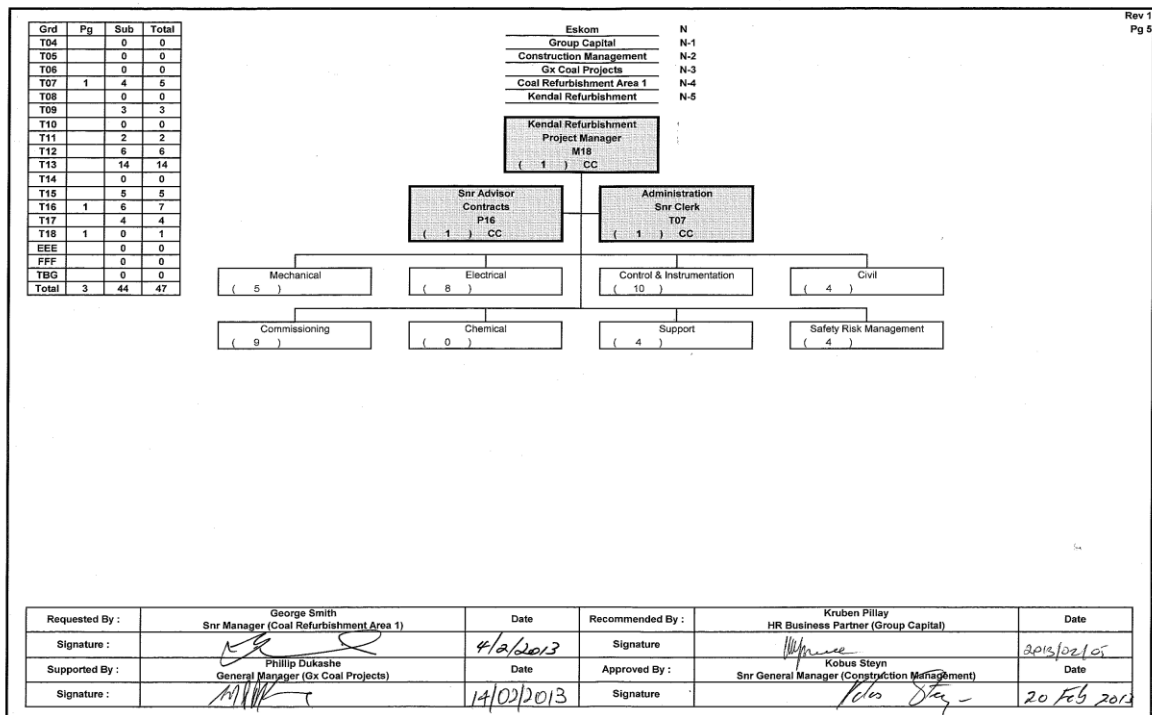
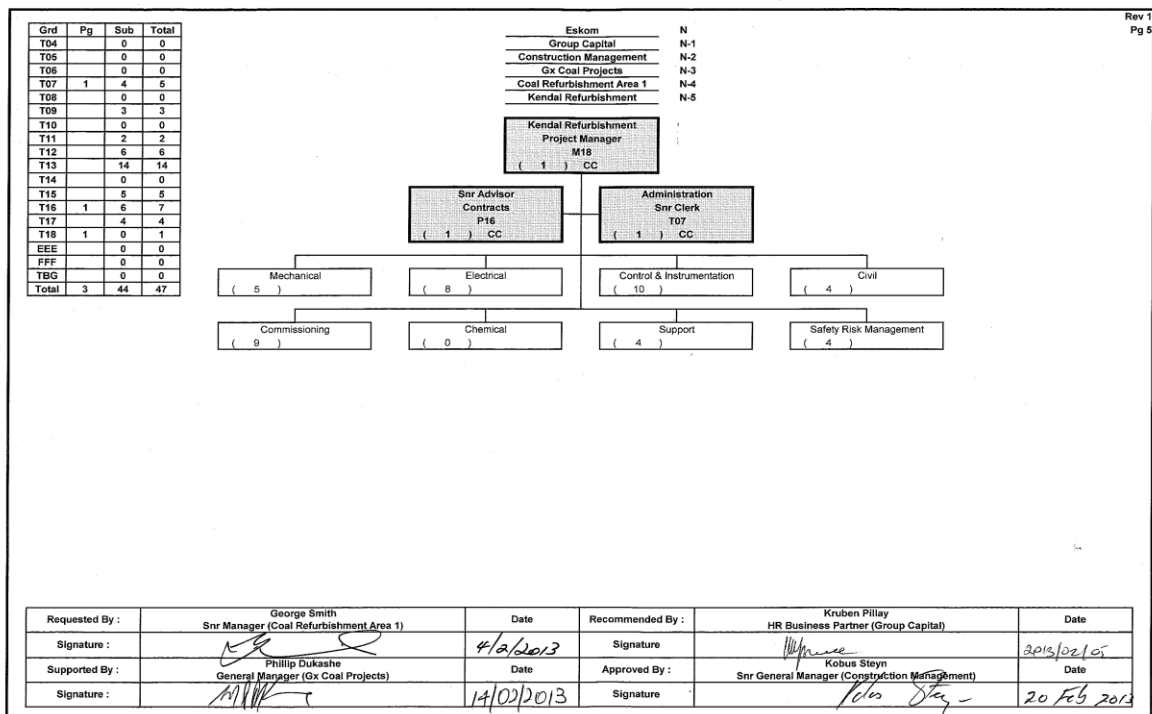
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12. Client and *Principal Contractor*: Details, Accountabilities and Responsibilities:

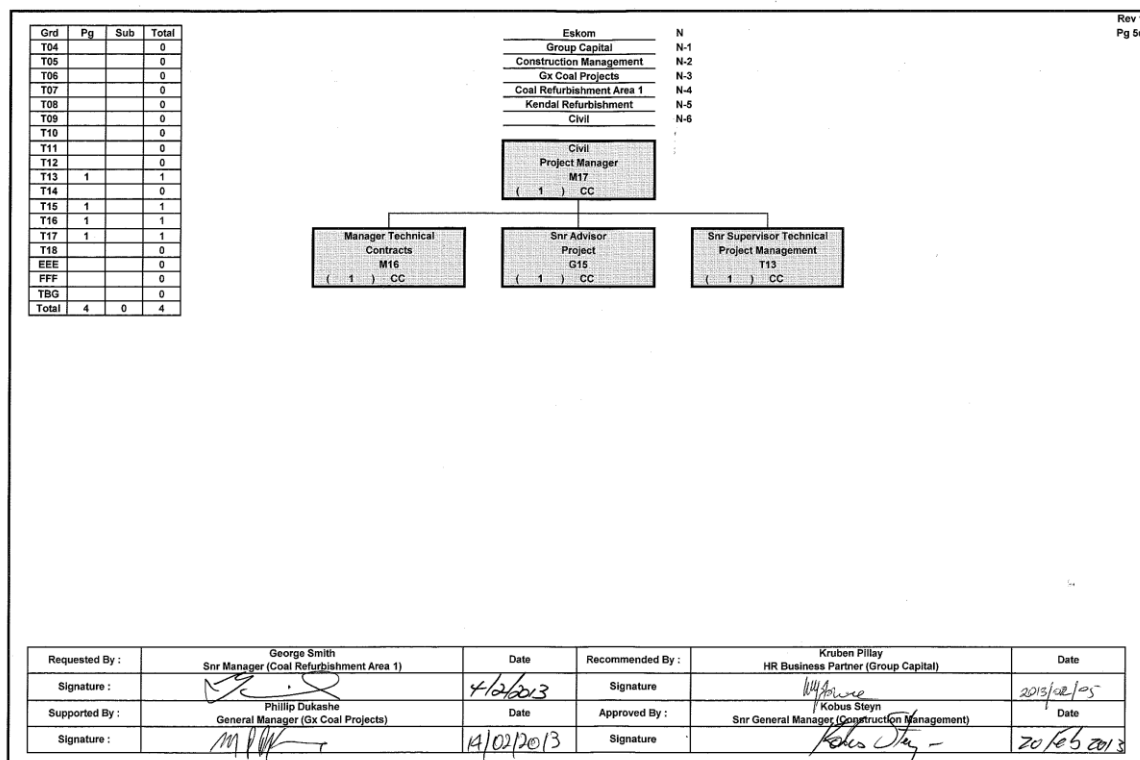
12.1 The Eskom Project Organogram:



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12.2 Principal Contractor OHS Accountabilities and Responsibilities Organogram including the OHS Functional Department Resource Plan

The *Principal 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 OHS resource plan. For each position, stipulate the position titles, qualifications and competencies.

For the duration of the contract, the *Principal 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. All organograms' shall be updated timeously when appointments are changed and filed in the project SHE file.

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12.3 Appointment of a *Principal Contractor*

The *Principal Contractor* will be appointed by Eskom *Project Manager* on the awarding of the contract and shall be responsible and accountable for all legislative and Eskom requirements for the duration of the contract.

Principle Contractors shall not commence with the project work until such times as he/she has been appointed in writing in terms of OHS Act Construction Regulation 5(1)(k), by Eskom *Project Manager*.

12.4 Appointment of *Contractors*

The *Principal Contractor* may appoint *Contractors* to assist in the contract. All appointments shall be done in writing and will form part of the SHE plan that is required to be submitted to Eskom. Adequate training and instruction must be given to the appointees and the *Principal Contractor* must ensure that all appointed *Contractors* understand their roles and responsibilities.

The *Principal Contractor* will approve and sign a checklist of their sub-contractors SHE files. The *Principal Contractor* will make an appointment with the SHE Agent/Manager/Practitioner for reviewing the sub-contractors SHE files. The *Principal Contractor* will accompany their sub-contractor to the SHE Agent/Manager/Practitioner office and the approved checklist will be handed to the SHE Agent/Manager/Practitioner. If no approved checklist can be produced the *Principal Contractor* and sub-contractor will be asked to leave the office. If a checklist is produced the SHE Agent/Manager/Practitioner will go through the file to see if the sub-contractor complies.

12.5 Appointment and Competencies

The *Principal Contractor* shall in writing appoint as per the OHS Act requirements and shall ensure that all his appointees are made aware of their accountabilities and responsibilities in terms of their appointment and that they advise and assist these appointees in the execution of their duties. The *Principal Contractor* shall ensure that competent persons are appointed in writing in accordance with the applicable appointments.

Copies of all the appointments shall be kept in the SHE File. Competency certificates should be attached to the signed appointment letter.

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The *Principal Contractor* shall provide and keep up to date an outline organogram and a list of names and contact telephone numbers of all appointments as required from the table below:

Reference	Description
16(2)	Persons assigned functions to assist the Chief Executive Officer (if required)
17	Health and Safety Representative
19	Health and Safety Committee Member (if there are 2 or more H&S reps there will be a H&S committee)
GSR 3	First Aiders
GSR 5(1)	Person that pronounces & certifies a confined space safe for the duration of work being conducted (applicable for confined spaces)
DMR 17(2)	Goods Hoist Inspector
GAR 9(2)	Incident / Accident Investigator
DMR18(11)	Lifting Machinery Operator (Appointment or Permit)
DMR18(5)	Lifting Machinery Inspector
DMR18(10)(e)	Lifting Tackle Inspector
EMR 9	Portable Electrical Equipment Inspector
VUP 10	Portable Gas Container Inspector
VUP 13(1)(b)	Pressure Vessels Inspector
HCS 3(3)	Hazardous Chemical Substances Co-coordinator
Asbestos Regulation 21	Person registered as an Asbestos Contractor (Asbestos AIA) by the Department of Labour
CR 5(1)(k)	Appointment of the Contractor by the Employer
CR 7(1)(c)(v)	Subcontractors Appointment by the Contractor
CR 8(7)	Construction Supervisor appointed by the Contractor's OH&S Act Section 16(2) assignee
CR 8(8)	Assistant Construction Supervisor appointed by the Contractor's OH&S Act Section 16(2) assignee
CR 8(5)	Construction Health and Safety Officer
CR 9(1)	Person to Compile Risk Assessments
CR 10(1)(a)	Competent Person to compile Fall Protection Plan

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CR 12(1)	Person to supervise temporary works
CR 13(1)	Person to supervise Excavation Work
CR 21	Competent Person in the use of Explosives & Development of the Method Statements
CR 17(1)	Competent Person as Suspended Platform Supervisor
CR 17(8)(b)	Competent Person to Conduct Performance Test of Suspended Platforms
CR 16(1)	Competent Person as Scaffolding Supervisor
CR 19(8)(a)	Material Hoist Inspector
CR 20(1)	Competent Person as Bulk Mixing Plant Supervisor
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 & nails or studs
CR 23(1)(k)	Construction Vehicle and Mobile Plant Inspector
CR 24(e)	Competent Person for Temporary Electrical Installation Inspections
CR 28(a)	Competent Person for Stacking and Storage Supervisor
CR 29(h)	Competent Person as Fire Fighting Equipment Inspector
Eskom Requirement	Emergency Planning Co-coordinator
Eskom Requirement	Fire Official
CR 18(1)(a)	Rope Access Supervisor
CR 8(1)	Construction manager
Sans 12480-1&3	Crane coordinator – Tower crane operations / Appointed Person Mobile Crane operations
CR 8 (2)	Assistant Construction Manager

Notes to the appointments listed above:

Section 16(1) creates a legal presumption, and therefore no appointment is required. The Contractor shall provide the full names, contact telephone number and business address of the Chief Executive Officer.

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Health & Safety Representative Required Competencies:

- General Health and Safety Training;
- Health and Safety Representative Training;
- Hazard Identification and Risk Assessment Training;
- Incident Investigation and Root Cause Analysis Technique Training;
- Root cause analysis training (RCat);
- Occupational Health and Safety Act 85 of 1993;
- Construction Regulations, GNR 84 of February 2014;
- Compensation for Occupational Injuries and Diseases Act 130 of 1993;
- Basic scaffolding erecting and dismantling training;
- Basic lifting and rigging training, with a minimum of 3 years exposure to construction lifting and rigging related operations;
- Environmental legislation training.
- Eskom PSR and ORHVS training as and when required by the contract scope of work, especially work inside switchgears.

Note: The appointment of Health and Safety Representative shall satisfy the minimum criteria as per the Eskom Procedure 39-11: Health and Safety Representatives and Committee Systems.

Construction Supervisor & Assistant Construction Supervisor required competency:

- Three years applicable experience in construction management;
- General Health and Safety course;
- OH&S Act and Regulations or Mine Health and Safety Act and Regulations course, as applicable (latest version of the Act and Regulations);
- Construction Regulations, GNR 84 of February 2014;
- Incident Investigation and Root Cause Analysis Technique Training;
- Hazard Identification and Risk Assessment Training;
- Job Observations Training;
- Attended an accredited supervisor's safety course;
- Eskom PSR and ORHVS training as and when required by the contract scope of work, especially work inside switchgears.

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Where the Works are carried out on areas governed by the Mine Health and Safety Act 29 of 1996 or other Law applicable to mining activities, the appropriate equivalent appointments and assignments shall be made as required.

Construction Health and Safety Manager/Practitioner required competency/requirements

The CV of such a Construction Safety Practitioner(s) shall be subjected to acceptance by the Construction Health and Safety Agent/Manager, before appointing such a person to the project.

The *Principal Contractor* shall, according to the project risk profile, employ the services of a Full-time Safety Manager during its term of contract. If the risk or if the Project Manager and or an Inspector of the D.O.L requires it, the Contractor shall appoint additional full-time Safety Practitioners, as requested, to manage safety and health matters on site. The Contractor shall ensure that sufficient Safety Officers are employed by all sub-contractors it intends to employ.

Note 1: All Construction Health and Safety Manager/Practitioners appointed in terms of the CR, regulation 8(5), to the Kendal Refurbishment and Construction Projects, must have the minimum criteria of exposure to Mechanical, C&I, Electrical and Civil work construction, as is stipulated by the SACPCMP Council.

Note 2: A competent person who has successfully applied to the SACPCMP Council for professional registration, and has received a confirmation letter of acceptance, after being assessed and found competent to proceed to the examinations, may be appointed to the Kendal Refurbishment and Construction Projects on a temporary basis, pending the outcome of the examination and final registration as a Construction Health and Safety Manager/Practitioner. Should the candidate complete the examinations and fails, the Contractor must inform the Project Manager, and after consultation with the Project Manager and Construction Health and Safety Agent/Manager, ensure such a person is removed from the Kendal Refurbishment and Construction Projects and replaced with a suitable competent person.

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If the competent person is deferred by the SACPCMP Council to that of a Candidate Construction Health and Safety Manager/Practitioner, the Contractor shall place such a person under the direct supervision of a fully registered Construction Health and Safety Manager/Officer. A Candidate Construction Health and Safety Manager/Practitioner may not operate in the capacity of a Construction Safety Manager/Practitioner on his or her own and may not be appointed in terms of CR regulation 8(5).

Competencies/Training

- National Diploma in Safety Management;
- A recognised safety certification (minimum: of 2 weeks training) (e.g. SAMTRAC / Modern SHEQ Management course);
- Registration and accreditation from a recognised Health and safety professional body (SACPCMP);
- OHS Act and Regulations (latest version of the Act and regulations);
- COIDA Act (latest version of the Act);
- Incident Investigation and Root Cause Analysis;
- Hazard Identification and Risk Assessment Training ;
- Health, Safety and Environmental Auditing ;
- Environmental recognised course;
- Basic scaffolding erecting and dismantling training;
- Basic lifting and rigging training, with a minimum of 3 years exposure to construction lifting and rigging related operations;
- Environmental legislation training.
- Eskom PSR and ORHVS training as and when required by the contract scope of work, especially work inside switchgears.

Environmental Manager / Officer

The following SHE competencies are required as a minimum before appointing a Construction Health and Safety Manager at the Kendal Refurbishment and Construction Projects:

- National Diploma, B-Tech or BSC in Environmental Management;
- ISO 14001 Development, Implementation and Auditing Certificate;
- All applicable Environmental Legislation;
- Environmental Incident Investigation; and
- Nature conservation training;

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- Animal Studies;
- Conservation Ecology;
- Conservation;
- Conservation Administration;
- Conservation Resource Management;
- Ethical Information and Communication Technologies for Development Solutions;
- Fundamentals of Conservation;
- Plant Studies;
- Soil Science;
- Ecological Management Plan;
- Environmental Awareness and Responsibility;
- Environmental Authorization Training;
- Water Use License Training;
- Occupational Health and Safety Act 85 van 1993; and
- Construction Regulations, GNR 84 of February 2014

Note 1: An Environmental Manager / Officer must have at least 3 years of experience working on a construction project, managing environmental compliance, inclusive of exposure to wetlands management in that period.

Note 2: The *Contractor* must ensure that those persons who have the relevant qualifications achieved via the Recognition of Prior Learning (RPL) standard; must have such qualifications graded by the SAQA body in order to determine the overall level of qualifications and competency in terms of environmental management. Overall RPL Grading must meet the minimum level of grading equivalent to that of a National Degree or Diploma. All additional training in terms of environmental legislation will be mandatory, over and above the SAQA grading.

