

	GENERATION COAL FIRED STATIONS OHS SPECIFICATION FOR HIGH RISK ACTIVITIES/SERVICES	Template Identifier	32-726-03T	Rev	1
		Document Identifier	229-T2204	Rev	1
		Effective Date	April 2022		

Name of company: Outages

Project Name: Condensor HP Cleaning

Enquiry number:

Project Address: Hendrina Power Station

Eskom **Contract's Manager/End User**

Name: **Musa Zulu**

Signature :.....

Eskom's **OHS/SHE** Manager

Name: **Hans De Wet**

Signature 

Eskom's Procurement **Manager /Officer**

Name: Jabu Galela

Eskom's **OHS/SHE** Officer

Name: Bheki Ramushu

Signature

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1. INTRODUCTION

Eskom's responsibility and commitment is to ensure a safe working environment is in line with its Safety, Health, Environmental, and Quality (SHEQ) Policy and applicable legislative obligations. This OHS specification is Eskom Generation's minimum requirements which are required to be met for the duration of the contract period by contractors/suppliers and, where required, the delivery organisation. The contractor is expected to develop an OHS plan that meets these requirements as well as all the relevant applicable legislation that they conform to. Eskom in no way assumes the contractor's legal responsibilities and liabilities. The contractor is and remains accountable for the quality and execution of their health and safety programme for their employees and appointed contractor employees. This OHS specification reflects minimum requirements and should not be construed as all-encompassing.

Note 1: All the requirements listed hereunder are in relation to the contract and do not supersede or replace any organizational OHS requirements.

Where requirements listed are already in place, then the organizational requirements must be taken cognisance of and listed in the respective OHS plans. If there are any additional Eskom and/or legislative requirements listed in the OHS specification, then these must be addressed.

2. SUPPORTING CLAUSES

2.1 SCOPE

This OHS specification lists the legislative and Eskom requirements and, where applicable, any requirements pertaining to local authorities, municipal by-laws, or environmental legislation that must be met by the contractor.

2.1.1 Purpose

This document will provide a standardised approach to the compilation of OHS specifications throughout Eskom Generation business for contracts, standards, and NEC 3.

2.1.2 Applicability

This OHS specification is applicable to any contracting organisation that intends to respond to Eskom Generation's tender/enquiry with the intention of entering into a contract.

2.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- Basic Conditions of Employment Act No 75 of 1997.
- Occupational Health and Safety Act and Regulations No 85 of 1993.

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- OHS Act "Regulations on Hazardous Work by Children in South Africa"
- National Environmental Management Act 107 of 1998.
- National Road Traffic Act 93 of 1996.
- 32-37 Eskom Substance Abuse Procedure.
- 32-136 Contractor Health and Safety Requirements
- 240-62196227 Life- saving Rules
- 32-95 Environmental, Occupational Health and Safety Incident Management Procedure
- 32-727 SHEQ Policy
- 32- 418 Working at Heights Procedure
- 240-62946386 Vehicle and Driver Safety Management Procedure
- 32-520 Risk Assessment procedure
- Plant Safety Regulations
- ISO 45001
- Eskom Covid-19 policy
- National Disaster Management Act 57 of 2002

2.2.2 Informative

- [1] Tobacco Products Control Act 83 of 1993 (Updated 2011.05.19)
- [2] SANS 1186 Symbolic Safety Signs
- [3] Constitution of the Republic of South Africa No 108 of 1996
- [4] DMN 34-110 Operating A Vehicle Mounted Crane

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2.3 Definitions	Explanation
Appointed contractor	Means a contractor appointed by the Main contractor
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
Business unit (BU)	(32-296) means any defined unit within the Eskom environment, operating as a business under a particular cost-centre number. In the context of this document and in terms of health and safety, any reference to a BU includes a defined unit within any Eskom division and its subsidiaries
Client	(OHS Act) Eskom representative (Internal – Asset Owner), also referred to as the contract administrator/custodian or agent or project manager (as defined in the contract). He/she is the person responsible for ensuring that the works or services are executed in terms of the contract, as well as adherence to legislation pertaining to the contract.
Competent person	(OHS Act) means any person having the knowledge, training, experience, and qualifications, specific to the work or task being performed, provided that, where appropriate, qualifications and training are registered in terms of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995)
Contractor	(OHS Act) means an employer as defined in section 1 of the Act who performs contracted work and includes Main contractors
Contract's Manager/End User	Contract's Manager/End User
Consultant	means a person providing professional advice
Controlled disclosure	controlled disclosure to external parties (either enforced by law or discretionary)
Duty of care to the environment	(32-136) anybody who causes or has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing, or recurring. If such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, such person must minimise and rectify such pollution or degradation of the environment
Employee	(OHS Act) means, subject to the provisions of subsection (2), any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person
Employer	(OHS Act) means, subject to the provisions of subsection (2), any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him/her, but excludes a TES (ex labour broker) as defined in section 1(1) of the Labour Relations Act 1956 (Act No. 28 of 1956)