Note 3: Before appointing Environmental Managers and Officers to the Kendal Refurbishment and Construction Projects, the *Contractor* shall submit the CV and verified copies of such qualifications to the *Project Manager* for verification and acceptance by the client appointed Construction Health and Safety Manager/SHE Manager and the GCD Environmental Manager/Officer.

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13. Statutory Health and Safety Committee Meetings

Occupational Health and Safety Act, sections 17, 18, 19, and 20.

The Contractor and its sub-contractors shall implement a statutory Health & Safety Committee, as per the OHS Act, section 19. The Contractor shall comply with the requirements as stipulated in the Eskom latest revision of the procedure for Health & Safety Representative Committee and Systems 39-11. Copies of this procedure will be provided to the Contractor on request.

Matters that are discussed include, but are not limited to the following:

- Life Saving Rules;
- SHE Culture;
- Accident/safety incidents;
- Accident investigations (including near misses) and close-out of recommendations;
- Audit and inspection findings and close-out;
- Hazardous materials/substances;
- Work procedures;
- Protective clothing/equipment;
- Housekeeping;
- Work permits;
- Non-conformances;
- Emergency preparedness;
- Traffic control;
- Medicals;
- Training;
- Forthcoming high-hazard activities;
- General SHE issues;
- Matters arising from contractor's SHE meetings; and
- Action close-out status from SHE meetings.

Attendance registers for all Statutory Health and Safety forums shall be kept in the SHE file, and made available on request by the Project Manager or any auditor approved by the Project Manager.

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Furthermore, the Contractor shall maintain a tracking matrix for all actions forthcoming from such meetings, and action close-out forms shall be kept in the SHE file, with supporting evidence of closure, and be made available on request by the Project Manager or any auditor approved by the Project Manager.

13.1 Toolbox Talks

All contractors shall have a briefing session prior to the commencement of the day's work, again directly after lunch time, as well as before and after shift work during outages with all relevant personnel associated with the work task in attendance. The job, relevant procedures, associated hazards, safety measures, i.e., the task risk assessments shall be discussed. Each employee who attends the briefing shall sign the back of that pre-job brief form. Toolbox talks shall be included in the pre-job brief meetings. The toolbox topics will be based on SHE issues pertaining to the construction site. The topic contents shall be in writing and defined by the Contractor.

Chairman: Contractor's Supervisor

Frequency: Daily, when job requirements have changed, an employee is assigned a new task and or when required by the Project Manager and or Construction Health and Safety Manager.

Required Attendees: All contractor employees.

13.2 Weekly SHE Meeting

The Contractor shall host a weekly site SHE meeting to discuss SHE related matters. A set agenda for these meetings will be agreed upon with the Project Manager. A typical agenda would contain, but not be limited to, the previous week's labour statistics, outline of the scheduled work on site, permits issued, new plant on site, planned training interventions and daily safety action item list for the forthcoming week, review of recorded incidents and co-ordination of any other safety matters.

Attendance registers for all weekly SHE meetings shall be kept in the SHE file, and made available on request by the Project Manager or any auditor approved by the Project Manager.

Furthermore, the Contractor shall ensure that all actions forthcoming from such a meeting is documented, tracked and when closed-out, supporting evidence of closure is to be kept in the SHE file with the minutes, and be made available on request by the Project Manager or any auditor approved by the Project Manager.

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The Project Manager and Construction Health and Safety Agent reserve the right to attend such meetings, and it is expected of the Contractor to extend an invitation to the Project Manager and Construction Health and Safety Agent.

Chairman: Contractor Site Manager

Frequency: Weekly and or when required by the Project Manager and or Construction Health and Agent/SHE Manager.

Required Attendees: Management, SHE Department and Supervisors

Note: The Contractor SHE Department shall attend the weekly SHE meeting arranged by the Client SHE Forum Chairperson, which shall be attended by the client Construction Health and Safety Agent/SHE Manager and SHE Officers, Contractor Safety Officers and Environmental Officer, and where requested by the Construction Health and Safety Agent, the Project Manager and Contractor must attend.

13.3 Monthly Contractors SHE Meetings

The Construction Health and Safety Manager/SHE Manager shall host monthly contractor SHE meetings, which will be attended by the Project Manager and the Contractor (Project and Site Management teams and SHE Departments). The Project and contractor SHE performance for the previous month will be presented to the client Project Management and Construction Health and Safety Agent. This meeting is mandatory and will show commitment by leadership towards supporting and enforcing compliance.

Attendance registers for all monthly SHE meetings shall be kept in the SHE file, and made available on request by the Project Manager or any auditor approved by the Project Manager.

Furthermore, the Contractor shall maintain a tracking register for all actions forthcoming from such meetings, and action close-out forms shall be kept in the SHE file, with supporting evidence of closure, and be made available on request by the Project Manager or any auditor approved by the Project Manager.

Chairman: Construction Health and Safety Manager

Frequency: Monthly

Required Attendees: Client Project Management, Client SHE Department, Contractor Site Project Manager and Management and Contractor SHE Department.

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Note: The Contractor shall host a monthly SHE related meeting for all contractor employees under his or her charge. The meeting shall be documented and actions arising from the meeting shall be closed-out within an agreed upon timeframe. Such minutes and actions shall be submitted within 3 days of the meeting to the Project Manager and Construction Health and Safety Agent / SHE Manager for acceptance and awareness.

13.4 Safety Awareness Themes and Talk Topics

The Contractor shall on a monthly basis roll out safety awareness themes on the site. These themes may be in the form of posters and or talks on specific safety topics identified as pertinent to the site and safety of every employee. This must form part of the Contractor's SHE Plan.

The Contractor shall ensure that the Eskom Talk Topics for Safety, Health and Environment are discussed with all contractor employees and the attendance registers, together with the Toolbox Talk, is submitted to the Eskom Project Manager for acceptance.

13.5 General Walk-downs

The Site Management from the Contractor shall lead the site walk downs with the Eskom Project Manager, on a weekly basis, to demonstrate their commitment towards occupational health and safety matters. These site visits will be used to identify both strengths and areas for improvement regarding SHE issues. Site walk downs will be documented and relevant report submitted to the Eskom Project Manager, within 24hrs, inclusive of an action plane to close out all deviations noted during such a walk-down.

Project staff and site management of the Project Manager, including all levels of supervision, will be required to do Visual Field Leadership inspection (VFL'S and Behavioural Safety Observations). The Contractor shall ensure participation and co-operation from all employees during such interventions.

13.6 Safety Stand-downs

There is an urgent need in the business to swiftly address the escalating number of safety and environmental incidents and to bring employee wellness to the fore.

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The target audience for these interventions will be employees and contractors. These engagements will focus on, amongst others, the pro-active reviews of SHEQ plans and the implementation thereof, audit findings and associated action plans, peer reviews, etc.

Furthermore, there is a need to mobilize employees and contractors around the site specific SHEQ focus areas, thus building a culture of safe work practices in line with Eskom's Zero Harm drive underpinned by the Lifesaving Rules. Discuss Gx Coal Business and SHE Culture points; and Eskom Life Saving rules.

Four (quarterly) planned work stands down interventions per project/department each year in a collaborative manner focusing on the following outcomes:

- Recognition for good practice and attaining improved and sustained performance;
- Pro-active planned reviews of site specific SHE risk assessments and operational plans;
- Raise awareness with regards to site specific risks, trends and opportunities;
- Promote improved SHE performance;
- Leadership empowered and committed to engaging employees on safety and environmental management;
- Informed, empowered employees who take ownership of their personal safety and caring for that of others.
- Concentrate on weak links in the SHEQ chain supervision, complacency and training;
- Creation of a ZERO TOLERANCE culture towards SHE contraventions and adherence to the Life Saving Rules;
- Build a SHE culture within the construction environment;
- To get Senior Management from the contractor companies to:
 - Review and update their construction processes, the co-ordination, administration and the management of resources on the construction site;
 - Discuss the implementation of their SHE plans and ensure the maintenance thereof;
 - Review SHE audit reports;
 - Ensure that SHE management system is maintained by the Contractor and its sub-contractors;
 - Ensure co-operation between all contractors in order to ensure compliance with the Construction Regulations;
 - Focus on site specific hazards, risks and opportunities in order to continuously improve SHE performance.

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- Build a culture of safe work practices, pertaining to Safety, Health and Environmental excellence throughout the division, thus keeping our people, plant and the environment we operate in, safe from harm and injury;
- Energize, inspire and motivate employees to incorporate SHE behaviours into daily personal activities; and

Note 1: The Project Manager shall not be liable for any cost and time lost as results of such safety stoppage/stand down.

Note 2: The Project Manager, in consultation with the Client appointed Construction Health and Safety Agent, may request additional stand-downs due to an increase in incidents or any other SHE related matter. These stand-downs will be at expense of the Contractor.

14. SHE/Q Policy

The *Principal Contractor* and the contractor companies shall each have a SHE/Q Policy authorised by their Chief Executive (OHS Act Section 16(1) appointee) that clearly states overall SHE/Q objectives and commitment to improving Safety, Health, Environment and Quality 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).

Eskom SHEQ Policy will be handed to the *Principal Contractor* when site establishment is completed. A toolbox talk will be done with all the employees on site and attendance register shall be scanned and send to the Client Agent/Manager/Practitioner and then filed in the SHE File.

15. OHS Requirements

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

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

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This Project will abide by applicable legislative requirements and be aligned to Eskom OHS Policies, standards, and procedures.

A section 37(2) agreement must be signed between the Client and the *Principal 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 on site.

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

The *Principal 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 or management of the Client regarding compliance with the SHE Requirements.

The *Principal Contractor* shall furthermore not consider itself to be a subordinate or under the supervision of the Client in respect of these matters. The *Principal 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 *Principal 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 *Principal Contractor* supervises the execution of their duties by all such appointees.

The *Principal Contractor* shall prepare a suitable and sufficient site specific SHE plan in accordance with the SHE Specification requirements, submitted with tender documents that will indicate to the Employer the level of compliance to the SHE Requirements.

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The *Principal Contractor* shall complete a suitable and sufficient project, scope of work and site specific SHE plan in accordance with the SHE Specification Requirements and submit to the Client before taking possessions of the works. The *Principal Contractor's* SHE Plan will be assessed for compliance so as to confirm compliance to the requirements in the Client SHE specification. The Contractor will ensure that the site specific SHE Plan is submitted at least one month prior site establishment, for the works permit application. Once compliance is confirmed and works permit obtained, only then will the *Contractors* are allowed site access to start with site establishment.

The *Principal Contractor* on appointing any other contractor shall ensure that the Contractor provides and demonstrate to the *Principal Contractor* with a suitable, sufficiently documented and coherent site specific health and safety plan based on the client's documented health and safety specifications. The Sub-Contractor's SHE Plan will be assessed for compliance so as to confirm compliance to the requirements in the Client SHE specification. Once compliance is confirmed, only then will the *Contractors* SHE plans be approved by the *Principal Contractor* for implementation.

The *Principal Contractor* will make an appointment with the Client SHE Agent/Manager/Practitioner to verify their sub-*Contractors* SHE File. The *Principal Contractor* will accompany the sub-contractor to the SHE Agent/Manager/Practitioner office with the approved checklist.

The *Principal Contractor* and 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.

The *Principal Contractor* and Contractor shall ensure that all their employees, *Contractors* and agents undergo the relevant Eskom induction and company's induction prior to starting the works.

The Client, or any person appointed by the Client, may, at any stage during the execution of this contract refuse any Employee, Subcontractor, Contractor access to the premises if such person has been found to commit an unsafe act or any unsafe working practice or is found not to be qualified or authorised in terms of the SHE Requirements;

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Safety File

The *Principal Contractor* provides a Health and safety File for their own works, as well as for all *Subcontractors*.

The *Principal Contractor* ensure that all their SHE Files as well as their sub-contractor SHE Files are handed in to the SHE Agent/Manager/Practitioner at the end of the Project. The *Principal Contractor* will ensure that hard and soft copies of each file are submitted.

Principal Contractor/ appointed contractors shall not be granted access to commence with work on site unless the SHE File is approved by the Client SHE Department. Furthermore the Client will verify appointed Contractor's SHE File before access is granted to work on site.

16. Compliance and Non-Conformances

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

Should the *Principal Contractor* appoint a contractor, the *Principal 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 *Principal Contractor*.

The Client/Agent's representative reserves the right to stop work and issue a non-conformance report whenever safety, health or environmental violations are observed for both *Principal Contractors* and/or their *Contractors* after engaging and making both aware of such. Expenses incurred as a result of such work stoppage and standing time shall be for the *Principal Contractors* account. Any non-conformances/findings/observations found in these audits/inspections on *Contractors* shall be raised and discussed with the relevant *Principal Contractor* (with whom the contractor is contracted with).

The requirements within this specification 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.

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

16.1 Legal and Other Requirements

It is required that all *Contractors* on site comply with the relevant applicable legislation, specifications and standards in accordance with the scope of the project.

It is the duty of the *Principal Contractor* and contractor to ensure that they are familiar with the necessary SHE legislation required.

The *Principal 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 register shall be updated biannually.

16.2 Suspension of Activities under the Contract

Any person may stop an unsafe act or unsafe condition or activity that poses or may pose a threat to the health and safety of an individual, threat to plant or machinery or create a risk of degradation of the environment.

The Project Manager shall not be liable for any time and cost as a result of such work stoppage.

Note 1: A client representative who deems it necessary to stop an activity as a result of unsafe acts and/or conditions, must do so immediately and in the shortest possible timeframe, notify the Eskom Project Manager and appointed Client Supervisor.

16.3 Temporary SHE Work Stoppages

The Kendal Refurbishment and Constructions Projects shall host quarterly SHE work stoppages. These stoppages will be to re-affirm the Gx Coal SHE Culture and provide feedback to all employees on SHE related performance achievements. The Contractor shall prepare a SHE related performance presentation, which the Contractor (In terms of the NEC 3 Contract) will present to all contractors working at the project. The Contractor shall ensure that all contractor employees are in attendance and actively participate.

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At the discretion of the Eskom Senior Management, the Kendal Refurbishment and Construction Projects Site Manager, Project Manager and the appointed Construction Health and Safety Agent, adhoc work stoppages may be implemented so as to further re-affirm the Eskom and Gx Coal Projects SHE Culture as a result of regular incidents and poor safety and environmental performance and conditions prevailing at the project.

16.4 Suspension or Termination of Contract due to Poor SHE Performance

The Project Manager, as defined in the contract between the Project Manager and the Contractor, will be the only authorised person to communicate the suspension or termination of the contract, as a result of continued poor SHE related performance.

“Eskom takes a ZERO TOLERANCE stance to violation of Eskom Lifesaving Rules and will apply appropriate sanctions.”

17. Enforcement of SHE Requirements and Non-compliance

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

18. 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 practices;*
- b) *not to be required or permitted to perform work or provide services that*
 - are inappropriate for a person of that child’s age; or
 - 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”.
 - 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.

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

19. Notification of Construction Work

The *Principal Contractor* shall notify the relevant Provincial Director of the Department of Labour of the intention to carry out any construction work as defined in the Construction Regulation 4 of the OHS Act, at least 7 days before construction work is to be carried out.

The notification form of construction work is listed as an annexure 2 to the Construction Regulations of the OHS Act.

A copy of the notification letter sent to the DOL shall be forwarded to the *Project Manager* on the same day as sent to the DOL. A copy of the letter and their approval must be kept in the SHE file. When the DOL provide a letter of approval, a copy of the approval must be sent to the Eskom *Project Manager* and a copy filed in the SHE file.

20. OHS Act

All *Contractors* shall have the latest copy of the OHS Act and Regulations at all work sites which will be available to all employees. (Reference GAR 4).

21. Cost allocation for SHE Compliance

The *Principal Contractor* shall ensure that the submitted tender adequately made provision for the cost of Occupational Health and Safety measures.

Note: the costing for OHS must be detailed that is itemised based on the overall contracted scope of the project (i.e.) Medical surveillance (Medicals), provision of PPE, safety equipment purchases, resources and etc. Environmental Bill of quantities must be submitted related to EMS, EMP, EA and other legal requirements.

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22. Training

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

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

23. Site Induction

23.1 General construction site induction carried out by the *Principal Contractor*

The *Principal Contractor* shall ensure that all his employees, visitors, agents and *Contractors* have undergone Generation Kendal and Project SHE induction programme prior to commencing work on site.

Appropriate time must be set-aside for training (induction and other) of all employees.

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Prior to induction all employees must undergo a pre-employment medical examination and found fit for duty. A copy of the certificate of fitness must be presented for permanent record at the induction centre and kept at site offices for permanent record.

Furthermore, the Contractor shall ensure that induction sessions for *Contractors* are timeously booked with the client SHE Department, at least 48hrs in advance. Contractor to submit complete filled in and signed induction form, Annexure B to the SHE Agent/Manager/Practitioner.

The Contractor may request an emergency induction, on consultation with the Construction Health and Safety Agent/Manager. This induction will be at the sole discretion of the Construction Health and Safety Agent/Manager and may not invoke a habit forming process with regards to general inductions for new employees to site.

A prerequisite for one to be inducted is a proof of attendance of company Induction, medical certificate, certified copy of ID/Passport (not older than three months) and completed Construction Regulation's Annexure 3.

Generation Kendal SHE induction awareness training times are as follows:

- Mondays to Fridays - 09:00am
- Saturday / Sundays – Arrangements to be made in advance.

Project SHE induction awareness training times are as follows:

- Mondays to Fridays – 11:00am
- Saturday / Sundays – Arrangements to be made in advance.

The *Principal contractor* must submit a mobilization plan to the Eskom *Project Manager* on a weekly basis.

Proof of inductions and acknowledgement of Life Saving Rules shall be kept in the SHE file and be made available to the *Project Manager* or any auditor approved by the *Project Manager* on request.

All employees and visitors on site shall carry the proof of induction training.

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Note: No employee, consultant, visitor or vendor shall be allowed onto site, or perform any form of work, without undergoing an induction and awareness training.

23.2 Visitors to Site

A contractor shall ensure that all visitors to a construction site undergo health and safety induction in accordance with Construction Regulations 7 (6) and 7 (7).

All visitors must remain in the care and custody of a person (host) who has been properly inducted. No visitors are permitted to undertake any construction work, of any nature.

24. Access and Security Control

Access and Security control shall be done according to the Eskom Access Control Policies.

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:

- Firearms and ammunition (excludes Eskom official firearms/ ammunition and firearms/ ammunition issued to the South African Security Forces)
- Liquor/ Alcohol
- Dangerous weapons
- Drugs
- Any other items that may be declared prohibited.

The *Principal 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 *Principal Contractor* ensures that security is considered in the contract to secure plant machinery on site (day, night and on weekends).

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The *Contractor* shall ensure that no unauthorised access is gained to site laydown or construction areas by the public or farm animals. The *Contractor* is to submit a plan to the *Project Manager*, indicating how he or she intends to control access to site camps, laydown and constructions areas.