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2.3 Definitions	Explanation
Environment	(32-94) means: a) the land, water, and atmosphere of the earth; b) micro-organisms and plant and animal life; and c) any part or combination of (a) and (b) and the interrelationships among and between them, and the physical, chemical, aesthetic, and cultural properties and conditions of the foregoing that influence human health and well-being
Eskom requirements	Eskom requirements flowing from directives, policies, standards, procedures, specifications, work instructions, guidelines, or manuals
Fall protection plan	(OHS Act) means a documented plan of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods to be applied in order to eliminate the risk
Hazard	(OHS Act) means a source of, or exposure to, danger
Hazard identification	(OHS Act) means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed
Occupational Health and safety file	(OHS Act) means a file or other record in permanent form, containing the information required in relation to the contract.
Health and safety plan	(OHS Act) means a document plan that addresses hazards identified and includes safe work procedures to mitigate, reduce, or control hazards identified
Occupational Health and safety specification	(OHS Act) means a document specification of all health and safety requirements pertaining to associated to a contract, so as to ensure the health and safety of persons.
Occupational Health and safety requirements	means comprehensive health and safety requirements for a contract, project, site, and scope of work. This specification is intended to ensure the health and safety of persons, both workers and the public, and the duty of care to the environment. The health and safety requirements must be specific to each contract, project, site, and scope of work
Lifesaving Rules	(240-62196227) a rule that, if not adhered to, has the potential to cause serious harm to people
Medical Certificate of fitness	(OHS Act) means a certificate valid for one year, issued by an occupational health practitioner, issued in terms of the regulations, whom shall be registered with the Health Professions Council of South Africa
Medical surveillance	(OHS Act) means a planned programme or periodic examination (which may include clinical examinations, biological monitoring, or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner
Method statement	(OHS Act) means a written document detailing the key activities to be performed in order to reduce, as reasonably as practicable, the hazards identified in any risk assessment
National Enquiries/contracts	sourcing of services providers/contractors at the divisional level and not at BU level thorough tendering, request for price etc

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2.3 Definitions	Explanation
Organisation	may be defined as a group of individuals (large or small) that is cooperating under the direction of executive leadership in accomplishment of certain common objects
Pre-job meetings	(34-227) means a meeting that is held prior to the commencement of the day's work and that is attended by all the relevant employees associated with the work task
Main contractor	(In the text of this document) Means an employer, as defined in section 1 of the OHS Act, who intends to tender for or has signed a contract with Eskom for services rendered.
Provincial director	(OHS Act) means the provincial director as defined in Regulation 1 of the General Administrative Regulations under the Act
Responsible Manager	Is a Manager of a department, section or operating/business unit who has been appointed as part of the Eskom delegation of authority process with the aim to assist the applicable 16(2) assigned person in executing his/her duties in terms of the Occupational Health and Safety Act
Risk assessment	(OHS Act) means a programme to determine any risk associated with any hazard at a construction site in order to identify the steps needed to be taken to remove, reduce, or control such hazard.
Site	(34-228) means an Eskom department, unit, complex, building, specific project, work site, or the site where agents, clients, Main contractors, contractors, suppliers, vendors, and service providers provide a service to Eskom, directly or indirectly
Service provider	any private person or legal entity that provides any service(s) to Eskom for compensation
Subsidiary	(32-94) an enterprise controlled by another (called the parent) through the ownership of greater than 50% of its voting stock
Supplier	(32-1034) means a natural or legal person who renders a service and may include the following current or potential supplier vendor, contractor, consultant
Task	(34-227) a segment of work that requires a set of specific and distinct actions for its completion
Toolbox talks	(34-227) where the team leader, after conducting pre-task planning, shares all the tasks at hand and discusses task allocation, the identified risks, and the control measures with all his/her team members on site before commencing a specific task and documenting the agreed strategy. (This shall be done to ensure common understanding of the tasks, risks, and control measures required.)
The Act	(OHS Act) means the Occupational Health and Safety Act No. 85 of 1993, as amended, and the Regulations thereto
Visitor	any person visiting a workplace with the knowledge of, or under the supervision of, an employer.

2.4 ABBREVIATIONS

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Abbreviation	Description
BU	Business Unit
CE	Chief Executive
COID Act	Compensation for Occupational Injuries and Diseases Act
DMR	Driven Machinery Regulations
DEL	Department of Employment and Labour (Inspection and Enforcement services – Provincial office)
EP	Emergency Preparedness
EAP	Employee Assistance Program
ERfW	Environmental Regulations for Workplaces
GAR	General Administrative Regulations
GSR	General Safety Regulations
HCS	Hazardous Chemical Substances
LDV	Light Delivery Vehicle
MSDS	Material Safety Data Sheets
OHS Act	Occupational Health and Safety Act and Regulations, 85 of 1993
O&M	Operating and Maintenance
LoG	(COID) Letter of Good Standing
SABS	South African Bureau Standard
SANS	South African National Standard

2.5 RELATED/SUPPORTING DOCUMENTS

Section 37(2) of the OHS Act requires Eskom to sign an agreement and include it in the OHS file for evaluation prior to the start of work. OHS department will issue the 37(2) agreement to the project manager/end user who will facilitate the signing of the document by Eskom and contractor representatives.

3. DOCUMENT CONTENT

3.1 SCOPE OF WORK

The scope of work (with Doc Identifier: F/IRSOW-T/1-10) is for the provision of chemical cleaning services to clean Unit 1-10 main condenser tubes at Hendrina Power Station. As a minimum, the *Contractor* is expected to perform/carry out the following tasks under the instruction of the *Employer's* representative at Hendrina Power station during the Unit's outage.

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The scope includes the installation of spades (4 off) on the upper and lower bellows of the condenser inlet and outlet. The spades will be provided and installed by the *Employer* so that Unit 1-10's condenser cooling-water side will remain tightly isolated throughout the production cleaning activity. Hence the spades will remain in place for the duration of the entire chemical cleaning process and will only be removed after final flushing, upon the full completion of the chemical cleaning production activity. The *Contractor* must compile and provide a chemical cleaning method statement, safety-works procedure as well as a Quality Control Plan (QCP) and submit these documents to the *Employer* for review and approval before chemical cleaning may commence. Moreover, the *Employer* must have the opportunity to add witness or hold points on the QCP.

Before chemical cleaning can take place in the condenser, the *contracted chemical cleaning service* must also include the high-pressure water jetting of all 1512-stainless-steel tubes of the condenser's air extraction zones, at a working pressure of 1000bar. A 'bucket-test' must first be performed on-site so that the *Contractor* can effectively demonstrate their capacity to meet the acceptance criteria of the *Employers* HPWJ requirements (specified below) whereby the *Contractor* in consultation with the *Employer* must establish an acceptable nozzle dwell-time, cleaning a minimum of 5 tubes.

Rotating nozzles are to be used for HPWJ of all 1512-stainless-steel tubes and all technical datasheets for the tube cleaning nozzles as well as the nozzles to be used for testing purposes (if the same nozzle is not used for both) are required. The *Contractor* must also supply suitable Endoscope/Fiberscope equipment to facilitate pre- and post-cleanliness inspections of condenser tubes. The Fiberscope must have a 'reach-length' of 9 meters and should have a digital display that includes image capture and recording capabilities.

The application of a corrosion resistant epoxy coating on all 1512-stainless-steel condenser air-extraction-zone protruding tube ends and exposed tube-sheets must also form part of the *contracted chemical cleaning service*. Additionally, the *Contractor* must supply temporary rubber plugs which have brass material-type expansion bolts (or that of a suitable alternative) so that all 1512- stainless-steel tubes may be temporarily plugged at both ends of the condenser, i.e., 3024 temporary plugs need to be installed in the inlet and return condenser water-boxes before the chemical solvent can be administered into the condenser. Note that the *Contractor* must compile and provide a method statement for coating, including the surface prep technique to be used as well as the specific type of coating to be used. Technical datasheets indicating coating specifications/limitations must be included.

1.4.1. HPWJ REQUIREMENTS FOR CONDENSER STAINLESS-STEEL TUBING

1.4.1.1. Contractor Experience

Only *Contractors* experienced and specialised in the high-pressure water jetting of turbine plant heat exchangers will be considered. The *Contractor* must provide a verifiable reference list of HPWJ cleaning contracts using a minimum of 800bar working pressure on industrial heat exchangers, in the last 5 years. Verifiable references of at least five (5) projects successfully conducted in the past 5 years are required.

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1.4.1.2. HPWJ Safety Requirements

The safety of the *Contractor* personnel is of extreme importance. The following minimum safety requirements must apply:

- ✓ *Contracted Operators* must wear CE (*European Economic Area Conformity Marking*) certified water jetting suits, and face shields rated for a working pressure of at least 1000bar.
- ✓ All foot and leg protection equipment to be appropriately rated for a working pressure of at least 1000bar.
- ✓ The Contractor must work in accordance with a safety procedure/instruction aligned to industry recognised HPWJ practices and standards to protect personnel when utilizing HPWJ equipment.
- ✓ HPWJ Contracted Operators must be trained and certified by an independent industry recognised HPWJ authority affiliated to either WJA or WJTA (Water Jetting Association or Water Jetting Training Academy). **Note that no operator will be allowed to use HPWJ lances on site without the required certification.**
- ✓ All HPWJ hoses, pressure accessories, pressure equipment and pressure vessels in the HPWJ system to be used on site must be designed for a minimum working (/design) pressure of 1000bar (100MPa). All previously mentioned equipment must also be pressure tested to 1.25 times the working (/design) pressure of the equipment.
- ✓ All hose-end connections to be fitted with the appropriate “hose-whip-checks” (lance safety devices) to prevent injury of personnel by restraining the hose in the event of an end-fitting-failure.
- ✓ The HPWJ pump discharge must be fitted with a calibrated pressure gauge and safety relief valve or rupture diaphragm.
- ✓ Any manholes which are open for ventilation purposes must be properly barricaded by the Contractor to eliminate unauthorised entry while cleaning is in progress.
- ✓ Barriers and warning notices must be in place before any HPWJ work commences.
- ✓ Compliance with Eskom’s Life Saving Rules as applicable to this activity is obligatory.
- ✓ The Contracted Operators must use a handheld pneumatic powered feeder which incorporates a sleeve into which the nozzle retracts as it exits the tube. The feeding speed and dwell-time must be set during commissioning as defined in section 1.4.1.4, on page 10 of this document. This equipment/device must be used at all times to ensure Contracted Operators are not exposed to water jets when moving the lance from one tube to another.


1.4.1.3. HPWJ Minimum Equipment Requirements

- 1) For tubes with an internal diameter of 20.5 up to 25 millimetres the minimum nozzle flow rate must be 50 litres/min at 1000bar working pressure. For tubes with an internal diameter between 15 and 20.5 millimetres the minimum nozzle flow rate must be 33 litres/min at 1000bar working pressure.
- 2) Rotating tube cleaning nozzles with multiple radial water jets or polishing nozzles must be used. The cleaning nozzles must be obtained from a recognised HPWJ equipment supplier and must include technical datasheets for all types to be used on site which show the pressure rating of the HPWJ nozzles, the outside diameter of the nozzles and the tube inner

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diameter range the nozzle is intended for. The HPWJ cleaning nozzle datasheets must furthermore detail the design features of the cleaning nozzles for unplugging tubes and removing deposits of scale from the inner tube walls. The maximum pressure rating of the nozzle must be 1035bar or 15000 psi. **Nozzles with a higher-pressure rating are not acceptable.** The minimum number of nozzles available on site for the main turbine condenser is 6. Furthermore, the nozzles must travel the full length of all the tubes, i.e., 9 meters.