The Contractor shall ensure that no inadvertent access is gained to any of the materials, chemical substances, fuel, equipment or machinery.

25. Traffic Management Plan

The *Principal 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 *Principal 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 *Principal Contractor* shall provide suitable height limitation barriers (goalposts) as agreed upon with the Client.

The traffic management plan shall be approved by the *Project Manager* before work commence.

The *Principal Contractor* and his sub-*Contractors* shall adhere to the site traffic plan to ensure the safe movement of all construction related mobile plant – *Safe use of vehicles on Construction Sites, 240-75885882*.

26. Contractor's Site Facilities

Site facilities shall be established and maintained by the contractor or be maintained as agreed with the Site Manager and/or in accordance with the contractual agreement. The facilities include, but are not limited to the following: (refer to OHS Act Construction Regulation 30).

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- **Temporary Facility Layout Plan**

The *Contractor* shall submit a detailed site layout plan for acceptance by the *Project Manager* after consultation with the Construction Health and Safety Agent/SHE Manager, client Environmental Manager, the Kendal Power Station Environmental Manager and the Independent Environmental Control Officer.

Note: No site establishment shall take place prior to approval of the plan for temporary site camps and laydown/stockpile areas, by the Department of Environmental Affairs (DEA) and the Department of Water and Sanitation (DWS) has been received in writing.

- **Sheltered dining rooms and eating facilities**

The *Contractor* shall provide and maintain adequate dining room facilities appropriate to the workforce size and work duration, that conform with the requirements of the OHS Act, Construction Regulations, Facilities Regulations and the Hazardous Chemical Substances Regulations.

Furthermore, the *Contractor* shall provide, to the acceptance of the *Project Manager*, sheltered eating areas for use by the contractor employees. The maintenance and cleaning of eating areas shall be the responsibility of the *Contractor*. All costs involved are deemed to be included in the tender price.

Eating areas shall provide adequate shelter and shall be ventilated and lighted. Tables and backed seating shall be provided. Suitable receptacles with lids for depositing waste shall be provided at convenient points inside and outside the eating areas.

The dining room facility, and all electrical appliances utilized for the purpose of boiling water and or heating food, shall be kept in a state of good repair and hygienically clean.

- **Change rooms & Shower facilities**

Where required, the *Contractor* shall provide and maintain adequate and suitable changing and washing facilities appropriate to the workforce size and work duration, that conform with the requirements of all applicable legislation. The *Contractor* shall ensure that separate changing facilities are provided for both genders.

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- **Ablution facilities**

Where required, the Contractor shall provide and maintain adequate and suitable sanitized portable ablution facilities appropriate to the workforce size and work duration that conforms to the requirements of all applicable legislation. Separate ablution facilities shall be provided for both genders. These portable ablution facilities will be kept tidy and hygienic during the duration of the Project.

Where the Contractor makes use of existing facilities provided by the Kendal PS, the Contractor shall ensure that his or her employees support the aim of keeping these facilities clean and hygienic.

- **Site Sheds, Offices and Amenities**

The Contractor is responsible for suitable offices, parking area, eating facilities etc. for their employees.

The Contractor will ensure that reverse parking is executed on Kendal site as well as on the ash dam area.

- **Lay down and Storage**

The *Contractor* shall include in its temporary facilities plan, a detailed plan for all lay-down areas required for storage of materials, chemicals, equipment and machinery.

The *Contractor* shall provide and maintain adequate and suitable storage facilities appropriate to the scale of the project and work duration, that conform to the requirements of the OHS Act, Construction Regulations, Regulation 28, and as approved by the *Project Manager*.

Note: No establishment of laydown and storage areas and facilities shall take place prior to approval of the contractor site layout plan by the Department of Environmental Affairs (DEA) and the Department of Water and Sanitation (DWS) has been received in writing.

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- **Temporary Site Services**

No employee will be allowed to erect living accommodation on site.

The Principal Contractor must develop their site establishment procedure and this must be in line with the EMP, environmental authorisations and other permits and licenses.

- **Existing Services**

The *Contractor* shall give prior notice in writing to the Eskom *Project Manager* of his intention to begin excavation work in any area. The Eskom *Project Manager* will then arrange to have the approximate location of all known buried cables and or other existing services indicated to the *Contractor* and, where practical, marked on the ground before excavation commences. All movement and removal of existing buried services will, if necessary, be carried out by the *Contractor*.

The *Contractor* shall immediately inform the Eskom *Project Manager* of any existing services uncovered during the work. Prior to any excavation work, a scan shall be done by the *Contractor* to determine the location of any hidden services underground. Where possible, air driven shovels are to be used for any excavation work. The *Contractor* may only make use of manual labour as a last resort.

Note: The *Contractor* shall be responsible to obtain all permits to work for excavations to be dug, powerline crossings, hot work to be conducted, from the Kendal Power Station, prior to commencing with excavation work. The *Principal Contractor* will give a copy of all applications to the Eskom *Project Manager*.

- **Installation and Maintenance of Temporary Construction Electrical Supply, Lighting, and Equipment**

The *Contractor* shall ensure that all temporary electrical supply, lights and equipment are installed and used in accordance with the OHS Act, Electrical Installation Regulations, relevant South African National Standards and by-laws, Regulations of the OEM and supplier concerned, including the PSR and ORHVS regulations. Attention shall be given to the positioning of such equipment in order to minimize pollution caused by noise and fumes.

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Every portable generator shall be issued with a drip tray and refueling of these generators shall be done in such a way to prevent any spillage. Each Portable generator shall be fitted with an earth and/or earth spike.

All electrical installation shall have a C.O.C issued by a competent and appointed person.

- **Site De-establishment**

The *Contractor* shall submit to the Eskom *Project Manager*, a Site de-establishment Plan that complies with the Kendal Power Station EMPr and Kendal Refurbishment and Construction Projects Site de-establishment Plan Guideline, at least 30 days prior to any de-establishment of contractors under its control.

27. Public Safety

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

Contractors shall factor in, in their safety plan, how they intend safeguarding/ controlling any members of the public against their activities during the project.

28. 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.

The *Contractor* shall comply with the requirements of Eskom's Life-saving Rules and the Kendal Refurbishment and Construction as well as Kendal Power Station specific rules.

The *Project Manager* will take a stance of zero tolerance on transgression of these rules. Non-compliance to any one of the lifesaving rules will be considered serious misconduct and will lead to disciplinary action and dismissal. Eskom takes these rules very serious and any person violating

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these rules will be removed from site with immediate effect. Such a person will not be working on any Eskom site again.

These Life-saving Rules are non-negotiable health and safety rules that must not be broken under any circumstances. Where additional Life-saving Rules have been implemented as part of a site specific requirement, the Contractor will comply accordingly.

Eskom Life Saving Rules

Five Life Saving rules have been developed that will apply to all Eskom Employees, agents, consultants, *Contractors* and visitors.

The rules are:

RULE	DESCRIPTION OF RULE
Rule 1	OPEN, ISOLATE, TEST, EARTH, BOND, AND/OR INSULATE BEFORE TOUCH (That is plant, any plant operating above 1000 V)
Rule 2	HOOK UP AT HEIGHTS 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 No person may drive any vehicle on Eskom business and/or on Eskom premises: Unless the driver and all passengers are wearing seat belts.
Rule 4	BE SOBER No person is allowed to be under the influence of intoxicating liquor or drugs while on duty
Rule 5	PERMIT TO WORK Where an authorisation limitation exists, no person shall work without the required permit to work.

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Site Specific add-on's Lifesaving rules

RULE	DESCRIPTION OF RULE
Rule 6	CELLPHONE USAGE No walking, driving, lifting, rigging whilst talking, texting or listening to music on a cell phone.
Rule 7	EAR PHONES No earphones are allowed on the Construction site. SABS approved hearing protection needs to be worn by employees.
Rule 8	SPEED LIMIT Exceeding the speed limit on the site will not be tolerated.
Rule 9	REVERSING As far as reasonably practicably possible, eliminate reversing.

Eskom will take a stance of zero tolerance if these rules are violated.

Any non-compliance to any health and safety requirement in this SHE specification is subject to discipline/removal of person from the project site.

Non-compliance to a Life Saving rule will be considered serious misconduct and will lead to serious disciplinary action, which may include dismissal.

This is to ensure that every person who works on or visits an Eskom work site returns home safely to his or her family.

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.

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. The limit is 0.0000% BAC on this site.

All safety and warning signs shall be obeyed at all times.

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Entering or leaving the Site will only take place at official access control points and may only be done via the official designated walkways.

All employees shall adhere to the SHE and other site specific rules.

The *Principal Contractor* must have a process in place to address employees that have contravened Health and Safety Requirements.

This is to ensure that every person who works on or visits an Eskom returns home safely to his or her family.

- **Smoking**

Smoking is only permitted at designated areas in accordance with the requirements of the smoking policy (32-1126: Eskom Smoking Policy).

The contractor to ensure there are adequate smoking facilities for the workforce. It should consist of a covered area, with bench seating, and provided with:

- Fire Extinguishers.
- Sand Buckets.
- Health warning signs as required by the Tobacco Products Act, as amended.

- **Cellular Phones**

Do not use Cellular phones in areas where cell phone usage is prohibited.

A contractor shall develop and implement a risk based cell phone policy for a particular construction site.

- **Fire Extinguishers**

All fire extinguishers shall be:

- Clearly labelled
- Conspicuously numbered
- Entered in a register
- Inspected monthly by a competent person

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- Tested and serviced at recommended intervals by an accredited supplier
- Results shall be entered in the register and signed by competent person.
- No open or unattended fires are allowed within the construction site.

A Principal Contractor shall have a layout plan of a site indicating where all his firefighting equipment is located.

- **Vehicles and Traffic Rules**

Ensure that all drivers and passengers wear seatbelts, where fitted, 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.

- **Substance and Drug Abuse Management**

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

29. Hazard Identification and Risk Assessment

The client shall prepare and provide a Baseline Risk Assessment as per the Scope of work for an intended construction work project to the contractor as part of the contract package.

The *Principal Contractor* shall develop a Risk Assessment in line with Construction Regulation 9 (1) (a-e), in alignment to Eskom 32-520 procedure. The *Contractors* are expected to have different types of risk assessments for their scope of work.

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.

All risks must be rated.

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Activity based risk assessments shall be conducted by an appointed competent risk assessor of the *Principal Contractor*. Risk assessment shall be developed by the team and outcome shall be shared with employees.

The baseline risk assessment shall be developed by the cross-functional team.

The following people must be involved when compiling the risk assessment:

- Project Manager
- Construction Manager
- Supervisors
- Specialists
- SHE officers
- SHE Reps
- Employees with experience of the task.
- Union representative if available.

Attendance registers must be kept of all the employees involved in compiling the risk assessment. Please refer to Annexure F (Risk assessment Template); it may be used as a minimum guideline.

30. High Risk Activities

When the *Principal Contractor* and/or his *Contractors* are working in an area where a high health and safety hazard exists, the *Principal Contractor* shall:

- 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, so as 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.

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- When crossing roads, railway tracks and other power lines during operations, the contractor shall ensure that rugby poles are properly erected at all road crossings and that the public is warned, and flagmen placed at strategic positions to warn traffic/motorists. *Principal 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).
- Height restriction barriers/cross-bars must be erected on both sides of the overhead power lines, communication lines or other overhead obstructions. Establish the permitted safe clearances in consultation with the owner of the line.

High risks:

Project Specific Hazards		
Insufficient lighting (night time)	Electrical contact	Ground stability (uneven surfaces, rough terrain)
Dust (Coal, fly ash & other)	High winds	Mobile plant
Inclement weather	Heat	Fatigue
Lifting & rigging operations	Loading and off-loading	Design & maintenance
Working at heights	Underground services	Pedestrians
High vehicle movement	Skills and resources	Muddy road surfaces
Ill-health	Hot work (Welding, cutting etc)	Man/Machine interfacing
Substance abuse	Access control	Fires
Moving machinery parts	Excavations	Environmental Degradation
Unrests, Strikes	Nip Points	Graves
Water masses	Contractor Interfacing	Theft / Crime
Wild animals	Noise	Regulated Areas
Falling objects	Vibration	Snake/bees/animal bites
Handling, storage and transportation of hazardous substances (chemicals, gases, petroleum liquids)	Lightening	Surveying/ site clearing

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Site establishment	Travelling and/or transport to and from site including employees and equipment	Communicable diseases/Occupational health exposure
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Note: The list above is not conclusive. The Contractor is to ensure that the *Project Manager* is notified of all new risks not indicated in the list above or within this SHE Specification.

31. Pre-Task Risk Assessment / Daily Safety Task Instructions

The Contractor shall on a daily basis and for every task to be performed, conduct a pre-task risk assessment with all employees involved with the task(s). The pre-task risk assessment will form the basis of the daily pre-job brief/toolbox talks prior to the start of work. This will highlight critical steps from the safe work procedure to ensure that work is performed in a safe manner. Proof of communication as well as confirmation that it was received and understood by all will be noted on a standard form, which will be kept at the job site during the job execution. The completed signed pre-task risk assessment form shall be filed in the *Principal Contractor's* safety file.

32. Method Statement, Safe Work Procedures and Practices

The *Principal Contractor* shall compile project / site specific method statements and safe work procedures for all the high risk activities as identified in the risk assessment and scope of work.

These shall be approved by the contractor and reviewed for acceptance by the Client.

Note: *The acceptance will be qualified with the statement: "Acceptance does not relieve the contractor of his responsibility for ensuring safe working procedures in terms of the Construction Regulations."*

Commencement of any work activity does not take place unless a method statement and risk assessment has been produced and submitted to the Client (and permission has been received), five working days in advance of any proposed specific activity starting. They must be site and task specific, clear and signed off.

The supervisor / team leader shall ensure that all employees are trained on all applicable safe work procedures. Records of training/ awareness shall be kept on site.

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33. Planned Task Observations (PTO)

The *Principal Contractor* shall provide the planned task observation procedure or process covering but not limited to the following:

- Persons responsible for monitoring the task and carrying out the Planned Job Observation must be the supervisor;
- Planned job observations should be conducted in such a way that the employee is observed against the actual steps (of the written safe work procedure) to be followed when performing a task and be marked against compliance with each step. This will assist in determining employee competence and compliance. Record should be kept at all times.
- Where the employee did not comply or did not follow the required steps, this should be indicated on the report and actions be taken to correct the deviation.

Please refer to Annexure E (Safe Work Procedure and Job Observation Template); it may be used as a minimum guideline.

34. General Walk-downs (Visible Felt Leadership)

The Construction Manager from the *Principal Contractor* shall lead the site walk downs with the Construction Supervisors on a weekly basis to demonstrate their commitment towards SHE matters. These site walk downs will be used to identify both strengths and areas for improvement regarding SHE issues. Site Walk downs will be documented and a report shall be submitted to the Client within 24 hours, inclusive of an action plan to close out all deviations noted during such a walk-down. To show commitment to Visible Felt Leadership, the management representatives from the *Principal Contractors* are expected to attend the walk downs at agreed intervals.

Describe how and what measures are taken by Senior Leadership to actively drive SHE with employees and sub-*Contractors*.

Consider the following Criteria:

- Visibility on sites where operations take place.
- Interventions that leadership drive specifically on SHE matters.
- What monitoring mechanisms are in place to verify the above?

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35. 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.

The *Principal Contractor* is expected to describe how their company would implement a behavioural safety programme.

36. Work at Elevated Positions and Roof Work

- The *Principal Contractor* shall ensure that all work performed in a fall risk position shall conform to the requirements of the OHS Act, the relevant SANS standards and Eskom Procedure 32-418 (Working at Height Procedure).
- All employees working in a fall risk position shall use the appropriate fall protection equipment unless working from a solid platform protected by suitable barricading.
- 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.
- A fall protection Plan will be compiled, implemented , reviewed, communicated to all employees working at heights and shall include but not limited to the following:
 - A site and task specific risk assessment covering all work at elevated heights shall be carried out and appropriate mitigation measures to be put in place and communicated to all relevant employees.
 - Appropriate training programme (according to the relevant SAQA NQF unit standards) of all employees working at height and records thereof
 - Legal appointments
 - The process of evaluation of the employees' medical fitness for each employee working at height.
 - The procedure addressing the inspection, testing and maintenance of all fall protection equipment, the withdrawal process of damaged PPE and up to date inspection records.
 - A rescue plan detailing the necessary procedure, personnel, and suitable equipment required to affect a rescue of a person in the event of a fall.

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- Emergency drills on all developed rescue plans shall be held at least once a year, under the supervision of a competent person.
- Emergency preparedness procedures.
- The *Principal Contractor* shall review their risk assessment and fall protection plan when changes are made to the design or construction that result in a change on the risk profile or when an incident occurs.
- The *Contractors* shall stop all persons working in elevated positions during periods of inclement weather.
- Working in elevated positions shall only be carried out under the supervision of a competent person in accordance with the appropriate unit standards for working at heights.
- Fall arrest/protection plan and equipment shall be implemented where fall prevention is not possible.
- Please refer to Eskom Fall arrester checklist (240-43921084) contractor shall use it, as a minimum guideline.
- All fall protection equipment shall comply with SANS Standards, other recognised international standards and Eskom Procedure 240-100979499 (Personal Protective Equipment for work at Heights specification).
- Safety belts are not allowed to be used in Eskom. An appropriate full body safety harness shall be worn when working at an elevated position, refer to SANS 50361 and Eskom Procedure 240-100979499 (Personal Protective Equipment for work at Heights specification).
- The *Principal Contractor* and/or his contractor shall compile a fall protection equipment, inspection, testing and maintenance procedure (Refer to SANS 50365 and manufactures requirements for safe use and for inspections).

Provision must be made to prevent objects and or material from falling from elevated areas and the protection of persons working below. A drop zone shall be established with barricading and necessary signs. The *Principal Contractor* will ensure that tool bags and lanyards are given to all employees when structures are installed to prevent falling objects.

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36.1 Working at height training

- The *Principal Contractor* shall ensure that all their employees working at height must be competent in working at height including the rescue team that will be utilised during emergencies. Training provided for working at heights should be in accordance with the relevant unit standards.
- As a minimum, individuals who will be performing work at heights and are not responsible for rescues must undergo three days FAS training (Unit Standard 229998). And the rescuers must further undergo two days rescue training in accordance with unit standard 229995. The *Principal Contractor* or contractor must identify further trainings (e.g. Advanced rescue US229999) applicable to the employees work area.
- Once these employees have successfully completed classroom theoretical and practical training provided by the training provider, each employee must undergo on the job training on every task which is going to take place when working at height. These people need to be declared competent and fit to perform each task.
 - The employee must work at least 40 hours with a mentor who has the knowledge and the experience (at least 1 year experience) to perform that specific task.
 - The employee must keep a logbook of his work for the 40 hours with a mentor. The logbook will be signed of each day of mentorship, by his mentor.
 - After completion of the 40 hours and the mentor is satisfied with the employee's progress, the Supervisor must conduct a planned task observation (PTO) on the employee. The Supervisor must indicate on the PTO that the employee is now fit to work on his own.
 - The logbook and the planned task observation must be kept on the employee's file for the duration of the project, to prove his competency.
- A contractor shall ensure that the designated person for the development of a fall protection plan undergoes appropriate training based on unit standard 229994.

36.2 Scaffolding

- All scaffolding used shall comply with the OHS Act and Regulations as well as SANS 10085 and SANS 51004 (Aluminium and tower scaffold).
- Scaffolding erectors: Training is specified in SANS 10085.
- All complicated scaffolding and scaffolding higher than 3 meters must be built by a scaffold supplier.

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- All scaffolding shall be inspected by a competent person weekly before use and also before use following weather conditions that could have made the scaffold unsafe e.g. which could make ground conditions unstable, after a storm, mishaps, before dismantling and after alterations.
- Users of scaffolding shall carry out a visual inspection on a daily basis before use. If unsafe conditions are found or suspected, the scaffold shall be isolated until a thorough inspection has been made.
- The footing or anchorage points for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks.
- Scaffolds that provide access to areas where personnel can fall into a hazard shall install a gate at the access point of the hazard that is affixed with a warning sign stating that 100% tie off required past this point.
- The Contractor must give preference to using scaffold stairs instead of ladders for all scaffolds. These scaffolds must be fitted with a kick plate at the bottom of each stair section. The kick plate shall be able to prevent a member of *Contractors'* personnel slipping down the staircase and sliding between the floor and the mid-rail.
- An appropriate scaffolding tagging system shall be used to confirm the status of scaffolding for use or not to be used, the inspectors name and surname , signature, date and telephone number must be written on the tag
- Scaffolding access stairs shall be fitted with toe boards at all landings to prevent a person slipping through.
- When employees are working on a scaffold provided with trap doors it must be closed at all times to prevent a person from falling.
- A **design and calculations** shall be done for all scaffolding in excess of 2 meter by an Engineer.
- A Team leader shall be appointed in writing for the erecting and dismantling of all scaffolding.
- Only use steel boards on scaffolding when working in the open.

36.3 Ladders (Portable)

- All ladders used on the site shall comply with the OHS Act and Regulations.
- All ladders shall conform to the relevant SANS standards or other recognised international standards.

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- Damaged ladders shall be marked as “DAMAGED” and removed from the project site.
- Prior to work being performed, an adequate 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
- All employees using ladders must be trained on the safe use of a ladder.

37. Occupational Health and Hygiene

All *Contractors* are required to develop an Occupational Health and Hygiene program. The program is intended to ensure that the risks to health are identified and controlled.

37.1 Occupational Hygiene Management Program

Principal Contractors and *Contractors* shall develop, implement and maintain an occupational hygiene management programme to ensure that the occupational hygiene stressors are identified assessed (monitored) and controlled. The occupational hygiene should include, but not be limited to the following elements:

- Occupational health risk assessment as a background.
- Occupational health risk exposure profiles.
- Occupational hygiene monitoring program and ensure that monitoring is performed by an approved Inspection Authority.
- Communication of occupational hygiene results and requirements.
- Proof of awareness training.
- Documentation and control of records (Records to be kept for 40 years).

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

- Hearing Conservation Program;
- Respiratory Protective Program;
- Hazardous Chemical Substances Program;
- Procedure for the use and management of radioactive sources;
- Heat Stress Management Program.

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Principal Contractors and *Contractors* shall report to the Department of Labour and Department of Minerals Resources on the occupational hygiene milestones (e.g. crystalline silica). Evidence of reporting to the department of labour and department of mineral resources and copies of such reports shall be made available to SHE Manager / Practitioner(s).

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

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

37.2 Employee Health and Wellness Programme

Principal 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 as detailed below.

37.3 HIV/Aids/TB & EBOLA Awareness Programme

An HIV/Aids awareness programme will be implemented and maintained by the Project Manager. This will include voluntary counselling and testing (VCT) of individuals prior to initial commencement of work at the site and HIV/AIDS awareness training and access to ongoing support for affected individuals. The Contractor shall ensure that its employees and its sub-contractor's employees are aware of this programme. Records of awareness programmes and training are to be provided during audits and inspections as and when required by the Project Manager.

The Contractor shall also implement an HIV/Ebola/TB awareness programme to raise employee awareness regarding the disease.

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37.4 Protection against Dehydration and Heat Exhaustion

The Contractor shall take into consideration and mitigate dehydration and exhaustion of employees. Furthermore, the Contractor shall implement a procedure to address fatigue, and must be submitted to the Eskom *Project Manager* for acceptance.

37.5 Protections from Wet and Cold Conditions

The Contractor shall take into consideration and mitigate inclement and extreme hot and or cold weather conditions.

37.6 Medical Surveillance Programme

The *Principal Contractor* shall ensure that his employees and contractor employees are registered on a medical surveillance programme and are in possession of a valid medical fitness certificate. The certificate of fitness should 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 *Principal 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 fitness certificate.***

A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational Health practitioner in the form of Annexure 3.

The fitness certificate and a copy of the risk based person job specification shall be issued before commencement of work and shall be presented at induction. If the *Principal Contractor* does not provide proof of valid certificates of fitness and person job specifications for his employees and contractor employees, then Eskom will not give those employees site induction which will result in refusal to site access.

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

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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 *Principal Contractor* shall provide a documented process for managing those employees who are issued with a conditional certificate of fitness.

In instances where sick leave is taken for a period of one week or more, the contractor shall institute an arrangement that employees need to sign a declaration indicating that they did not suffer any illness or injuries which occurred in the period of absence, which may affect their ability to work on site.

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

37.7 Emergency Care

A list of emergency numbers must be posted at phones and in every office. The *Principal Contractor* shall ensure that his employees and contractor employees are familiar with the emergency numbers and also are provided with stickers, with the emergency numbers printed on, to place outside their hardhats.

Emergency numbers will also be part of the SHE induction.

Eskom has established a contract with Net care 911 for all employees and its contractor employees for emergency medical assistance incurred whilst on duty anywhere in South Africa.

The telephone number is **086 123 7566 (08612 Eskom)**.

Contractors shall have one first aid box for the first 5 persons and thereafter one for every 50 or team of workers on site or part thereof.

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More first aid boxes shall be provided if the risks, distance between work teams or workplace requirements require it (it should be available and accessible for the treatment of injured persons at that workplace).

Minimum contents of a first aid box: (Refer to GSR 3 Annexure of the OHS Act)

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

A prominent notice or sign shall be erected in a conspicuous place at a workplace (SANS1186 approved signs to indicate location of first aid boxes), indicating where the first aid box or boxes are kept as well as the name and contact details of the First Aider of such first aid box or boxes.

The *Principal Contractor* and contractor shall ensure that alternative arrangements shall be made for possible incidents occurring after normal working hours.

First Aid Station

The Contractor shall provide a temporary first aid facility as close to the construction area as possible. The first aid station shall provide the initial medical treatment required to stabilize an

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injured employee, and shall be equipped with the general first aid equipment and in addition the Contractor shall be responsible for the following:

- Comply with the established communication network within the project/site or facility (including outside sources, if necessary);
- Establishing personnel accountability systems (including visitors);
- Stopping work and controlling the affected areas;
- Defining key personnel responsibilities and duties;
- Access to appropriate emergency resources and medical personnel as dictated by the emergency;
- Providing first aid training; and
- Briefing and reporting requirements.
- The Contractor shall ensure that adequate measures and emergency plans shall be stipulated in writing and posted at various locations on the site to adequately inform all personnel and visitors.

The Contractor shall ensure that a competent First Aider (Level 2) is appointed and present on each shift of work.

Alternative arrangements are made for possible incidents occurring after normal working hours;

When services are not readily available from the Kendal PS medical centre, the Contractor shall make alternative arrangements for any medical assistance. Proof of this must be made available in the Contractor and its sub-contractor's SHE plans;

That in instances where his employees and sub-contractor's employees require medical treatment off Site, the Contractor's Safety Manager/Practitioner and the Project Manager's Safety Agent/Manager/Practitioner and Supervisor will accompany such employee;

If a Contractor or sub-contractor goes to a hospital without informing the Project Manager disciplinary steps will be taken against the Contractor Project Manager.

That it and its sub-contractors appoint trained and competent First Aiders as per the OH&S Act and regulations; and

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Emergency Contact Details

The following emergency numbers will be utilised during project execution at Kendal Power Station:

- General Emergency Number – 013 647 6795
- Fire Station – 013 647 6766
- Medical Station – 013 647 9391
- Security – 013 647 6044 / 6711

Where services are not available from the medical centre or where there is no medical centre, the *Principal Contractor* shall make alternative arrangements for any medical assistance. Proof of this must be made available in the *Principal Contractors* SHE Plan.

If a person needs to be transported to a hospital, the *Principal Contractor* will inform the Project Manager. The Supervisor and SHE Practitioner / Manager will accompany them to the Hospital.

No Contractor is allowed to go to the Hospital on his/her own without the Eskom *Project Manager* knowing.

37.8 Employee Assistance Programs (EAP)

Where *Principal Contractors* 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 *Principal Contractor*. Details are: ICAS – Tel. No.: 0800 611 059.

37.9 Rehabilitation

Where any contractor's employee is injured at work to the extent that they require rehabilitation, then this must be given, using the services of an appointed rehabilitation organisation.

37.10 Compensation of Occupational Injuries and Diseases Act (COIDA)

The *Principal Contractor* shall submit proof of registration and letter of good standing with the compensation fund or with a licensed compensation insurer for his company and each of his *Contractors*'; 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 *Principal Contractor* and/or Contractor Company.

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38. Emergency Preparedness and Response

The *Principal Contractor* shall provide a site specific emergency response plan.

Using the Eskom site specific emergency plan, the *Principal Contractor*, together with his *Contractors*, shall develop their own emergency response plan (as a guideline) for both site and offices and submit this plan to the Eskom *Project Manager* for review. It may be decided that one site specific emergency response plan be used for all *Contractors*. The *Principal Contractor* will ensure that his employees and his contractor employees are trained on this plan.

Periodic emergency drills shall be undertaken by Eskom; however, the *Principal Contractor* shall initiate his own emergency drills with permission from the Eskom *Project Manager*. The *Principal Contractor* will make in advance arrangements with the *Project Manager*, at least five (5) days in advance. This must be recorded and provided on request.

When doing a task that requires standby emergency response, the contractor shall provide for this and Eskom Emergency Department will supplement.

38.1 Offices

The Emergency Preparedness plans must accommodate how to react to emergency situations such as, fires, work injuries, bomb threats, building evacuation, political unrest, the contacting of the various emergency services etc.

38.2 Site plans

When preparing worksite Emergency Preparedness plans, cognisance must be made as to the locality of the site and the response time for the emergency services. Where sites are remote, contractor management shall ensure that a sufficient number of employees are trained in the various disciplines to be able to afford prompt response attention.

39. Forums for SHE Governance and Communication

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

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Eskom Project team shall define the project SHE governance and communication structures.

The *Principal Contractor/s* and their Contractor/s 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.

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.

40. Demolition work

The *Contractor* shall ensure that it complies with the requirements for demolition work, as stipulated in the Construction regulations, regulation 14. The Contractor shall submit for acceptance, a comprehensive and detailed method statement indicating the process for the demolition work, before commencing with such an activity.

Furthermore, the *Contractor* shall ensure that all equipment utilized for the demolition works, is operated, maintained and stored as per the OEM requirements. Only operators that are trained and appointed may operate specialized equipment for such an activity.

41. Asbestos Work

If applicable on the Project – the following will apply:

- The *Principal Contractor* shall notify the relevant Provincial Director of the Department of Labour in writing of the intention to carry out asbestos work as defined in the Asbestos Regulation 3 of the OHS Act No. 85 of 1993 and Regulations;
- An asbestos contractor registered with the Department of Labour shall carry out the asbestos work;
- A detailed plan of work shall be submitted for approval to an approved Asbestos Inspection Authority at least 30 days prior to commencement of such work;

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- The *Principal Contractor* shall provide copies of approved standardised procedures for the removal of asbestos to the Provincial Director of the Department of Labour at least 14 days prior to commencement of work;
- Air monitoring shall be done during the removal, and the report must be sent to Eskom SHEQ Department for record keeping;
- A clearance monitoring shall be conducted post removal of the Asbestos material to declare the area asbestos free;
- The removed asbestos material shall be disposed of at an asbestos approved disposal site and a disposal certificate shall be submitted to Eskom SHEQ Department.

42. Construction Vehicles and Mobile Plant

All construction vehicles and equipment shall meet the legislative requirements pertaining to the OHS Act Construction Regulations 23, the National Road Traffic Act, the Mine Health and Safety Act, National Environmental Act and Eskom Vehicle Safety Specification Procedure 240-62946386. 240-75885882 – Safety use of Construction vehicles.

The following requirements are applicable to the use and operation of construction vehicles:

- A *Principal Contractor*/ contractor shall ensure that all construction vehicles and mobile plant are operated by a person who has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant.
- Designated drivers shall be in possession of an appropriate valid driver's licence, valid for the class of vehicle and authorised in writing to operate the Construction vehicles and mobile plants. The driver's license shall be kept by the person so authorised and shall produce such card on request.
- All construction vehicle operators, flagmen, banksmen, signalmen, or points men are to wear high visibility reflector vests at identified high-risk sites and construction projects. All flagmen, banksmen, signalmen, or points men at identified high-risk sites and construction projects are to be positioned with warning flashing lights and warning signs in such a way that they are visible to the operators at all times (during the day and night).
- All flagmen, banksmen, signalmen, or points men must be trained in their respective jobs.

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- All employees working on the continuous ash dam project at Kendal Refurbishment and Construction Project must wear high visibility vests. (Refer to Eskom Procedure 240-44175132)
- Drivers or operators and construction vehicles at identified high-risk sites and construction projects should have a permit system for operating in that particular area.
- Heavy construction vehicle parking sites, driveways, or any site should be designed in such a way that no reversing is required. Where reversing is unavoidable, it shall only be done with the presence of a flagman or a banksman.
- A vehicle and pedestrian management plan must be developed by the contractor to be in line with the clients plan.
- Ensure that all traffic signs are displayed.
- Reverse beepers shall be fitted on all construction vehicles.
- All ADT's and related mobile equipment shall be fitted with anti – collusion sensors.
- All EMV and LDV's shall have reflective strips at the front, back and side's of the vehicles for visibility.

NB! The strips shall cover the entire length of the EMV or LDV. The 5cm long strips rule shall not apply.

- All drivers of construction vehicles and mobile plant shall have medical certificates of fitness to operate those construction vehicle and mobile plant, issued by an occupational health practitioner in the form of Annexure 3 of the Construction Regulations.
- The *Principal Contractor* will submit a detail list of all vehicles that will require site access to the *Project Manager*.
- The speed limit within the bounds of the construction site is 20 km/h. Site speed limit is 40km/h.
- ADT's speeds shall be pre-set not to exceed 40km/h
- No drivers or operator may text, talk on cell phones or two way radios whilst driving.

It is the responsibility of the driver to ensure that:

- He/she and their passengers wear seat belts whilst the vehicle is in motion.
- Comply with all traffic road rules, safety, direction and speed signs.
- Ensure that vehicle loads are properly secured and loaded onto vehicles; and
- Ensure that vehicles are not overloaded.

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The *Principal Contractor* shall ensure that his employees and those of his *Contractors* do not:

- Ride on back of bakkies, cranes or other mobile plant equipment.
 - Leave vehicles unattended with the engine running.
 - All vehicles shall be locked chock blocks fitted and keys removed; and
 - Park vehicles in unauthorised zones/areas.
-
- Leave vehicles locked, chock blocks fitted and keys removed; and
 - Eskom reserves the right to search any vehicle on the premises or when entering or leaving the premises.
 - The Contractor shall be solely responsible for the safety and security of any of his vehicles (including private vehicles) on the premises.
 - The Contractor shall attach identification markers on all of their vehicles that are permitted to enter the site.
 - A current maintenance logbook is required for all cranes and large plant equipment, and shall be available for inspection at any time. The logbook shall be located in the cabin of the crane or plant equipment. *Principal Contractor* is to ensure that visibility (e.g.: switching on of lights, reflectors, barricades equipped with lights, etc.) is enhanced on all Construction Vehicles and Mobile plants in order to identify the location of the vehicles or plant.
 - The Contractor shall maintain his vehicles in roadworthy condition and a valid license. These vehicles shall be subject to inspection by the Client representative. Vehicles which are not roadworthy will not be allowed onto the site.
 - In the event where the *Principal Contractor* and his contractor do not own the equipment, the *Principal Contractor* is still responsible for ensuring all conditions are complied with by all of his *Contractors* or hire companies.
 - Precautions shall be taken to lash all loads properly. Loads projecting from vehicles shall be securely loaded and in daytime a red flag and during darkness a red light or red reflective material shall be attached to the extreme end of such projecting material.
 - Ensure that all construction vehicles and plant are maintained according to the manufactures specifications. All servicing and repairs must be carried out by the Contractor in a designated area.
 - Records of maintenance must be kept on site. Mobile plant will be inspected on a regular basis to ensure that pipe's do not burst.

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- All waste from servicing must be disposed of in accordance with the environmental legislation.
- Every mobile machine whose vision is impaired when reversing must have a siren/hooter, which beeps, when the machine is reversing. This includes trucks, cranes, loaders, etc.
- Display construction vehicle signs on all vehicles entering a construction site.

The use of amber, rotating or flashing lights on construction vehicles:

- The use of amber, rotating or flashing lights shall only be used in accordance with the requirements of the National Road Traffic Act , (Act no 93 of 1996)
(Reference: Regulation 176 substituted by regulation 48 of Government Notice R846 in Government Gazette 38142 dated 31 October 2014 – See Annexure G (Requirements for identification lamps)
- No construction vehicle is allowed to use the amber light whilst driving on a public road.
- The construction vehicles fitted with amber rotating lights must have a manual operated switch. The amber rotating lights must be switched off when the construction vehicle enters a public road.

Interaction between Mobile Machinery and Pedestrians

The Contractor must take reasonably practicable measures to ensure that pedestrians are prevented from being injured as a result of being run-over by construction vehicles and or mobile machinery.

Such measures must include at least the following:

- Spotters;
- Separate walkways;
- Risk Assessment & Monitoring Plan;
- Access control;
- Transporting employees to site and to office;
- Traffic Management Plan & Site Layout Plan; and
- Awareness training.

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Interaction between Mobile Machinery

The Contractor must take reasonably practicable measures to prevent collisions between two construction vehicles and mobile machines.

Such measures must include:

- Spotters;
- Designated one-directional (one way in, another way out) travelling route;
- Where not possible for one-directional travel, the road will be split in two with a dividing berm between the two lanes of a minimum height of between 1.0m;
- Effective and visible road signage in compliance with the Road Traffic Act 93 of 1996 and Road Note 13 (Road Construction works);
- Designated speed limits;
- Haul road width of no less than 15m wide;
- SABS approved safety belts to be used for all Construction vehicles and mobile machinery. If no safety belts were installed when purchasing the vehicles or machine, safety belts shall be retro-fitted according to SABS standards prior to be put into use.
- A Traffic Management risk assessment and risk mitigating plan;
- A detailed Traffic Management Plan;
- Awareness training for all operators.