- 3) Technical data sheets must be provided for the HPWJ pumps too be used on site and as a minimum should show evidence that the pumps are able to maintain a minimum continuous working pressure of 1000bar at a flow rate of 50 litres/min. This requirement assumes one pump will supply one cleaning nozzle. If a single pump is to supply more than one nozzle simultaneously, the pump must maintain a minimum continuous working pressure of 1000bar and a minimum volume flow of 50 litres/min per each of the cleaning nozzles attached simultaneously to the pump.
- 4) The HPWJ flexible hose from the foot-valve to the tube-cleaning-nozzle must have a minimum internal diameter of 6 millimetres for tubes with an internal diameter between 15 and 20.5 millimetres. For tubes with an internal diameter of more than 20.5 millimetres, the HPWJ flexible hose from the foot-valve to the tube-cleaning-nozzle must have a minimum internal diameter of 7 millimetres. The maximum hose length is the condenser tube length (9 meters) plus an additional 7 meters (i.e., 16 meters in total). The foot-valve must be positioned in the water-box. The minimum number of hoses available on site for the main turbine condenser is 4. Furthermore, the flexible hose from the pump outlet to the foot-valve must have a minimum internal diameter of 10 millimetres.
- 5) The *Contractor* must make provision to have an appropriate amount of spare equipment and tooling on-site during the outage, particularly nozzles, hoses, couplings, all wear and tear parts such as seals/gaskets/o-rings, etc. In the event of HPWJ pump breakdown/failure then repair, or suitable replacement, must be affected within 2 hours. The latter must only apply to eventualities involving an unexpected major breakdown/failure of HPWJ Pumps.
- 6) Under no circumstances is the tube-sheet or protruding tube-ends to be damaged during the HPWJ cleaning activity. The *Contractor* must establish a system or method to ensure impinging water jets from the nozzle are not directly focused on the tube-sheet or onto the outside diameter of the exposed tube-ends. Prior to any HPWJ cleaning activities an inspection must be performed by the *Contractor Supervisor* and the *Engineer* to photographically record the existing condition of the tube-sheet and protruding tube-ends. Thereafter the *Contractor* must compile and provide the *Employer* with a visual report containing the photographic evidence and the *Contractor's* signature, in acknowledgment of
NB! This activity must be included in the QCP as a hold point. Note that once the HPWJ cleaning activity has been completed, any discovered damages will be at the *Contractor's*
- 7) The *Contractor* must make provision of adequate number of handheld pneumatic powered feeders as described on at the end of section 1.4.1.2., on the previous page.
- 8) The *Contractor's* selection of all lances, nozzles, sleeves and hosing must be suitable for the tubing diameters as defined in "Table 2: Main Turbine Condenser Technical Information" on the next page.

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- 9) The **Contractor** must supply suitable endoscope/fiberscope equipment to facilitate pre- and post-cleanliness inspections of condenser tubes. The endoscope used for inspection of the tubes must have a minimum length of 9 meters and digital display that includes image capture and recording capabilities with the minimum specifications as outlined in Table 1 below.

Table 1: Specification for Minimum Requirements for Endoscope

CAMERA MINIMUM REQUIREMENTS	
Camera Lens	Dual (Front & Side)
Video Resolution	1080p HD (1920 x 1080 pixel) resolution
Picture Resolution	A4 page resolution: 2480 x 3508 pixels
Megapixel (MP)	2.1
Image Format	JPEG or TIF
Video Format	MP4
Focal Length	30 mm
Magnification	2x
Waterproof	IP67
Bore hole minimum size	10 m
Long Range Semi-rigid Reinforced Cable Length	9 m


Table 2: Main Turbine Condenser Technical Information at Hendrina PS

HEAT EXCHANGER SPECIFIC INFORMATION			
Tube Details:	Main Bundle "Condensing Zone"	Secondary Bundle "Air Extraction"	Impact Tubes "Peripheral tubes"
Tube Material:	SoMs71F38	304L Stainless Steel	SoMs71F38
Number of Tubes:	6908	1512	8020
Tube Length:	9000mm	9000mm	9000mm
Tube OD:	25.4mm	25.4mm	25.4mm
Tube Wall Thickness:	1.219mm	1.0mm	1.219mm
Tube Profile:	Straight	Straight	Straight
Anticipated Scale Thickness:	2mm – 3mm	2mm - 3mm	2mm - 3mm
Tube Protruding End Lengths	3mm (Inlet & Outlet)	20mm (Inlet & Outlet)	3mm (Inlet & Outlet)

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Water-box Access:	<i>Water-boxes will not be removed from the condenser – access to the tube ends is from within the confined space of the water-box. Simultaneous access is available in 4 water-boxes.</i>
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1.4.1.4. COMMISSIONING TESTS & OPTIMIZATION

BEFORE ANY WORK IS PERFORMED THE *CONTRACTOR* MUST DEMONSTRATE THE FOLLOWING TO THE *EMPLOYER*:

1. Provide all required certificates (equipment pressure tests, pressure gauge calibration, personnel training) as stipulated in section 1.4.1.2, on page 8 of this document.
2. The *Employer* must verify that the equipment on site complies in all respects to the technical data sheets provided with the tender as well as that the number of pumps, hoses, foot-valves, cleaning nozzles, etc. on site corresponds in all respects to the information provided in the tender returnables.
3. The *Contractor* must demonstrate to the *Employer* that the HPWJ pump, hose and cleaning nozzle(s) in the HPWJ system to be used on site can supply a volume flow rate of 50 litres/min by means of a 'container & stopwatch' method (or a suitable alternative technique) for a pump outlet pressure of 1000bar. This test assumes one pump will supply one cleaning nozzle. If a single pump is to supply more than one nozzle simultaneously the pump must maintain a minimum volume flow of 50 litres/min per each of the cleaning nozzles attached to the pump.
4. The *Contractor* must demonstrate that the lance safety devices ("hose-whip-checks") in combination with the handheld pneumatic powered feeders, correctly prevents the lance from withdrawing (/whipping away) from the tube during HPWJ and hence is safe for the *Contracted Operators* to utilize, as defined in section 1.4.1.2.
5. Before starting with the production chemical-HPWJ cleaning operation, the *Contractor* in consultation with the *Employer* must establish an acceptable nozzle resident/dwell-time, cleaning a minimum of 5 'pulled' condenser tubes during an on-site 'bucket test', thereby demonstrating the *Contractor's* true capability of meeting the minimum acceptance criteria stipulated under section 1.4.1.3. of this document. The *Employer* will provide the 5 tubes and as part of the test the *Contractor* must also demonstrate to the *Employer* that the working pressure of the HPWJ pump, hose and cleaning nozzle combination, does not damage the tubes.

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6. Dwell-times must typically not exceed 40 seconds per tube, and the rate of lance travel should not be slower than 6 seconds per meter. After the ‘*bucket test*’ has been conducted and during cleanliness visual inspections it may be found that cleaning with the pre-established nozzle resident/dwell-time is ineffective, i.e., scale deposits are not being entirely removed from the inner walls of the condenser tubes. In such an event the nozzle resident/dwell-time may be further increased, and the ‘*bucket-test*’ repeated. This test must be performed in consultation with the *Employer* and actual high-definition endoscopic inspections of all the cleaned tube sections must be performed. Thereafter, the *Contractor* must capture all the video recorded inspection imagery (to be taken both before and after HPWJ commences) within a visual report and both a physical and digital copy of said report is to be handed over to the *Employer* for cleanliness evaluation and record keeping purposes.

To clarify once more, the *Contractor* must demonstrate that these tube sections can be cleaned in a single nozzle pass to the point where no traces of products of corrosion or scale deposits are visible, and no immediate damage to the internal surfaces of the tube(s) is evident once the test has been completed. In cases where excessive scale thickness prohibits the use of a nozzle capable of 50 litre/min at 1000 bar working pressure, then a nozzle with capability of no less than 33litre/min at 1000 bar working pressure must be used.

NB! This activity must be included in the QCP as a hold point. Note that failure to pass the ‘bucket-test’ will be considered as non-performance with respect to the contract.

1.4.2. CHEMICAL CLEANING REQUIREMENTS FOR CONDENSER ADMIRALITY BRASS TUBING

1.4.2.1. Contractor Experience

The Contractor must provide a verifiable reference list of chemical cleaning contracts for industrial heat exchangers (i.e., condensers) for power plants of no less than a 150-Megawatt power generating capacity, in the last 5 years. Verifiable references of at least five (5) projects successfully conducted in the past 5 years are required.

Contractors who have been evaluated and pre-qualified to conduct chemical cleaning works by the *Employers* GT chemistry specialist in accordance with the requirements of the *Employers* guideline 240-107677940: “Specification Standard for High Pressure Water Jetting of Condenser and Heat Exchanger Tubes” must submit the date, location and outcome of such an evaluation.

1.4.2.2. Chemical Cleaning Minimum Equipment Requirements

1. The *Contractor* must provide the technical information and calibration certificates on the chemical cleaning equipment and indicate in a method statement how circulation

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flow will be sufficient to flow through all the tubes of the condenser but not exceed 0.3 m/s through individual tubes.

2. The *Contractor* must provide the *Employer* with details and proof of calibration for the electronic recorder to be used to record the water-box pressures.
3. The chemical cleaning pump/s of the *Contractor* must produce a maximum pressure of 2.5 bar at 0 m³/h flow OR the equipment will contain electrical protections that will cut the power source to the pump/s should the water-box pressure exceed 2.5 bar. The correct operation of the protection equipment must be confirmed by the *Employer* prior to each chemical cleaning operation.
4. The *Contractor* must supply technical datasheets to the *Employer* for all the equipment that will be used to conduct chemical analysis for the dissolved species comprising of the primary alloying constituents of condenser tube material.
5. The *Contractor* must also supply technical datasheets to the *Employer* for all the equipment that will be used to conduct analysis of the pH of the cleaning solution.
6. The *Contractor* must provide the *Employer* with the MSDS (Material Safety Data Sheet) of the proposed solvent to be used for cleaning operations.
7. The *Contractor* must provide demonstrable evidence that key personnel working for the *Contractor* or *Sub-contractor*, who will be responsible for the application of the corrosion resistant epoxy coating on all 1512-stainless-steel condenser air-extraction-zone protruding tube-ends and exposed tube-sheets, have previously, successfully, applied a corrosion resistant epoxy in power plant main turbine condenser water-boxes of a similar size in the previous 6 years. Additionally, the contractor must supply temporary rubber plugs which have brass material-type expansion bolts (or that of a suitable alternative) so that all 1512- stainless-steel tubes may be temporarily plugged at both ends of the condenser, i.e., 3024 temporary plugs need to be installed in the inlet and return condenser water-boxes before the chemical solvent can be administered into the condenser.

1.4.2.3. Chemical Cleaning Methodology

A detailed description of the chemical cleaning *works* and constraints on how the *Contractor* conducts the cleaning *works* is provided below:

1. The *Employer* and *Contractor* conduct an initial inspection of the internals of the condenser to be cleaned. Using an endoscope/fiberscope, the *Employer* in consultation with the *Contractor* video-graphically documents the inner surface condition of the condenser tubes as well as photographically documents the amount of fouling and scaling on the tube-sheets and water-box walls. The *Contractor* includes the initial inspection findings and endoscope/fiberscope videos/photos in the Heat Exchanger Cleaning Report (see section 1.5 on page 18 of this document). Note that the end of section 1.4.3. on page 17 exactly stipulates the additional requirements concerning the Heat Exchanger Cleaning Report.