In the event where no action is taken to prevent potential collisions, further means shall be provided to retard the mobile machinery to a safe speed where after the brakes of the mobile machinery are automatically applied. The prevent-potential-collision-system on the mobile machinery must "fail to safe" without human intervention.

Note: The Contractor shall ensure that no mobile machinery runs out of control.

Capsizing of Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that persons are prevented from being injured as a result of overturning of any mobile machinery. Roll overprotection structures must be fitted on mobile machinery if required in terms of the Contractor risk assessment.

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Persons Inadvertently Falling Out Of or Being Ejected From Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that persons are prevented from being injured as a result of operators inadvertently falling out of or being ejected from any mobile machinery in motion.

Braking Systems

The Contractor must take reasonably practicable measures to ensure that persons are prevented from being injured as a result of brake failure. Such measures must include ensuring:

- That Mobile Machinery are operated with adequate and effective braking systems;
- All braking systems are adequately and routinely tested for intended functionality;
- All braking systems are regularly maintained; and
- That where a combined braking system is used, the design of the braking system is such that it complies with the requirements for the separate systems and that it fails to safe.

Note 1: The Contractor shall submit the methodology for testing of all Mobile Machinery brakes to the Project Manager for acceptance and monitoring of compliance.

For instance, brakes tested on the ramp for machines/vehicles with a clutch:

- The park/emergency brakes of these vehicles (LDVs) are tested by selecting neutral, then engaging the brake - the machine/vehicle should not move.
- To test the service brake, engage neutral, depress the service brake pedal and release the park/emergency brake - the machine/vehicle should not move.

Furthermore the park TMM for Static Brake on Ramp Incline shall be done as follows, at the break test ramp:

- Park the TMM on the brake test ramp's uphill gradient.
- Fully engage the park brake of TMM. Where applicable observe that the park brake light comes on.

It is the Contractors responsibility to ensure that a sound ramp is built and maintained to safeguard the operator and the TMM.

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The TMM brake effectiveness may be tested as per the manufacturer's instructions and in such an instance the procedure mentioned above (Item 23) will not apply. Where a Contractor is following the manufacturer's instruction a written proof from the said manufacturer is required detailing the acceptable brake testing procedure.

Note 2: The Contractor shall ensure compliance to the latest revision of SAN Standard: 1589-1.

Note 3: The Mines Health Safety Act will apply where the contractor does not have any sufficient legislative measures in place to address this aspect of the mobile equipment.

Restricted Operator Visibility

The Contractor must take reasonably practicable measures to ensure that persons are prevented from being injured as a result of restricted operator visibility.

Fatigue While Operating a Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that persons are prevented from being injured as a result of fatigue of operators. Such measures must include a fatigue management procedure for operators.

Diesel Refuelling Facilities

The Contractor must take reasonably practicable measures to ensure that diesel refuelling facilities are ergonomically designed, constructed and equipped with the following:

- Adequate through ventilation;
- Adequate fire suppression equipment;
- Effective provisions to cater for oil and diesel spillages; and
- Appropriate and adequate lighting.
- Surface diesel refuelling facilities are in accordance with:
 - SANS 10089-1: The Petroleum Industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations;
 - SANS 10089-2 (2007): The Petroleum Industry Part 2: Electrical and other installations in the distribution and marketing sector; and
 - SANS 10131: Above-ground Storage Tanks for Petroleum Products
- Potential Impacts:
 - Release of contaminated water from contact with spilt chemicals;
 - Fuel source for on-site fires; and

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- Generation of contaminated wastes from used chemical containers.
- Controls:
 - The storage of flammable and combustible liquids such as oils will comply with all relevant legislation and regulations;
 - Any spills will be rendered harmless and arrangements made for appropriate collection and disposal including cleaning materials, absorbents and contaminated soils;
 - Ensure that spill kits are available on site to clean up spills and leaks;
 - Obtain any storage and disposal permits/approvals necessary and comply with the conditions attached to such permits and approvals;
 - Ensure that any delivery drivers are appropriately supervised by an individual familiar with all procedures and restrictions on site. This is of particular importance during off and on-loading of materials;
 - Ensure that only designated areas are used for the handling or storage of mining and construction materials;
 - All materials must be stored at one location, to be approved by the ECO and EO;
 - The Contractor must comply with all national, regional and local legislation with regard to the storage, transport, use and disposal of chemicals, harmful and hazardous substances and materials;
 - The Contractor will furthermore be responsible for the training and education of all personnel on site who must be handling the material about its proper use, handling and disposal as well as spill response;
 - The Contractor must be responsible for establishing an emergency procedure for dealing with spills;
 - Storage of all hazardous materials is to be safe, tamper proof and under strict control;
 - Fuels, solvent and other wastes must be stored in vessels equipped with secondary containment structures and must be moved from the mining and construction areas being disposed of in compliance with the relevant legislation and regulations;
 - Hazardous products must otherwise be stored on adequately bunded surfaces in the designated hazardous material storage areas;
 - All manufactured and/or imported materials must be stored in an appropriate manner in the construction camp. Depending of the type of material, storage areas will be roofed with impervious material (e.g. cement and chemicals);

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- Fluids must not be stored together with solids; instead fuels, lubricants, transmission and hydraulic Separate material delivery and storage, and lay-down areas must be demarcated as needed;
- All material storage areas must be sited away from ecologically sensitive areas;
- Fluids must be stored in a designated area for fluids;
- Hazardous chemicals used during construction must be stored in secondary containers. The relevant Material Safety Data Sheets (MSDS) must be available on site;
- The Contractor must provide adequate and approved facilities for the storage and recycling of used oil and contaminated hydrocarbons. Such facilities must be designed and situated with the intention of preventing pollution of the surrounding area and environment;
- Identify and maintain a register of all activities that involve the handling of potentially hazardous substances, as well as devise and supervise the implementation of protocols for the handling of these substances. This will include all fuels, oils, lubricants and grease;
- Ensure that all hazardous substances are handled in accordance with the manufacturer's specifications and legal requirements; and
- Store all hazardous substances (including oils, fuels, chemicals, tar etc.) in a manner prescribed in the relevant Acts and Regulations.
- General Requirements:
 - All legal compliance requirements with respect to fuel storage and dispensing must be met;
 - All fuel storage tanks (temporary or permanent) and associated facilities must be designed and installed in accordance with the relevant oil industry standards, SANS codes and other relevant requirements;
 - The Contractor must ensure that all liquid fuels and oils are stored in tanks with lids, which are kept firmly shut and under lock and key at all times;
 - Areas for storage of fuels and other flammable materials must comply with standard fire safety regulations and will require the **approval of the Municipal Fire Prevention Officer** and the Kendal PS Fire Department;
 - Flammable fuel and gas must be well separated from all welding workshops, assembly plants and loading bays where ignition of gas by an accidental spark may cause an explosion or fire;
 - The tank must be erected at a safe distance from buildings, boundaries, welding sites and workshops and any other combustible or flammable materials;

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- Symbolic safety signs depicting “No Smoking”, “No Naked Flames” and “Danger” are to be prominently displayed in and around the fuel storage area;
- The capacity of the tank must be clearly displayed and the product contained within the tank clearly identified;
- There must be adequate fire-fighting equipment at the fuel storage and dispensing area or areas
- The storage tank must be removed on completion of the construction phase of the project;
- All such tanks to be designed and constructed in accordance with a recognised code (SABS and International Standard);
- The rated capacity of tanks must provide sufficient capacity to permit expansion of the product contained therein by the rise in temperature during storage;
- Tanks must be situated in a bunded area, the volume of which must be at least 110% of the proposed volume of the tank;
- The floor of the bunded area must be smooth and impermeable, constructed of concrete or plastic sheeting with impermeable joints with a layer of sand over to prevent perishing. The floor of the bunded area will be sloped towards an oil trap or sump to enable any spilled fuel and/or fuel - soaked water to be removed;
- Any water that collects in the bund must not be allowed to stand and must be removed and the hydrocarbon digestion agent within must be replenished;
- Only empty and externally clean tanks may be stored on the bare ground. All empty and externally dirty tanks must be sealed and stored on an area where the ground has been protected;
- Any electrical or petrol driven pump must be equipped and positioned so as not to cause any danger of ignition of the product;
- If fuel is dispensed from 200 litre drums, the proper dispensing equipment must be used
- The drum must not be tipped in order to dispense fuel. The dispensing mechanism of the fuel storage tank must be stored in a waterproof container when not in use;
- All waste fuel and chemical impregnated rags must be stored in leak proof containers and disposed of at an approved hazardous waste site;
- The amounts of fuel and chemicals stored on site will be minimised; and
- Storage sites will be provided with bunds to contain any spilled liquids and materials.

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- Maintenance:
 - Regular inspections will be carried out to detect leaks and spillages. All storage facilities will be maintained as regularly as is necessary to ensure they meet the original specification. Inspections will be carried out on a weekly and/or monthly basis by the ECO and EO; and
 - All equipment that leak oil or fuel must be repaired immediately or removed from the construction site.

Corrective Actions:

Absorbent material must be available at tanks to absorb any spills.

Wheels, Tyres and Rims

The Contractor must take reasonably practicable measures to ensure that procedures are prepared and implemented to prevent persons from being injured as a result of the use, storage and handling of wheels, tyres and rims.

Access of Persons to and From Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that mobile machinery are designed, constructed and maintained such that persons getting on and off, or working on them can do so safely.

Visibility of Mobile Machinery, Skid Mounted Machinery and Trailers to Persons

The Contractor must take reasonably practicable measures to ensure that TMM, skid mounted machinery and trailers are visible to persons in their vicinity.

Unauthorised Access to or Operation of Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that unauthorised persons do not ride on or operate mobile machinery.

Isolation and Lock-Out of Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that procedures are prepared and implemented for the safe isolation and lockout of mobile machinery.

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Operating Procedures

The Contractor must take reasonably practicable measures to ensure that procedures are prepared and implemented for the safe operation of mobile machinery.

Maintenance Standards and Procedures for Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that procedures and standards are prepared and implemented for maintaining mobile machinery in a safe operating condition.

Trailers

The Contractor must take reasonably practicable measures to ensure that:

- The design and construction of any trailer is in accordance with specifications approved by a competent person, which specifications must take into account the intended use of the trailer;
- The design and construction of trailer coupling and uncoupling mechanisms is such that coupling and uncoupling can be done safely and that no inadvertent uncoupling of the trailer can take place; and
- Procedures are prepared and implemented for the safe operation of trailers.

Towing and Recovery of Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that procedures are prepared and implemented for the safe recovery and towing of mobile machinery. No chains or ropes may be utilized for the recovery or towing of Mobile Machinery.

Roadway Conditions

The Contractor must take reasonably practicable measures to ensure that the design, construction and maintenance of roadways are appropriate for the type and category of mobile machinery.

Selection, Training, Appointment and Licensing of Mobile Machinery Operators

The Contractor must take reasonably practicable measures to ensure that procedures are prepared and implemented for the selection, training, appointment and licensing of mobile machine operators, which procedures must include:

- Physical and psychological pre-selection criteria;

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- Training programme for mobile machinery operators, covering:
- Theoretical training in a training Centre;
- Practical training; and
- On the job training.
- Assessment of the trainee, on successful completion of the training programme, by a competent person;
- Authorization of the competent operator, in writing by the responsible engineer, to operate mobile machinery;
- Authorization of the appointed operator, in writing by their supervisor, to operate mobile machinery. Such authorization must detail their duties, responsibilities, limitations and areas of operation.
- When an operator has not operated mobile machinery for a period of two years, such operator is re-assessed to be competent by a competent person prior to being issued with a new license.
- That every operator of mobile machinery is issued with a license containing at least the following:
 - Photograph to positively identify the operator;
 - The mobile machinery types which the operator may operate;
 - Date of issue and expiry date; and
 - The operator's company identification number.

Pre-Use Inspection Procedures for Mobile Machinery

The Contractor must take reasonably practicable measures to ensure that procedures are prepared and implemented for inspecting mobile machinery immediately prior to use, which procedures must include:

- That the operator of the mobile machinery physically inspects and ensures that the brakes, lights and any other defined safety features and devices are functioning as intended prior to setting such mobile machinery in motion; and
- Pre-use check lists that have to be completed by all operators of mobile machinery at the beginning of their shift. Such check lists must clearly identify all the components, features and functionalities to be inspected by the operator. For each component, feature or functionality, the check list must clearly indicate the pre-established criteria under which the mobile machinery may or may not be put in motion.

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Reversing Over the Edge of a Stockpile or Embankment

The Contractor must take reasonably practicable measures to prevent any mobile machinery reversing over the edge of a stockpile or dump.

Inadvertent Movement of the Mobile Machinery

The Contractor must take reasonably practicable measures to prevent inadvertent movement of any mobile machinery whilst parked.

Mandatory Carrying of Licensing for Mobile Machinery

All operators of mobile machinery must have their originally issued license on their person whilst operating any mobile machinery.

43. Housekeeping

The *Principal Contractor* and his sub-contractor shall maintain a high standard of housekeeping within the site. Prompt disposal of waste materials, scrap and rubbish is essential. Stipulate as to whether waste separation and removal is for the account of the *Principal Contractor*.

The Contractor will ensure that daily housekeeping is done.

Adequate care must be taken by the Contractor to ensure that storage and stacking is correctly and safely carried out.

Before stacking any material, the Contractor, sub-contractor or their employees must consult the Eskom Project/site Manager for allocation of a stacking area.

Materials/objects shall not be left unsecured in elevated areas –falling objects may cause serious injuries/fatalities.

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

All packaging material including boxes, pallets, crates, etc. to be removed from the work area immediately.

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Meal rooms shall be kept in a clean and tidy manner.

On completion of his work, the contractor is responsible for clearing his work area of all materials, scrap, temporary buildings and building bases to the satisfaction of the Client Agent/Manager/Practitioner.

In cases where an inadequate standard of housekeeping has developed, compromising safety and cleanliness, anyone has the responsibility to bring it to the attention of the Eskom Project/Site Manager. The Eskom Project/Site Manager has the right to instruct the *Principal Contractor* and his sub-contractor to cease work until the area has been tidied up and made safe. Neither additional costs nor extension of time to the Contract shall be allowed as a result of such a stoppage. Failure to comply will result in site cleaning by another cleaning contractor company at the cost of the *Principal Contractor*.

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

44. Signage

All symbolic safety signs that the *Principal Contractor* or his /her *Contractors* are to use/display shall comply with the requirements of SANS 1186.

The display of the following signage is mandatory:

- For *Contractors* with Site Establishment: The Contractor Company sign must be posted at their site offices to reflect the name and contact details of the: Construction Manager, Construction Supervisor; Health and Safety Manager/Practitioner; First Aider; Health and Safety Representative, Evacuation warden and the Construction Works Permit Number.
- 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
- The *Contractors* shall provide the signage in accordance with the scope and work area.
- The contractor shall provide signage in accordance with the EMP requirements.

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45. Hazardous Materials/Chemicals Management

HCS shall be managed in accordance with HCS Regulations of the OHS Act 85 OF 1993.

Prior to any HCS being brought onto the site or produced on the site, the *Principal Contractor*/contractor shall supply the client with the following:

- Material Safety Data Sheets (MSDS) in accordance with the requirements of the OHS Act –
- Regulations for Hazardous Chemical Substances;
- Proposed arrangements for safe storage;
- Proposed methods for handling/usage;
- Proposed method of disposal;
- Hazard communication / training plan.

The information is to be provided prior to the expected delivery on site. The client representative shall approve the use of any hazardous substance after receiving the above information. No HCS are to be brought onto the site until the client representative approval is received.

46. Flammable and Combustible Liquids

Use and temporary storage of flammable and combustible liquids shall be managed in accordance with Construction Regulations (CR 25) and GSR 4 of the OHS Act 85 OF 1993.

Proposals to store fuel on site must have written approval from the Eskom *Project Manager*. The volumes of fuel allowed to be stored will depend on site conditions and Statutory Regulations.

Proper bund walls and signage indicating the volume it can take +/- 10%

47. Explosives

If applicable on the Project – the following will apply:

Explosives shall not be brought onto the site or be used without the express permission of the relevant Eskom Project/Site Manager. Explosives or detonators shall not be stored on the site.

Detonators and other explosives shall never be carried in the same box.

The provisions of all relevant Acts and Regulations shall be strictly observed.

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48. Compressed Gas Cylinders

Use and temporary storage of Compressed Gas Cylinders shall be managed in accordance with the Pressure Equipment Regulations of the OHS Act 85 of 1993 and SANS 10263-2:2008.

49. Personal Protective Equipment (PPE)

In terms of Section 8 of the OHS Act, the duty of the employer is to take steps to eliminate or mitigate (hierarchy of control measures) any hazard or potential hazard to the safety or health of employees before resorting to PPE.

Principal Contractor's employees and his contractor employees at the construction site, including visitors, shall use the relevant internationally recognised authority approved risk based PPE at all times, as a minimum:

- Head protection hard hat (with chin straps), with a sun brim. The *Principal Contractor* to supply sun screens cream to all employees.



Picture 1: Sun brim

- Steel toe capped safety boots.
- Eye protection. Wearing of foam padded dust, sand and wind proof spectacles with side shields as per examples in **picture 2, 3 and 4.**



Picture 2: Foam padded dust, sand and wind proof safety glasses

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Picture 3: Anti-UV (dark) safety glasses (Dust, wind and sand proof).

Anti-UV (dark) dust, wind and sand proof safety glasses will be allowed on the project due to the work activities that is happening in sunlight.

Clear safety glasses will apply at night time (17H00 – 07H00) and where the risk of illumination is addressed. When Mechanical, C&I and Electrical works are executed clear safety goggles will be required.



Picture 4: High quality safety glasses (Dust, wind and sand proof).

- Long pants protective clothing (with reflective strips sowed on) to be worn by all employees working on the Project. Short sleeves shirts with a long sleeve breathable reflective vest can be worn by all employees working on the Project.

For Mechanical, Electrical and C&I work long sleeve jackets (Overall jackets) with reflective strips sowed on to be worn.

Supervisors / Managers that are doing observations and inspections do not need to have long sleeve jackets on during the Mechanical, C&I, Electrical and Civil works. If the risk changes, compliance will apply.

For all electrical work conducted in switchgear rooms, protective overalls with a minimum Cal value of 8 shall be worn;

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- Long sleeve, breathable High-visibility vests;



Picture 5: Long sleeve breathable reflective vest.

- Hearing protection as determined by the *Contractor's* noise assessment and Health Risk Assessment; and
- Dust masks (FFP2 or FFP5)



Picture 5: FFP2 dust mask



Picture 6: FFP5 dust mask

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- Refer to Eskom Personal Protective Equipment Specification (240-44175132, latest revision). This specification applies to all activities where PPE is required. It sets out Eskom's minimum PPE requirement to be met by *Contractors* with the exclusion of the requirements stipulated with regard to the Eskom Corporate Identity.

The Contractor shall ensure that his employees understand why the personal protective equipment is necessary and that they use them correctly.

Strict non-compliance measures must be administered to any employee not complying with the use of PPE and that employee shall be removed from the Site.

49.1 Issue, Replacement and Control of PPE

The *Principal Contractor* must provide a detailed procedure with a matrix on the issuing, maintenance and replacement of PPE for all his employees and *Contractors* on site.

The *Principal Contractor* is required to keep an updated register of all PPE issued, including that of his employees and *Contractors*.

50. Machinery, Tools and Equipment

- The Contractor shall ensure that all machinery, tools and equipment are identified, safe to be used and are maintained in a good condition.
- All machines driven by means of belts, gear wheels, chains and couplings shall be adequately guarded. A machine is guarded when persons cannot gain inadvertent access to the moving parts.
- The *Principal Contractor* shall ensure that all machinery, tools and equipment shall be listed on an inventory list and handed to security with a copy kept on site.
- All machinery, tools and equipment to be regularly inspected at least monthly or as required by legislation and risk assessments, registers of tools shall be kept on the safety file. The equipment should be numbered or tagged so that it can be properly monitored and inspected.
- All machinery, tools and equipment shall have the necessary approved test or calibration documentation where applicable prior to being brought onto the premises and the records shall form part of the SHE plan and file.
- All fuel driven equipment shall be inspected by the Eskom SHE Practitioners prior to mobilizing it onto site.

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- All fuel driven equipment shall be properly maintained in accordance with the manufacturer's recommendations and legal requirements.
- The Client reserves the right to inspect items of plant or equipment brought to site by the Contractor for use on this Contract. Should the Client find that any item is inadequate, faulty, unsafe or in any other way unsuitable for the safe and satisfactory execution of the work for which it is intended, the Client/Agent shall advise the *Principal Contractor* in writing and the *Principal Contractor* shall forthwith remove the item from the site and replace it with a safe and adequate substitute. In such cases, the *Principal Contractor* shall not be entitled to extra payments or extensions of time in respect of delay caused by the Client's instructions.
- The *Principal Contractor*/contractor shall ensure that he has all the necessary registers to record all tools and equipment kept in the SHE File.
- All employees operating or using machines and tools shall:
 - Be competent.
 - Have a valid certificate.
 - Have proof of any form of task related training.

51. Machine Guarding

An assessment should be conducted in writing to ensure that all machines and tools are fitted with a guard and the assessment should be kept in the safety file.

All guards shall be inspected by a competent person on a monthly basis as well as by users prior to use. These inspections and proof of corrective action taken must be recorded and kept on site.

Record keeping

- A register shall be used which indicate the name, number of the machine or tool and the number of guards.
- The register shall be kept in the safety file.

52. Hand Tools and Pneumatic Tools

All pneumatic tools shall be numbered, recorded and inspected at least monthly as well as by users prior to use. The revolutions per minute measured shall be in accordance with the manufacturer specifications.

All hand tools should be inspected at least weekly as well as by users prior to use.

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Tools with sharp points in tool boxes must be protected with a cover.

All files and similar tools must be fitted with handles.

The *Principal Contractor* shall have a policy on makeshift tools on site.

Records

- Check list for hand tools
- Check list for air tools including records of the measurement of revolutions on grinders
- Gas cylinder trolley checklist Register.

53. Boilers, Pressurised Systems and Pressure Equipment

The *Principal Contractor* shall ensure that all pressure equipment's are inspected by an Approved Inspection Authority in accordance with the Pressure Equipment Regulations 7.

All pressure equipment shall be provided with at least one safety valve and such safety valve should be kept locked or sealed in accordance with the Pressure Equipment Regulations 10.

The pressure equipment shall be provided with a manufacturer's plate in accordance with the Pressure Equipment Regulations 9.

The pressure equipment should be fitted with a pressure gauge in Pascal and the maximum permissible operation pressure marked with a red line on the dial.

Records

- Inspection registers for pressure vessel
- The certificate from the manufacturers
- Registration certificate of an Approved Inspection Authority.

54. Explosive Actuated Fastening Device

- Written permission to use these tools on site must be obtained by the Eskom Project/Site Manager.
- Only certified, competent, appointed personnel (CR. Reg. 21 (1) (b)) are allowed to operate explosive powered tools on site.
- A valid permit must be obtained before commencement of work.

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- Safety signs and barriers must be erected before explosive power tools are used.
- A protective guard around the muzzle shall be provided.
- Cartridges and explosive power tools to be stored separately and properly controlled by an appointed competent person.
- Refer to the requirements of the Construction Regulation 21 of the OHS Act.

Records

- Register for the issue and return of cartridges.

55. Lifting Machines and Lifting Tackle

(Mobile Cranes, Crawler Cranes, Tower Cranes, Chain Blocks and Lever Hoists)

- The *Principal Contractor* shall ensure that the use of lifting machines and tackles conform to the requirements of the OHS Act, the relevant SANS standards and Eskom Procedure 39-98 (Safe use of Lifting machines and lifting tackle).
- A risk assessment shall be conducted prior to commencing with the task to identify the risk involved and appropriate mitigation measures must be put in place, and a method statement shall accompany the risk assessment detailing the lifting or rigging procedure.
- If it is the *Principal Contractor's* intention to use lifting machines on site, it should be indicated in the *Principal Contractor's* SHE plan as well as the inspection so that the Eskom Project/Site Manager can conduct an inspection when equipment is brought onto site. If his/her intention is to use a contractor he shall enter the name of the contractor into the notification letter to the Department of Labour. When equipment is brought onto site it shall be inspected by the contractor crane coordinator as appointed according to SANS 12840-3 clause 4.1 and clause 5.9.
- The *Principal Contractor* shall ensure that every lifting machine as listed in the National Code of Practice is operated by an operator specifically trained for a particular type of lifting machine and the operator shall be in possession of a valid permit (although the code of Practice has been withdrawn, *Contractors* shall use it as a guideline). The user shall not require or permit any person to operate such a lifting machine unless the operator is in possession of a certificate of training, issued by a service provider registered by the Department of Labour and TETA.
- The facilitator and the assessor must be registered with the TETA.

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- Whenever making use of an external contractor to do lifting work the *Principal Contractor* shall ensure that the operator is competent and if the *Principal Contractor* is satisfied with the operator's competency after looking at his portfolio he/she should issue a temporary permit to the operator, and *Contractors* are required to conduct audits to ensure that the contractor complies with all safety and legal requirements.
- The *Principal Contractor* should verify if all ropes, chains, hooks and other attaching devices, sheaves, brakes and safety devices forming an integral part of lifting machines have been thoroughly examined, as prescribed by the standard to which the lifting machine was manufactured. This must be carried out by a registered LMI (Lifting Machine Inspector), appointed by a registered Lifting Machine Entity who has knowledge of the erection and maintenance of the type of lifting machine involved at intervals not exceeding six months.
- All the lifting machine and lifting tackle operators should be in a possession of a medical certificate of fitness.
- Before using any lifting machines or tackle the operator should inspect it daily, refer to the requirements of the Driven Machinery Regulations 18 of the OHS Act 85 of 1993.
- All lifting machines shall be examined and subjected to a performance test by an accredited person/company at intervals not exceeding 12 months, in accordance with SANS 19.
- All lifting tackle should be examined at intervals not exceeding 3 months by a competent lifting tackle inspector, who shall record and sign of such examination, such lifting tackle shall be stored or protected so as to prevent damage or deterioration when not in use. Refer to the requirements of the Driven Machinery Regulation 18 and Construction Regulation 19 and 22 of the OHS Act, SANS and ISO standards.
- All lifting tackle should be recorded on a register, refer to the requirements of the Driven Machinery Regulations 18 of the OHS Act 85 of 1993.
- All hooks shall be fitted with a safety latch/catch, and be in a good operational condition.
- A lock out system should be implemented to ensure that only an operator that is competent can operate lifting machines and fork lifts.
- All lifting tackle should be conspicuously and clearly marked with identification particulars and the safe working load (SWL) which it is designed for.
- No person shall be raised or supported by means of a lifting machine unless such a machine is fitted with a cradle approved for that purpose by an inspector of the Department of Labour.
- A risk assessment should be conducted prior to starting the task:

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- Account should be taken of wind forces. Lifting machines are erected taking into account a safe distance from excavations, and with the erection of tower cranes, a tower crane application accompanied by a method statement, risk assessment and geotechnical study shall be given to the engineer for approval.
- When working in close proximity to power lines, the contractor must apply for a permit. Refer to Eskom Plant Safety Regulations and/or Operating Regulations for High Voltage Systems and Electrical Machinery Regulation 15 of the OHS Act.
- Every employer shall ensure that the employee is adequately and comprehensively informed of the hazards when working in close proximity to overhead power lines and electrical installations
- Account should be taken of the bearing capacity of the ground, on which the tower crane is to stand, and the tower crane should be erected at a distance from excavations.
- Rigging study should be conducted for all critical lifts.
- *Principal Contractors* and their employees shall keep out from under suspended loads, including excavators, and between a load and a solid object where they might be crushed if the load should swing or fall. They shall not pass or work under the boom or any crane or excavator or barricading.
- Guide ropes to be used to prevent loads from swinging. (Manila ropes)
- Only loads of up to 5ton can be lifted by a person with basic rigging, depending on the complexity of the load. If it's a tandem lift or a complicated lift only a qualified rigger will do such lifts. Above 5Ton a qualified Rigger with a red seal will conduct all the lifts, and should the lift become critical a critical lift procedure will be completed accompanied by a rigging study and risk assessments.
- Hand signals will be displayed and visible on all cranes and the SANS 1029 standard must be used to ensure uniformity. All the crane operators, riggers shall be trained according to the SANS 1029.
- Permits shall be issued by an authorised appointed person when conducting maintenance and inspections.
- An illumination survey should be conducted prior to the start of work where lifting is performed at night.
- Tower Cranes should be earthed in accordance with SANS12480 and this includes crawler cranes.
- All truck mounted cranes and stringing machines shall be fitted with Equal Potential Foot plates when working in close proximity of power lines.

Record keeping

- Record books and test certificates of lifting machined and tackle should be kept on the safety file on site.
- A copy of the Site and Task specific risk assessment should be kept on the safety file

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- The *Principal Contractor* shall provide maintenance records of all Cranes (Mobile, Tower, Crawler and Overhead Gantry) to Eskom before the equipment is allowed to operate on the site.
- A certificate of approval for man cages and mobile working platforms shall be obtained from the Department of Labour Inspector.
- Register of all lifting machines and tackle on site (For inspection purposes).
- Training certificates and certificates of fitness for operators of the equipment.
- Legal appointments for riggers, supervisors, crane co-ordinators and operators.
- The *Principal Contractor* shall provide an emergency rescue plan to Eskom for all tower cranes and man-cages.

56. Fire Safety

The *Principal Contractor/Contractor* shall develop a fire safety procedure for the specific construction site prior to commencing work. The procedure must take into consideration the size of the site, type of work being done (e.g. cutting, welding, grinding, etc.) and amount of combustible materials. It must be developed in accordance with the hot work permit of the Eskom Plant Safety Regulations, Eskom Fire Risk Management requirements and all other applicable Regulations. All workers entering and working in the construction site need to be trained in fire safety and any duties they are required to perform. Pre-existing fire systems in buildings shall be maintained during construction whenever possible. Any changes must be approved by the Client.

56.1 Fire Safety Plan

The fire safety plan shall include:

- The designation and organization of site personnel to carry out fire safety duties, including fire watch
- Service if applicable.
- The emergency procedures to be used in the case of fire, including.
- Sounding the fire alarm.
- Notifying the fire department
- Instructing site personnel
- Firefighting procedures
- And integrating with existing emergency procedures.
- The control of fire hazards in and around the building.

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- Maintenance of firefighting facilities.

56.2 Fire Alarm Systems Shut Downs

Contractors must inform the Client in writing 7 days prior to any part of a fire system being shut down.

56.3 Alternate Procedures

When required by the Client, *Contractors* will develop alternative procedures to follow during a fire alarm shutdown.

56.4 Cutting, Welding, and Hot Work

Prior to cutting or coring of concrete suspended slabs, cast in place or pre-cast walls, slab on grade the contractor must either X-ray the slab or if X-ray is not feasible provide other approved alternate method for determining live electrical concealed in slab or walls. Signage shall be posted to ensure no one enters the affected area during X-raying.

When welding or cutting work is performed, an adequate number of approved fire extinguishers shall be provided by the contractor. The contractor shall provide a thirty minute fire watch after the operations has ended to ensure that no fire starts.

- Hot work permit must be displayed.
- Employee must be competent.
- All oxy-acetylene welding equipment shall be fitted with a flash back arrestor
- All oxy-acetylene pipes must be clamped with the correct parallel hose clamps to separate it in an emergency.

56.5 Eskom Fire Safety Guidelines

56.5.1 Fire Systems

Fire systems must not be impaired in an occupied building unless by a trained and SAQCC registered person, capable of reinstating the system after it has been inspected, tested or maintained. Alternative procedures may be taken to ensure that all persons in the building can be informed promptly should a fire occur, and the Fire Department including Eskom Security is notified.

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Installation of fire systems should be carried out by an ASIB (Automatic Sprinkler Inspection Bureau) certified person.

56.5.2 Construction Sites

- Fire Safety Plan: Prior to the commencement of construction or building alterations, a fire safety plan and risk assessment shall be prepared for the construction site.
- Fire Warning: A suitable means of alerting site personnel to a fire shall be provided, and capable of being heard in all areas of the building.
- Portable Extinguishers: suitable extinguishers must be available on the construction site and in cases of hot work, be readily available at the location.
- Servicing of fire extinguishers should be carried out by a SAQCC certified person.
- Fire extinguishers should be maintained in accordance with the SANS codes.
- Combustible Liquid and Flammable Liquid Storage: storage of combustible and flammable liquid on the construction site is not permitted unless stored in approved flammable cabinets or outdoors away from the buildings.
- Fire Watch: fire watch (with tours at intervals of not more than one hour apart) shall be provided when a portion of a building is occupied while construction operations are taking place, with provision for the fire watch to sound the alarm, notify the Fire Department and Eskom Security, (except where the building and construction sites are provided with a fire alarm system or similar equipment acceptable to the Manager, Occupational Health and Safety)
- Smoking Restrictions: Smoking is not permitted indoors, at entrances to buildings or near air intake systems in accordance with Eskom Policy and legislation requirements.
- All sites shall be fitted with an alarm system.

57. Offices and Camp sites

- *Contractors* must develop a fire safety procedure for the office / camp site buildings, which must meet the requirements of the local authority fire department and the OHS Act Environmental regulations for workplaces, regulation 9.
- The fire plan must include emergency escape routes, supply of appropriate fire extinguishing equipment, appropriate signage, maintenance of the extinguishing equipment, location of the equipment, appointments of fire officials.

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- The storage of flammable substances within offices / camp site is prohibited. Such storage shall be done in the appropriate flammable liquid storage facilities located away from buildings.
- A suitable fire warning system for alerting office personnel to a fire shall be provided, and capable of being heard in all areas of the building.
- Smoking is not permitted indoors, at entrances to buildings or near air intake systems in accordance with the Tobacco Control Act and Eskom Policy and legislation requirements.

58. Barricading (Guarding of Excavations, Trenches and Floor Openings)

In areas where the restriction or prevention of unauthorised persons/members of public/passers-by is required, barricading requirements shall be adhered to.

Requirements for Barricading (if risk assessments require more stringent mitigation measures than those stringent measures shall apply): -

- Name and contact detail of person and Contractor Company that is responsible for the barricading shall be posted on the actual barricading.
- All barricading shall be of the rigid type.
- All openings and edges must be barricaded with solid barricading to withstand an impact of at least 200 kg.
- Only solid (scaffolding or stand-alone) barricading with Orange "Snow Netting" will be allowed.
- Ballard container (containers filled with liquid) can be used as solid barricading (exempted for use inside power plant units).
- Physical barriers to prevent persons falling into openings in floors, stairwells, staircases, open-sided buildings and any structure in the course of erection, where dangerous openings exist.
- *Contractors* must pre-plan the delivery of floor grating, stair treads, landings and handrails to ensure safe access and protection for persons working on structures.

No danger tapes are allowed for barricading purposes.

The *Contractors* barricading standard must accompany the SHE plan.

59. Electrical Installations and Machinery on Construction sites

The *Principal Contractor* shall ensure that electrical installations and machinery on construction sites conform to the requirements of the OHS Act and the relevant SANS standards.

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Before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of, and guard against, danger to workers from any electrical cable or apparatus which is under, over or on the site;

The *Principal Contractor* shall ensure that all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;

The control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;

All temporary electrical installations used by the contractor are inspected at least once a week. This must be done by a competent person and the inspection findings must be recorded in a register that's kept on the construction site; and a Certificate of Compliance (CoC) must be issued by a competent person for each installation.

All electrical machinery is inspected by the authorised operator or user on a daily basis.

The person inspecting the electrical machinery must use the relevant checklist when conducting the inspection. He must also record the findings and keep the register on the construction site.

60. Permit to Work

Contractors must adhere to the approved Eskom Permit to Work System to control identified high risk activities. There will be only one Permit to Work system (Eskom) on the construction site.

If the type of work requires a permit, then *Contractors* must be trained, competence assessed and authorised in writing to perform the duties of an authorised or responsible person as contemplated in the applicable Eskom regulations e.g.

- Operating Regulations for High Voltage Systems.
- Plant Safety Regulations.
- Pulverised Fuel firing regulations.
- Hot work.
- Radiation.
- Confined space work.

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The Client is to provide more details on the permit to work system for the specific work to be conducted by the *Principal Contractor*.

61. Radiography, Ultrasonic, Non-Destructive Testing (NDT)

The Contractor carrying out radiography, ultrasonic or other non-destructive testing (NDT) on the site must comply with the requirements of the relevant legislation, codes of practice and any other applicable Client requirements.

In particular, the Contractor shall ensure that:

- No radioactive sources may be brought onto site without prior written consent of the Client Agent/Manager.
- At least one day in advance the Client Agent/Manager will be notified so that arrangements with Kendal RPO can be done. The RPO will avail himself to inspect the radiation vehicles and sources. If the company do not comply with the requirements, access will not be granted. If they comply the RPO will grant them access.
- The contractors take special care when radiation (density test) is done and ensure that people are informed and cleared from the area.
- 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.
- No radiation sources will be stored on site inside containers. It can only be stored if permission was granted by the RPO and suitable signs are erected and a suitable storage area has been identified. All employees need to be informed of the sources that will be stored on site and strict access to the area will be maintained.
- Radiography areas are clearly identified by the erection of suitable barriers, sirens, warning notices and / or flashing lights. Vehicles transporting radioactive materials/isotopes shall be clearly identified.
- Radiation operators must submit proof of certification.
- Sources must be stored according to legal requirements.
- All *Contractors* must be informed of X-ray activities.
- X-ray work may only commence with a valid permit to work.