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2. The *Contractor* removes all loose debris/foreign material from the water-boxes and tube-sheets to ensure all tubes are clearly visible prior to solvent injection. The *Contractor* ensures that water-boxes are free of debris as well as any additional objects that can hinder venting during the chemical cleaning operation.
3. The *Contractor* inspect vent and drain lines on the selected condenser to determine the risk of blockage and possible pressure build-up inside the condenser during a chemical cleaning operation. The *Employer* will, where necessary, remove strainers on the vent and drain lines prior to cleaning to mitigate the risk of blockage.
4. The *Contractor* unblocks all tubes of the condenser to be cleaned by means of rodding (using flexible tube rods). Tube unblocking is required to allow adequate circulation of the solvent and prevent possible tube leaks during the cleaning process.
5. The *Contractor* clearly marks all tubes which are identified as blocked, restricted or obstructed during the rodding activity (using a permanent white marker) as well as on the tube-map diagram provided by the *Employer*.

Note: Marking of blocked tubes on the tube sheet by placing foreign debris (Bolts, wires, etc.) in the tubes is regarded as unacceptable.

6. The *Employer* plugs all blocked tubes which cannot be cleared by rodding with suitable rubber plugs, declared acceptable to the *Employer* prior to the chemical clean.
7. The *Contractor* assists the *Employer* in installing blank spades or flanges as required to allow for proper circulation of the solvent through all the condenser tubes. Blank-spades and isolating devices are required to prevent aggressive chemicals from contacting materials that are incompatible with the selected solvent. The spades and isolating devices are supplied and installed by the *Employer*.

7.1 Additional precautions are required when chemical cleaning is conducted on the main condensers because of different tube materials (i.e., 304H stainless-steel tubes in the air extraction zones and general admiralty brass tubes).

7.2 After the *Contractor* has completed HPWJ of the 1512 stainless-steel tubes the *Contractor* must ensure that all protruding tube faces of the 1512 stainless-steel tubes are coated with a protective epoxy coating prior to the commencement of the chemical cleaning operation.

7.3 The *Contractor* must also ensure that the 1512 tubes of the extraction zone are plugged with suitable temporary rubber plugs prior to any chemical cleaning operation on the condensers, i.e., 3024 temporary plugs need to be installed in the inlet and return condenser water-boxes before the chemical solvent can be administered into the condenser.

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7.4 The *Contractor* does not proceed with chemical cleaning of a main condenser unless these precautionary measures have been taken.

8. The *Contractor* fits the necessary temporary connections of the pumping station to Unit 10's main turbine condenser.
9. In all cases the water-box pressures must be recorded by means of an electronic recorder with a recording frequency of no more than 30 seconds.
10. The *Employer* ensures that the required supports ('condenser jacks' – 8off) are fitted to the condenser in order to conduct the chemical cleaning operation.
11. The *Contractor* verifies that the shell-side of the condenser is filled with demineralized water prior to chemical cleaning. The *Employer* is responsible for the shell-side filling activity in order to ensure that any solvent which escapes from the tubes into the shell-side of the condenser is diluted and the risk of damage is minimised.
12. The tube-side of the condenser is filled with potable/raw water using the chemical cleaning pump station supplied by the *Contractor* and circulation is established without exceeding the specified discharge pressures, noting that the maximum water-box pressure is 2.5 bar.
13. The *Contractor* inspects the closed-loop system for any leaks and addresses defects prior to chemical injection.
14. An amount of water equivalent to the amount of solvent to be added to achieve the desired concentration is drained from the tube-side of the condenser by the *Contractor*.
15. Solvent injection occurs according to the reviewed chemical cleaning procedure / method statement supplied by the *Contractor*.
16. The *Contractor* proceeds with the solvent circulation and ensures adequate gas release. The process is terminated on the basis of chemical analysis, which indicates stability of the residual solvent strength of the bulk solution and there is no further increase in the concentration of the scale/deposit species in the bulk solution. Chemical analysis is conducted by both the *Contractor* and *Employer* during the cleaning operation.
17. The *Contractor* stops circulation and drains the spent solvent to the area designated by the *Employer* (usually the ash sump of the appropriate unit). The *Contractor* ensures all mineral acids are neutralised with lime at the discharge point.
18. The *Contractor* is required to fill and flush the condenser with potable/raw water until the residual conductivity is less than 100µS/cm above the potable/raw water quality.
19. The *Contractor* circulates the water and adds sufficient soda ash or tri-sodium phosphate to elevate the pH of this solution to 9.0 (±0.2). When the required pH is reached the *Contractor*

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circulates the solution for an additional 60 minutes to neutralise any residual acids and then drains the condenser.

20. The *Contractor* removes the temporary connections and temporary plugs from the condenser, and the *Employer* removes blank spades from the condenser.
21. The *Employer* drains the shell-side of the condenser. Should shell-side in-leakage have occurred during the cleaning operation, then the shell of the condenser will be flushed with demineralised water dosed with ammonia to elevate the pH to 9.1 (± 0.2).
11. The *Contractor* flushes all tubes of the cleaned condenser to remove any remaining sludge, debris and scale fragments from the condenser.
12. The *Contractor* must clean all water-boxes post chemical cleaning. All foreign materials and debris must be removed from the water-boxes.
22. A condenser flood test is conducted by the *Employer* and tubes that have developed leaks are plugged with the appropriate plugs. The tube-map diagram must be updated during this activity.
13. The *Employer* and *Contractor* conduct a post cleanliness inspection of the internals of the chemically cleaned condenser. Using an endoscope/fiberscope, the *Contractor* documents the condition and amount of fouling on the tube-sheets and tubes. The *Contractor* includes the final inspection findings and fiberscope/ endoscope photos in the Heat Exchanger Cleaning Report.
14. The *Contractor* updates the tube map diagram to include all plugs added post chemical cleaning and includes the final marked-up diagram in the Heat Exchanger Cleaning Report.