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Refer to requirements in:

- Eskom Standard: Radioactive sources for non-nuclear stations
- 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.

62. Excavations, Trenches and Floor Openings

- A contractor shall ensure that all excavation work is done in accordance with the requirements of Construction Regulation 13 of the OHS Act.
- Digging, excavation, or driving a peg, pile or spike into the ground operations by the Contractor may not commence without the written authorisation from the Client.
- Prior to commencing work on any excavation or trench, utility owners shall be contacted and advised of the proposed work and to determine the location of all underground installations; i.e., sewer, telephone, water, fuel, electrical, etc.
- Overhead hazards shall be assessed and dealt with prior to commencement of work.
- 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.
- All excavations done by the Contractor are to be clearly demarcated and barricaded to prevent accidental access.
- Only solid barricading will be used at areas where a fall hazard is present. Solid barricading and / or hole covers shall be provided around all holes or openings to prevent any person being injured as a result of a fall. Danger tape may only be used as a pre-warning to make the solid barricading more visible and to prevent persons from coming close to the danger area.
- Barricading must be placed as close (500mm from the edge) as possible to the excavation.
- If an excavation or trench endangers the stability of buildings or walls, shoring, bracing, or underpinning will be provided. Excavations and trenches that are adjacent to backfilled excavations or trenches, or which are subject to vibrations from railroad traffic, road traffic, blasting in open cast mining or 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).
- 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.

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- 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.
- No material shall be placed within 3m of the excavation edges.
- 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, and findings shall be noted in the said register.
- Client to review the said register on a pre-determined frequency not exceeding seven (7) days.
- There shall be a supervisor present at all times while work is being performed in an excavation
- There shall be an escape ladder every twelve meters in all excavations
- No work shall commence in an excavation unless the excavation has been declared safe in writing by the appointed competent person.

63. Tunnelling

- Requirements of the Construction Regulation 15 of the OHS Act and Mine Health and Safety Act No.29 of 1996 and Regulations shall be adhered to where applicable.

64. Blasting (Explosive, refers to 47)

If applicable on the Project – the following will apply:

- Requirements of the Explosives Regulation of the OHS Act shall be adhered to.
- A copy of the written permission from the Chief Inspector of Department of Labour shall be obtained before use of any explosive material – refer to requirement in Explosives Regulation 13 of the OHS Act.
- Requirements for the transporting and storage of explosives to be in accordance to Explosives Regulation 13.4 of the OSH Act and SANS 100228 "Code of Practice for the Identification and Classification of Dangerous Substances and Goods" as published by the South African Bureau of Standards.
- Should blasting be necessary during the construction phase, the necessary authorisation must be secured from the relevant local municipality. Adjacent land owners must be notified prior to the blasting activities on site.
- The Construction operations may necessitate that ground and rock be blasted. A siren shall be sounded prior to a blast. Warning flags shall be displayed at the entrance to the area of the blast and guards will be placed at strategic points.

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- Should the Contractor be required to carry out blasting operations, he is to fully acquaint himself with, and adhere to the blasting procedures and legislation. Every blast must be cleared with the appropriate Client before charges are placed.
- Only a licensed operator is allowed to blast.
- For all blasting operations, a blasting mat (e.g. conveyor belts) shall be used to cover the blasting area so as to reduce the amount of flying debris.
- Inform all people in the area where the blasting is going to take place.

65. Working near Public Roads

- The *Principal Contractor*, his employees and *Contractors* required to work on or nearby roadways shall wear high visibility vests, and be protected by red cones or flags during daylight and by red or amber flashing lamps at night.
- Work areas must be adequately barricaded so as to prevent unauthorised access.
- Road traffic warning signs shall be placed well ahead of the work area.
- The contractor shall ensure that operations are in compliance with the requirements of the National Road Traffic Act (Act no 93 of 1996).

66. Work Stoppage

The aim of the section is to outline the conditions under which work will be stopped and the process to be followed to ensure that the worksite is rendered safe.

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

- 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.
- Ad hoc safety intervention by any person, especially SHE functionaries, may be due 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.

The process to be followed is:

- The relevant activity must be stopped;

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- The Eskom Site/*Project Manager* and/or *Principal Contractor* and his *Contractors* shall immediately remove the workforce from the work area and correct the health and safety deficiencies by allowing only the people in the area that are competent to make the area safe.
- The *Principal Contractor* and his *Contractors* shall ensure that no other work is being performed during this time. Should the estimated time from the outset to make the area safe where life threatening/imminent danger situations exist, then the area will be barricaded and a sign placed with the wording “Unsafe Area – Authorized Access Only”.
- The Eskom Site/*Project Manager* shall review the affected parts/sections of the SHE specification with the purpose of providing sufficient SHE information to the *Principal Contractor*.
- The *Principal Contractor* shall then revise the relevant sections in the SHE plan to accommodate the changes.
- The Eskom Site/*Project Manager* must ensure that the revised provisions in the SHE plan are adequate and must approve it before the work activity commences.
- Before the workforce is allowed back in the area, *Principal Contractor* and his sub*Contractors* shall ensure:
 - The area is re-inspected by Contractor Safety Practitioner and supervisor and note corrective actions taken;
 - Declare the area safe for work by signing off on the “work stoppage” notice issued by the Eskom Site/*Project Manager*.
 - Refer to requirements of Construction Regulation 4(q) of the OHS Act.

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

67. Environmental Management

Refer to the Project Environmental Management Programme (EMPr), Environmental Authorization, permits, licenses and specialist environmental recommendations based on final designs; where applicable. It is imperative that all licenses, permits are valid in accordance with final designs for construction. It is a contractor’s responsibility to comply with these requirements.

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Highlighted on this document are minimum requirements for compliance by *Contractors*; however detailed requirements are as Environmental Management Programme (EMPr), Environmental authorization, permits, licenses and specialist environmental recommendations based on final designs.

The Contractor is expected to appoint the following environmental resources for the Kendal Ash Disposal Facility project. The contractor requires ensuring 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 the required resources must be depended on the magnitude of the project or the project scope

Name of resource	Minimum Qualification	Experience
Environmental Manager	BSc Environment /B-Tech Environment/ Applicable 4 year degree or approved Alternative <u>Professional Registration Body:</u> SACNASP	7 years' Experience in construction, Environmental Legislation and Auditing experience
Senior Environmental Advisor	4 Year degree or Diploma or 3 year degree or Diploma plus Honours in Natural sciences/environmental management or related subjects <u>Professional Registration Body:</u> SACNASP	4 years' experience in Areas of specialisation (Land, Water, Air, Biodiversity, waste management and Construction management.)
Environmental Officer	Relevant B degree or National Diploma or B-Tech <u>Professional Registration Body:</u> SACNASP	3 years' experience in Environmental Management

The curriculum vitae and certificates for these resources shall be provided

Recognized professional registration documentation must also be provided by the contractor.

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67.1 Environmental Management System (EMS)

The Contractor must provide a plan and demonstrate that they have developed, implemented and maintained an EMS.

67.2 Compliance Obligation

The Environmental Manager is to provide external audited proof that the project is meeting legal compliance, annually or based on legal changes or as agreed with the Client. Front end planning requires supplying in line with the future compliance checks for life of construction and commissioning. The scope of work of the contractor legal compliance audit must be site applicable and approved by the owner. The compliance obligation will require approved permits, licenses, certificate and authorisations. The contractor must submit permits and licenses related to the scope of work i.e. waste transportation, pest control certificates, and permitted landfill site in compliance with key licenses and permits etc. All external audit reports must be supplied to the owner.

67.3 Spillage of Hazardous Chemical Substances

- Any spillages that occur shall be treated in accordance with the requirements indicated on the Material Safety Data Sheet (MSDS) and Eskom requirements (Spill assessment form)
- Identify appropriate storage areas for stockpiling of materials, storage of hydrocarbons and storage of hazardous substances and ensure that these areas are appropriately prepared for their purpose;
- Disposal of hazardous substances shall be done in terms of the relevant legal requirements;
- Limit spillage of hazardous substances or substances with the potential to cause contamination of the environment;
- Develop emergency protocols for dealing with spillages particularly where these pose a pollution risk or involve hazardous substances;
- Compile and implement the necessary Method Statements ; and undertake environmental awareness training of all staff;

67.4 Herbicide usage

- Only registered pest control operators may apply herbicides on a commercial basis. All staff applying herbicides shall be trained in the application thereof, and shall be provided with suitable PPE.

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- The application of herbicides shall be in accordance with the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947. Only approved and tested herbicides with a low environmental risk shall be used.
- An herbicide register for usage shall be compiled and maintained, and a copy handed to the project leader / environmental advisor on completion of the project / contract.

Note: Prior to use, all herbicides will be confirmed by the appointed ECO and Client EO.

67.5 Fire hazard

The Contractor shall develop emergency protocols for dealing with fires, which may include a Fire Management Plan in accordance with the National Veld and Forest Fire Act (No 101 of 1998) and ensure that all staff is educated in fire prevention and will be held responsible to avoid the risk of fire. No area is to be denuded of vegetation to create firebreaks, to prevent or make fires. No open fires are allowed on site. The contractor shall ensure that operations are in compliance with statutory requirements at all times. The Contractor Environmental Officer shall ensure that in areas with a high fire danger rating, staff are made aware thereof. Smoking shall be restricted to designated areas or shall not be allowed, particularly in areas that have a high fire danger rating. Contractor shall ensure that adequate Fire Fighting equipment is available on site, particularly near hot work.

Note: Areas requiring firebreaks must be confirmed with the appointed ECO and Client EO.

67.6 Waste Management

All waste generated shall be re-used, recycled and where not practical possible disposed of at a registered landfill site. A register of both hazardous and general waste shall be kept. A waste management plan shall be compiled before commencement of work. Records of waste disposal shall be kept and updated all the time. No waste, be it biodegradable or not, shall be left on site once work has ended.

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Domestic and hazardous waste generated shall not be burned, buried, or disposed of on Eskom or Landowner property, but will be controlled and removed to a registered waste site on a regular basis (Daily / Weekly). The *Principal Contractor* and contractor working on site shall ensure that oil, fuel, and chemicals are confined to specific and secure areas throughout the construction period. These materials shall be stored in a bunded area with adequate containment for potential spills and leaks.

Waste may be collected by the relevant Municipality or alternatively taken by the Contractor to a registered landfill site. Where the Municipality does not have a weighbridge, the Contractor is responsible for obtaining a formal notification to this effect.

Contractors shall ensure that sufficient waste bins / containers, with lids are made available for waste control. The contractor shall comply with the requirements of NEM: Waste Act 59 of 2008, other legal requirements pertaining to waste and Eskom waste management standard. Quantities of disposed waste shall be recorded and reported on a monthly basis. Set up system for regular waste removal to an approved facility and minimize waste by sorting wastes into recyclable and non-recyclable wastes;

Equipment maintenance and storage:

- Ensure that all plant is in good working order;
- Undertake maintenance within specified area (workshop); and use drip trays for all stationary or parked plant and when servicing equipment away from designated areas.

67.6.1 Waste Management Plan

The contractor will be expected to comply with the Eskom waste management standard, Kendal Waste and Recycling Management Works Instruction (1024102) and develop a plan.

The contractor must submit a plan that is related to the scope of works and the plan must consist the following but not limited to;

- The amount of waste that will be generated (Register)
- Measures to prevent pollution or ecological degradation (Procedure/ Method statement)
- Targets for waste minimisation through waste reduction, re-use, recycling and recovery
- Measures or programmes to minimise the generation of waste and the final disposal of waste

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- Measures or actions to be taken to prevent the use of specified substances (persistent organic pollutants, Polychlorinated Biphenyls (PCB), Ozone Depletion substances (ODS) and Asbestos
- Opportunities for the reduction of waste generation through changes to packaging, product design or production processes
- Mechanisms for informing the public of the impact of waste generating products or packaging on the environment
- The extent on any financial contribution to be made to support consumer based waste reduction programmes
- The period that is required to implement the waste management plan
- Methods for monitoring and reporting (See Annexure O)
- The waste class and rating in order to determinate correct disposal method for the waste and any other best practice that may be necessary to give effect to the requirements of National Environmental Management: Waste Act and regulations passed thereunder.
- Approved/licensed waste disposal sites to be used
- Audited Records of waste quantities disposed (Template)
- Compliance obligations.

67.6.2 Material requirement

The use of any material or property belonging to any landowner shall not be permitted prior to arrangements with the relevant landowner. Written proof of such agreement shall be handed to project leader / co-coordinator for record keeping.

67.7 Dust and Noise

The Contractor shall monitor noise caused by mobile equipment, generators and other equipment during construction. Factors such as wind can often affect the intensity to which these impacts are experienced. (Contractor will monitor noise whilst Eskom will be monitoring dust)

To ensure that noise does not constitute a disturbance during construction activities, all construction works shall occur between specific working hours. This shall be stipulated in the contract.

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Mitigation measures to be implemented as required / agreed upon with the project leader / environmental advisor / ECO.

Dust suppression measures shall be in place to reduce the dust caused by the movement of heavy vehicles and other contractor activities. Water, utilized for dust suppression, may only be obtained from identified watering points, indicated by the Kendal PS - (subject to the station approval).

67.8 Environmental Incidents

All environmental incidents such as pollution (air, water, land, noise, etc.), bird kills, and animals killed, plants destroyed, public complaints etc. shall be reported to project leader and / or environmental advisor within 24 hours of its occurrence.

All environmental incidents occurring on site shall be reported, investigated and recorded Management Procedure 240-133087117, detailing how each incident was dealt with. Proof thereof must be kept in an incident register.

67.9 Water Management

No construction shall be allowed within the 1:100 year flood lines. Should any pollution of the watercourse occur, reporting must be done immediately in terms of Section 20 of the National Water Act, and it must be done via Eskom DWS.

Water usage on site shall be verified with the project leader / environmental advisor / ECO to ensure compliance with legislation. Borehole water shall be verified as suitable for human consumption. All incidents related to water contamination shall be reported within 24 hours. Records of water quantities abstracted should be kept.

Chemical toilets shall not be within close proximity of the drainage lines / ways.

The contractor must have a water use programme that will measure water use and reduce consumption. The contractor will be expected to comply with project WUL and all other related water permits. No activity shall be conducted that trigger a water use without valid permit.

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67.10 Fauna and Flora

The Contractor shall not clear any vegetation without prior approval by the Project Manager. All contractors shall be responsible to prohibit their employees from hunting all forms of fauna and setting of snares.

67.11 Rivers, Streams and Water Courses

The Contractor shall:

- Implement effective measures to prevent any pollution of rivers, streams and watercourses on the site. All *Contractors* shall prevent discharge of any pollutants, such as cement, concrete, lime chemicals and fuels into any water resources.
- Furthermore, the Contractor, shall ensure that:
- All employees have enough potable water to prevent them from going to nearby streams or farms to fetch water;
- No construction material is stored closer than 100m from any watercourse and approved temporary toilet facilities shall be sited in such a way that they do not cause water pollution;
- No construction is allowed within the 1:100 year flood lines. Should any pollution of the watercourse occur, the *Project Manager*, ECO and subsequently the Department of Water and Sanitation must be notified immediately;
- Water usage on site has to be verified with the *Project Manager* to ensure compliance with legislation. Borehole water must be verified for human consumption fitness. All incidents related to water contamination are to be reported to the *Project Manager* within 30 minutes;
- Chemical toilets are not placed in close proximity of the drainage lines/ways; and
- A water conservation strategy is implemented to minimize or eradicate the wastage of water.

Note 1: The Contractor is to take note of the Wetlands Delineation and 500m regulated zones as reported to the Department of Water and Sanitation.

Note 2: The Contractor is hereby made aware of the approved Water Use License 04/B20E/ABCEGI/3888, and is required to comply with all requirements stated therein.

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67.12 Wetlands and Regulated Environmental Management Zones

The Contractor shall ensure that he or she is well aware of the delineation of Wetlands and 500m Regulated Zones. Under no circumstances will the Contractor, his or her employees, be allowed to access these areas, unless duly authorized in terms of the EMPr, IWUL and or EA, and written authorization received from the DWS.

All breaches of these requirements must immediately be reported to the ECO and client EO, and disciplinary action taken against those employees ignoring this requirement.

67.13 Soil Conservation Management

The Contractor shall be responsible to ensure that all topsoil stripping, stockpiling and placement are done in accordance with the requirements set out in the Project Environmental Authorisation (EA), Water Use Licence (WUL) and EMPr.

67.14 Environmental Rehabilitation

The Contractor shall ensure that a Rehabilitation Plan is developed and submitted to the *Project Manager* for authorization at least one month before rehabilitation will start, and that such a plan complies with all applicable Environmental Legislation and the Project Environmental Authorisation, EMPr and other legal requirements.

The Contractor needs to have a plan in place of areas that can be rehabilitated as soon as the area / lay down area are cleared of material. Rehabilitation of damaged areas to be done concurrently with construction where applicable or after completion of construction activities.

67.15 Environmental Management Programme, Integrated Water Use License and Environmental Authorization

The Contractor shall ensure that he or she is fully conversant with the EMPr, IWUL and EA requirements. Furthermore, the Contractor shall ensure all employees are thoroughly inducted into these requirements, and commit to full compliance thereto. These commitments must be documented and copies thereof provided to the client just after site establishment and as the people are brought onto site.

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67.16 Management of Archaeology and Heritage Resources

The Contractor shall ensure that this management is addressed as referred to page 32 and 33 of the project EMPr.

67.17 Control of Alien Vegetation

The Contractor shall ensure that the control of Alien Vegetation is done according to page 39 and 40 of the project EMPr.

67.18 Bees at the workplace

The contractor will ensure that all employees allergic to bees:

- a) Inform their Managers;
- b) Wear a medic-alert bracelet (www.medialert.co.za);
- c) Always carry medication and know how to use it;
- d) Wear protective gear on site.

The contractor will ensure regular inspections are carried out on work places, store and office buildings especially where cable drums are stored.

The contractor will inform the Project Manager immediately if any bee hives are noticed. The bee expert will be called. The contractor will ensure that all the people are informed and area will be identified as a no go area.

The contractor needs to ensure that food and cold drinks are covered during lunch breaks. Avoid leaving cold drink cans standing open during lunch breaks.

67.19 Snakes at the workplace

Snakes play an important role in the environment controlling small rodents and frogs. Generally snakes aren't aggressive and only attacks in defence if threatened or surprised. Most snakes aren't harmful. They will sense you from afar and rather slither away.

The contractor will ensure that all employees will not try to catch, kill or remove snakes themselves. The snake handler will be called to remove the snakes.

The contractor will ensure that all employees:

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- a) Wear proper socks and boots;
- b) Look down and on both sides while walking;
- c) Use a torch at night. Many snakes are nocturnal;
- d) Avoid lifting large stones or fallen vegetation. Snakes favour these spots.
- e) Avoid sudden actions around them.