NB! It is recommended that the *Contractor* also review the scope of work with Doc Identifier: F/IRSOW-T/00A & Genix ID: 34234, which is a separate document that is obtainable from the *Employer*, for a more detailed step-by-step description of how the chemical cleaning process is scheduled to take place on site at Hendrina Power Station during Unit 10's upcoming 54-day Interim Repair (IR), planned outage.

1.4.2.4. Chemical Cleaning Safety Requirements:

1. Access of personnel to the water-side water-boxes of the condenser must only be authorised after the air oxygen levels inside the water-box have been verified and determined to be suitable for safe access. The *Employer* will be responsible to conduct the air oxygen test.
2. The *Employer* ensures that suitable scaffolding is constructed to ensure safe access to the cleaning area.

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3. The *Contractor* is required to familiarise all employees with the baseline health and safety risk assessment for the *works*.
4. The *Contractor* ensures compliance to the Occupational Health and Safety Act, 1993 Hazardous Chemical Substances Regulations, 1995 and that the appropriate procedures are available for the handling and disposal of hazardous chemicals proposed for the chemical cleaning operation. Contingency plans must be in place to cater for any unforeseen accident, or chemical spillage.
5. The *Contractor* employed to conduct the chemical cleaning is subject to Section 10(3) of the Occupational Health and Safety Act, 1993 Hazardous Chemical Substances Regulations of 1995. The *Contractor* must, as far as is reasonably practicable, provide the *Employer* receiving such substance, free of charge, with a Material Safety Data Sheet (MSDS) in the form of Annexure 1 of the Act.
6. The *Contractor* with the assistance of the *Employer* ensures that every possible precaution is taken to minimise the risk of accidental physical contact with the cleaning solutions / chemical solvent or concentrated chemicals. In such incident, the contingency planning must fully provide for decontamination as well as adequate first aid and medical facilities.
7. The following additional mandatory safety requirements are prescribed for every chemical cleaning operation (Refer to the *Employer's* Specification 36-149 "Coal fired boilers – post operation chemical cleaning"):
 - The *Contractor* will supply a safety shower close to the chemical pump station. The supplied safety shower will be tested prior to the commencement of chemical cleaning activity.
 - The *Contractor* will erect a shark net barricade to restrict entry to the pump station and concentrated chemical storage area and a hazard tape barricade around the entire area dedicated to the clean.
 - All personnel within the barricaded operational area are required to wear the appropriate safety equipment/clothing at all times:
 - Chemical Resistant Overall
 - Face Shield / Safety Glasses
 - Rubber Gloves
 - Chemical Resistant Apron
 - Safety Boots
 - The *Contractor* ensures that all of their personnel involved in the operation are issued suitable protective clothing.

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- All personnel involved in the chemical cleaning operation will wear clearly visible identity tags.
- The *Employer's Safety Officers* are required to control access to the operational area during acid injections.
- The *Contractor* will ensure flanged temporary connections are fitted with plastic sleeves to prevent acid sprays in the event that leaks occur.
- The *Contractor* will provide lime or soda ash to neutralize acid spills and leaks.
- The *Contractor* will place warning signs at the appropriate locations as discussed with all stakeholders.
- The *Employer* ensures a first aider is present and medical staff is on stand-by during acid injections.
- The *Contractor* with the assistance of the *Employer* must repair leaks that may occur during the clean.
- Solvent injection should preferably commence early in the morning, during normal office hours, to ensure the availability of resources should a solvent leak occur. Chemical injection is the most crucial step in the cleaning operation and the availability of adequate human resources is of great importance.
- A safety co-ordination meeting must be held a week prior to the chemical clean: The following personnel or their representatives are required to attend:
 - *Employer's System Engineer*
 - *Employer's Project Coordinator (Maintenance or Outage Coordinator)*
 - *Employer's Chemical Services Manager*
 - *Employer's Generation Group Specialist*
 - *Employer's Power Station Safety Officer*
 - *Chemical Cleaning Contractor*
 - *Employer's Industrial Nurse*
 - *Employer's Environmental Officer*

1.4.3. ADDITIONAL REQUIREMENTS

1. The *Contractor* must compile a final method statement, safety work procedure and Quality Control Plan (QCP) and submit these documents to the *Engineer* for approval before chemical cleaning may commence. The *Employer* must have the opportunity to add witness or hold points on the QCP.