The contractor will inform the Project Manager immediately if any snakes are noticed. An eye will be kept on the snake while waiting for the snake handler.

67.20 Spider, Scorpions and other insects at the workplace

Spiders, Scorpions and other insects can be found in work area where work will be executed.

The contractor will ensure proper training is done to all employees on snakes, bees, spiders, scorpions and other insects before work commence.

67.21 Energy Efficiency

The contractor must have energy efficiency programme that will measure energy consumption and reduce consumption.

67.22 Environmental Construction Method Statements

Applicable construction method statements specific to environmental management for the scope are to be provided before contract award unless deemed necessary for mandatory submission.

67.23 Innovation

The contractor must suggest any innovation ideas to improve environmental performance such as technological improvements.

67.24 Climate change

The contractor must ensure that they will have programmes aimed at measuring Green House gases.

The monitoring and measurement will include but not limited to trending, developments of targets and plan for emission reduction.

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67.25 General requirements

- Ensuring adherence to the environmental specifications;
- Ensuring that Method Statements are submitted to the ECO for approval before any work is undertaken. Any lack of adherence to this will be considered as non-compliance to the specifications.
- Ensuring that any instructions issued by the Engineer, on the advice of the ECO, are adhered to.
- Ensuring that there must be communication tabled in the form of a report at each site meeting, which will document all incidents that have occurred during the period before the site meeting;
- Ensuring that a register is kept at the site office, which lists all the transgressions issued by the ECO;
- Ensuring that a register of all public complaints is maintained.
- Obtain presentation of Key information pertaining to License and permits from the project/Environmental Manager.
- Budget for specialist studies/engineering changes for key risk areas
- Ensure that all employees, including those of sub-Contractors receive training before the commencement of construction in order that they can constructively contribute towards the successful implementation of the environmental requirements of the Contract.
- The most important actions by the Contractor to ensure compliance with the environmental requirements, relates to the establishment of an adequate and appropriate organizational structure for ensuring the implementation and monitoring of the requisite environmental controls.
- Compile an Environmental monitoring plans outlining all the construction activities, associated environmental impacts and how they will be mitigated;
- Ensure that the project pricing makes provision for environmental costs and expenditure reporting.
- Contractor shall attach a company waste management plan including the typical waste inventory and templates used for keeping waste records.
- Contractor shall attach Environmental Management system documentation that is aligned to ISO 14001
- Attend key meetings at Project level i.e. Center of Excellence, External specialist/experts, authorities (DEA, DWS, DMR etc.
- Include environmental considerations as an item on the agenda of the monthly site meetings

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- Undertake environmental awareness training of all site staff during the commencement of each Contract, with regular refreshers for the duration of the Contract.
- Environmental protection shall include, but not be limited to, the following issues:
- Noise pollution, gaseous emissions, noxious and/or offensive odors, liquid waste collection and solid waste separation and collection
- In the event of any perceived conflict between the “environmental laws” and the contract documents, the contractor shall, prior to commencing the work, refer such conflict to the project management team for clarification. Without limiting the contractor’s responsibilities under the applicable legislation, the work shall be conducted in such a manner as to ensure that:
- No substance that can harm or is likely to harm the environment is allowed to leak, spill or escape from any container or storage area.
- No oil or other effluent is permitted to escape into the drainage system and/or local storm water system.
- No oil or other effluent is permitted to escape into the ground and cause soil contamination.
- All air borne pollutants generated during execution of the Work are contained to prevent air pollution.
- No sediment generated is permitted to escape into the drainage system and/or local storm water system.
- No harmful solids or liquids are permitted to spill from containers whilst in transit on the premises.
- All oil-based waste material shall be kept segregated and placed in sealed 200 liter drums. This material shall be disposed of through a recognized oil recycling company.
- All water-based waste material shall be kept apart. Small amounts shall be collected and stored in 200 liter containers. Large amounts shall be pumped into a bulk tanker for disposal. Prior to disposal, all water-based material shall be sampled to allow analyses to be carried out.

68. Signing off of the contract

No project shall be signed off before Business Unit or Department has given assurance that there is plan to address existing environmental liabilities. The responsible person, project leader or environmental advisor shall carry out a physical inspection before acceptance of work done.

No invoice shall be processed before work done is accepted.

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The Contractor shall be conversant and in the course of carrying out the Works. The Contractor shall comply with the provisions of all Acts, regulations, ordinances, by-laws, Standards, Codes, Rules and requirements of public, municipal and other authorities.

The Project Team may, at any time, without notice to the Contractor, examine and investigate the *Contractors'* compliance with all Applicable Legislation and the environmental management conditions.

At all times during the execution of the Works, the Contractor shall preserve and protect the natural environment in the general area of the site and the external areas that may be affected by his operations.

69. SHE Audits

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

70. Compliance and Approval of Contractor SHE Plan

The Contractor's SHE Plan / SHE File will be audited against a compliance checklist so as to confirm compliance to the requirements in the Eskom SHE specifications. Once compliance is confirmed, only then will the *Contractors* SHE plan be approved by the Client for implementation. Appointed contractor's SHE plans/SHE File shall be verified by a Client Representative prior to appointed contractor given access to site.

71. Contractor SHE Performance Evaluation

Eskom shall evaluate contractor SHE performance on an on-going basis against the Eskom requirements.

72. 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 Project/Site Manager on the last day of the audit. The report shall be submitted within one week after completion of the audit.

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73. 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 Eskom Project/Site Manager. The written report shall be submitted within one week after the completion of the audit.

74. SHE Plan Audits

There will be monthly audits conducted by Eskom on the *Principal Contractor/s* and/or *Contractors*. These audits shall be attended by the contractor's site manager or his representative.

75. Documentation and Records Management

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

The Client shall have access to this system.

76. Incident Investigation

The *Principal Contractor* and *Contractors* shall report all incidents/accidents as required in terms of the legislation.

All SHE incident reporting, classification and investigation will be done according to the requirements set out in the Eskom documents 32-95 (Occupational Health and Safety Incident Management Procedure) and 240-13307117 (Environmental Incident Management Procedure) (latest version).

77. SHE Performance Status Reports

The contractor shall provide a SHE Statistical and Non-Statistical Reports, dashboards, presentations as per the Client requirements.

Reports must be submitted on Wednesday of every week. The reporting format is indicated on Form 75 :(Refer to Annexure D).

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78. Contractors SHE Plan

All *Contractors* must use the applicable SHE information herein to develop a suitable and sufficient SHE plan, submitted with tender documents, which will indicate to the Client/Agent 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.

Upon discussions with the *Principal Contractor*, a final accepted SHE plan would be signed and approved. The *Principal Contractor* is thereafter required to do the same when procuring other *Contractors*. The *Principal Contractor* will not be allowed to commence work on site until the SHE plan has been approved.

When a *Principal Contractor* intends appointing a contractor, the *Principal Contractor* shall ensure that his SHE Plan is based on the Eskom SHE Specification that was issued for the project and he shall further more ensure that the activities of the contractor are included in the SHE Plan to be submitted for approval.

The plan shall demonstrate management's commitment to SHE.

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 Client.

79. Omissions of this SHE Specification

By drawing up these SHE requirements Eskom has endeavoured to address the most critical aspects relating to SHE issues in order to assist the contractor in adequately addressing the health and safety management of persons on site.

Should Eskom not have addressed all aspects pertaining to the work that is tendered for, the contractor needs to ensure that all applicable SHE requirements are identified and included in their management system.

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80. SHE File

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, for the duration of the *Principal Contractor* and *Contractors* contract, is to be recorded in the file.

- The SHE file that will be maintained will be per construction site.
- The *Principal Contractor* must also record on the file:
 - Information about removal or dismantling of installed plant and equipment
 - Hands information about equipment needing cleaning and maintenance, for future purposes
 - Nature, location and markings of services
 - As-built drawings.

The file must be kept on site and must be available on request for audit and inspection purposes. The SHE file shall be handed over to the Client at the end of the *Principal Contractor's* contract.

81. Hours of Work

All work conducted on site shall fall within the legal requirements in accordance with the Basic Conditions of Employment Act.

The *Principal Contractor* will notify their Eskom *Project Manager/Supervisor* of any 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 Labour and /or the letter of approval from the Department of Labour.

82. Night Work

When night work is to be performed; *Contractors* shall provide sufficient lighting to enable the entire work site to be illuminated to a degree that employees will not work in dark (un-illuminated) or dimly lit areas. Care must be exercised as not to use few lights with high light intensives as this will cause night blindness.

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If work is continuing from day light into night, at dusk, a tool box talk must be held where all employees will be advised of the hazards of night work and the extra precautions which require to be taken, i.e. poor housekeeping, stepping on uneven ground, stepping into holes etc.

82.1 Overtime

The *Principal Contractor* will notify their Eskom *Project Manager*/Supervisor of any 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 Labour and /or the letter of approval from the Department of Labour. *Contractors* shall be aware of the effects of human fatigue and regulate overtime accordingly. The baseline risk assessment must be reviewed to include the management of overtime work.

83. 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.

84. Contract Sign Off

On completion of the project, all appointed *Contractors* shall close out their project documentation and SHE Files and submit such to the *Principal Contractor*. The *Principal Contractor* shall likewise close out his/her project documentation and SHE files and handover it to the Eskom *Project Manager*.

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**Please note that the following may be used as a guideline.*

85. Annexure A: The Client's Non-Negotiable Occupational Health & Safety Requirements

The following Minimum OHS -related requirements that bidders have to address and respond to when submitting their tender returnable are as follows:

Please complete the following form, and where required, submit copies of the appropriate documentation.

Ref.	Eskom Health and Safety Requirements Checklist	Proof required	Yes	No	N/A
1	Provide Signed, Acknowledgement form for Eskom SHE Rules and other legislative requirements.	✓			
2	Organisational structure and contact details of key persons				
2.1	Provide a copy of your company organogram /structure. (Including roles, responsibility & Accountability)	✓			
2.2	Provide a proposed OHS resource plan for the proposed scope of work. For each position, stipulate the position titles; and the qualifications and competencies that will be required for each position.	✓			
2.3	Provide CV's of individuals that will fulfil the role of the Construction Health and Safety Manager and Officers in terms of Construction Regulations 2014, CR 8 (5) and (6) and as per the SACPCMP requirements. Please provide proof of registration with the SACPCMP for Health and Safety Manager and Officers Provide plan how you would ensure registration for the proposed Construction Health and Safety Manager and Officers that are not yet registered with the SACPCMP.	✓			
2.4	Provide CV's of individuals that will fulfil the role of the Construction Manager in terms of Construction Regulations 2014, CR 8 (1). Are the Construction Managers registered as professionals with the SACPCMP?	✓			
2.5	Provide CV's of individuals that will fulfil the role of the Construction Supervisor & Assistant Construction Supervisor in terms of Construction Regulations 2014, CR 8 (7) and (8).	✓			

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Ref.	Eskom Health and Safety Requirements Checklist	Proof required	Yes	No	N/A
	OHS Management System				
3	OHS Management System Does your Company have a recognised OHS Management System? If Yes , then complete subsections 3.1 – 3.2:				
3.1	Provide a copy of the certification.	✓			
3.2	Provide plan as to how you would establish the OHS Management system for the duration of the Project?	✓			
4	Provide a copy of your SHEQ Policy that is signed by your senior management?	✓			
5	How would you establish and maintain your legal and other requirements register	✓			
6	How would you enforce compliance to OHS on the project and amongst contractor companies?	✓			
7	How would you deal with companies/individuals that have transgressed OHS requirements?	✓			
8	Has your company managed OHS before on a project/similar scope of work to this?				
8.1	If yes, please provide details of client's references and information on the work that your company performed.	✓			
9	Occupational health and wellness				
9.1	Does your Company have an Employee Assistance Programme for employees?	✓			
9.2	Does your Company have a medical surveillance programme for employees?	✓			
10	Contractor management				
10.1	Does your Company appoint competent <i>Contractors</i> /sub- <i>Contractors</i> ? (provide details of selection process and criteria)	✓			
10.2	Explain how you would manage and monitor contractor companies in terms of Health and Safety compliance?	✓			

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Ref.	Eskom Health and Safety Requirements Checklist	Proof required	Yes	No	N/A
10.3	Explain how you would manage multiple contractor company interfaces on the project?	✓			
11	Construction Regulations 2014, of the OHS Act 85 of 1993 Compliance				
11.1	Provide in terms of CR 7 (1)(a) Construction Regulations 2014, an OHS plan for the proposed scope of work in response to this SHE Specification	✓			
12	Hazard identification and risk assessment (HIRA)				
12.1	Does your Company have procedures in place for conducting hazard identification and risk assessments and for developing and implementing safe systems of work/method statements?	✓			
12.2	Does your Company have a competent person appointed to carry out hazard identification and risk assessments?	✓			
12.3	Does your Company have a standard/procedure on the hierarchy of control principles that is applied to the mitigation of risks?	✓			
12.4	Provide a copy of a typical Health and Safety risk profile for a project like this as well as high level interventions that will be implemented to mitigate the risk.	✓			
12.5	OHS Operational Controls What are your company's critical success factors, plans, and requirements in managing high risk construction activities such as (if applicable): <ul style="list-style-type: none"> • Mechanical, C&I, Electrical and Civil works • Lifting and rigging • Crane Coordinator • Blasting • Hot work • Work at height • Electrical safety • Construction traffic and vehicles etc. Please don't limit response to the above list.	✓			

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Ref.	Eskom Health and Safety Requirements Checklist	Proof required	Yes	No	N/A
13	COID				
13.1	Is your company registered with COID or with a licensed compensation insurer based on South African legislative requirements and are you still in good standing? If yes, please provide copy of current valid certificate issued by the Compensation Commissioner.	✓			
14	Training				
14.1	Does the Company have an orientation and safety induction programme / policy?	✓			
14.2	Does the Company have implemented training arrangements in place to ensure that employees have sufficient skills and understanding to discharge their various duties? This includes refresher training that will keep employees updated on legislation and good health and safety practice. This applies throughout the Company, from top management to trainees. Provide list of training interventions (scope and content)	✓			
15	Costing for OHS				
15.1	Provide a detailed costing for OHS- based on the overall scope of work/services to be performed.	✓			
16	Occupational Hygiene				
16.1	Describe how you would implement an occupational Hygiene programme	✓			
17	Leadership Accountability to drive SHE culture within organisation. (Visible Leadership)				
17.1	Describe how and what measures are taken by Senior Leadership to actively drive SHE with employees and sub-Contractors. Consider the following Criteria: <ul style="list-style-type: none"> • Visibility on sites where operations take place. • Interventions that leadership drive specifically on SHE matters. 	✓			

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Ref.	Eskom Health and Safety Requirements Checklist	Proof required	Yes	No	N/A
	<ul style="list-style-type: none"> What monitoring mechanisms are in place to verify the above? 				
18	References – Provide references of the least two (2) clients				
18.1	<p>Past experience with references. Provide the following details per client:</p> <p>Client 1:</p> <ul style="list-style-type: none"> Client's name: Description of works, services, product: Duration of contract (specify start and end dates): Value of contract/work/services/product: Contact telephone number/s: Number of 'near misses' reported: Number of lost-time injuries: Number of disabling injuries: Number of motor vehicle incidents/accidents: Number of fatalities: Number of lost-time injuries: Largest number of permanent staff members working on the project during the contract period: <p>Client 2:</p> <ul style="list-style-type: none"> Client's name: Description of works, services, product: Duration of contract (specify start and end dates): Value of contract/work/services/product: Telephone number/s: Number of 'near misses' reported: Number of lost-time injuries: Number of disabling injuries: Number of motor vehicle incidents/accidents: Number of fatalities: 	✓			

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Ref.	Eskom Health and Safety Requirements Checklist	Proof required	Yes	No	N/A
	<ul style="list-style-type: none">Number of lost-time injuries:Largest number of permanent staff members working on the project during the contract period				

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COMPANY SIGN-OFF

I acknowledge that the information provided in this Occupational Health and Safety Questionnaire, as part of the Eskom OHS evaluation process, is true and correct.

Company name:

Name and surname:

Position:

Signature:

Date:

FOR OFFICE USE ONLY

SCORING:

A: Each question qualifies a maximum score of two (2) points. Total possible points

Percentage Score = Actual Score

Possible Score x 100 = ____%

1.1.1.1.1 Comments:

OHS EVALUATION RESULT – Approved/Not Approved

NAME OF ASSESSOR:

SIGNATURE:

DATE:

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Evaluation criteria

Legends	Rating	
Meets Client's Requirements:	2	
Partial compliance	1	
Does not meet Client's Requirements:	0	

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**Please note that the following may be used as a guideline.*

86. Annexure B: The Client's Non-Negotiable Environmental Requirements

The following are minimum environmental requirements that bidders have to address and respond to when submitting their tender returnable are as follows:

NOTE: Please complete the following form, and where proof is required, please provide as much detailed information as possible as well as provide copies of the appropriate documentation to supplement information.

Environmental Management Requirement Checklist	Proof required	Yes	No	N/A
Environmental Management System (EMS) ISO 14001				
Does your Company have an Environmental Management System in place? If Yes, then complete subsections below				
1. Provide a copy of your Policy statement	✓			
2. Provide a detailed plan on how you are going to implement the EMS	✓			
Environmental Management Plan				
1. Provide a detailed plan on execution of Section 7 of the Environmental Management Plan (Draft/Final EMP)	✓			
2. Provide proof of EMP execution on current and previous completed projects with at least five (5) reference	✓			
Environmental Fines and Legal contraventions				
1. Declare history of fines and contraventions for the past 5 years especially where performance guarantees have been withheld on account of any environmental reasons	✓			

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COMPANY SIGN-OFF

I acknowledge that the information provided in this Environmental Questionnaire, as part of the Eskom Environmental evaluation process, is true and correct.

Company name:

Name and surname:

Position:

Signature:

Date:

FOR OFFICE USE ONLY

SCORING:

A: Each question qualifies a maximum score of two (2) points. Total possible points

Percentage Score = Actual Score

Possible Score x 100 = ____%

1.1.1.1.2 Comments:

ENVIRONMENTAL EVALUATION RESULT – Approved/Not Approved

NAME OF ASSESSOR:

SIGNATURE:

DATE:

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Evaluation criteria

Legends	Rating	
Meets Client's Requirements:	2	
Partial compliance	1	
Does not meet Client's Requirements:	0	

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Appendix A – Eskom Document Hierarchy

Annexure C - L

Annexure C



SHE Policy.pdf

Annexure D



Form 75 Contractor
register.doc

Annexure E:



Safe Work Procedure
& Job Observation.dc

Annexure F:



240-70044602_Basel
ine Risk Assessment.›

Annexure G:



Sec 176 _National
Road Traffic Act, 199

Annexure H:



Access Control
Form.pdf

Annexure I:



Induction request
Form.pdf

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Annexure J:



Annexure 3 - Medical
Certificate of Fitness.

Annexure K:



240-136794375_Vehi
cle inspection checklis

Annexure L:



20181125_Manhours
Week 01.xls

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