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2. The *Contractor* must supply suitable plastic sheeting and place it over the scaffolding which covers the main condenser cooling water inlet ducts to prevent any of the debris removed from the condenser tubes during HP-cleaning from falling down into the CW inlet duct.
3. All tubes which are blocked or obstructed, and which cannot be unblocked by HPWJ must be marked on the tube-map diagram and must be plugged using expanded rubber plugs which have brass-bolts (or that of a suitable alternative).
4. The *Contractor* ensures sufficient flow during a chemical cleaning activity. Circulation flow must be sufficient to flow through all the tubes of the condenser but must not exceed 0.3 m/s through individual tubes.
5. The *Contractor* must maintain a daily logbook where all the required information (chemical analysis, water-box pressures, etc.) are logged.
6. The Contractor must clean all the water-boxes as well as the drainpipes connected to the inlet and return water-boxes after cleaning the tubes. Moreover, all foreign materials and debris must be removed from the water-boxes.
7. The Contractor will not be allowed to use compressed air in order to assist in draining of a condenser.
8. The Contractor ensures the solvent concentration does not at any time exceed the prescribed concentration of 7.0% by mass and also ensures adequate reaction gas release during the cleaning operation.
9. The *Contractor* ensures that the free residual acidity of the cleaning solution does not decrease to below 4.0 % by mass at any time.
10. The *Contractor* must add phosphoric acid at a strength of 0.25 to 0.5% when hydrochloric acid is used as the primary solvent, as it has been found to function as an inhibitor of the brass dezincification corrosion process.
11. The *Contractor* assists in the chemical analysis appropriate to the constituents in the type of scale being dissolved, as well as residual acid strength, performed by the *Employer* at a frequency of not less than once every 30 minutes.
12. The *Contractor* assists the *Employer* with the chemical analysis for the dissolved species comprising the primary alloying constituents of condenser tube material which must be performed at a frequency not less than once every 60 minutes to monitor corrosion protection by the selected inhibitor.
13. The *Employer* will conduct analysis of the pH and K25 of the demineralised water in the shell-side of the condenser every 60 minutes to check for acid in-leakage and may choose to stop the cleaning operation should excessive leakage occur.
14. The *Contractor* ensures that all mineral acids is neutralised with lime at the discharge point. All spills must also be neutralised with lime / soda ash.
15. The *Contractor* must supply suitable Endoscope/Fiberscope equipment to facilitate pre- and post-cleanliness inspections of condenser's stainless steel air extraction zone tubes before and after HPWJ, and of the condenser's admiralty brass tubes before and after chemical cleaning. After the

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inspections have been completed the *Contractor* must capture all the video recorded inspection imagery within the Heat Exchanger Cleaning Report and both a physical (/hard copy) and digital copy of said report is to be handed over to the *Employer* for cleanliness evaluation and record keeping purposes.

Therefore, as per the requirements of this document, the following six (6x) sections must be included within the Heat Exchanger Cleaning Report:

- a) The first section capturing the video recorded inspection imagery of the original condition of the tube-sheet and protruding tube-ends, taken before HPWJ and chemical cleaning commences.
- b) The second section capturing the video recorded inspection imagery of the 5 'pulled' condenser tubes both before and after they have been cleaned as part of the preliminary 'bucket test'.
- c) The third section capturing the video recorded inspection imagery of the initial 'dirty' condition of the stainless-steel air-extraction zone condenser tubes in the inlet and return water-boxes, taken before HPWJ commences.
- d) The fourth section capturing the video recorded inspection imagery of the final clean-condition of the stainless-steel air-extraction zone condenser tubes in the inlet and return water-boxes after HPWJ has been completed.
- e) The fifth section capturing the video recorded inspection imagery of the initial 'dirty' condition of the admiralty brass condenser tubes in the inlet, return and outlet water-boxes, taken before chemical cleaning commences.
- f) The sixth section capturing the video recorded inspection imagery of the final clean-condition of the admiralty brass condenser tubes in the inlet, return and outlet water-boxes, taken after chemical cleaning has been completed.

Note that inspection findings are to be included at the end of each section and as a minimum should expertly detail the actual degree of cleanliness before and after the completion of the HPWJ and chemical cleaning production activities. As specified in section 1.4.2.3., the final marked-up tube map diagram must also be included in the Heat Exchanger Cleaning Report. Lastly, The *Contractor* ensures that records of all chemical analysis are kept and made available in the Heat Exchanger Cleaning Report.

16. As stated in section 1.2 on page 6 of this document, the minimum acceptance criteria is that all scale must be removed from the inner walls of the tubes, i.e., the entire internal tube surface of all the tubes must be completely clean with no traces of corrosion product or other scales and deposits to be found on the tube inner surfaces after the production cleaning activity has been completed.


HEAT EXCHANGER CLEANING REPORT:

A Heat Exchanger Cleaning Report is a data book of collective documents containing all the important information regarding the production cleaning activities conducted on the condenser as per scope of work, covered during the HPWJ and chemical cleaning *works* during the outage. The *Contractor* ensures that such a report is submitted to the *Employer* whenever a condenser is high pressure- and chemically cleaned. The report is submitted to the *Employer* no later than 7 days after the final completion of production cleaning operation.

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In respect of what has been specified under point 15 above, remember that the following must be included in the Heat Exchanger Cleaning Report:

1. *Contractor* acceptance of the *Employer's* requirements stated in guideline 240-56030530.
2. The approved chemical cleaning procedure used during the cleaning operation.
3. Initial condenser inspection findings capturing information on the scale layer, condition of the water-box linings, tubes and tube-sheet.
4. The preliminary and final updated tube-map diagram, indicating all blocked tubes found and tubes plugged during the cleaning operation.
5. All chemical monitoring / testing results obtained during a chemical cleaning operation (including lagged water-box pressures).
6. Final inspection findings post chemical cleaning capturing information on the reduction / removal in scale layer, condition of the water-box linings, tubes and tube-sheet.

HAZARDOUS SUBSTANCES

Subject to Section 10(3) of the Occupational Health and Safety Act, 1993 Hazardous Chemical Substances Regulations, 1995:


Every person who manufactures, imports, sells or supplies any hazardous chemical substance for use at work (The *Contractor*), must, as far as is reasonably practicable, provide the person receiving such substance (The *Employer*), free of charge, with a Material Safety Data Sheet (MSDS) in the form of Annexure 1 of the Act, containing all the information as contemplated in either ISO 1 1014 or ANSI Z400.1.1993 with regards to:

1. Product and company identification;
2. Composition/information on ingredients;
3. Hazards identification;
4. First-aid measures;
5. Fire-fighting measures;
6. Accidental release measures;
7. Handling and storage;
8. Exposure control/personal protection;
9. Physical and chemical properties;
10. Stability and reactivity;
11. Toxicological information;
12. Ecological information;

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13. Disposal considerations;
14. Transport information;
15. Regulatory information; and
16. Other information.

Provided that, where it is not reasonably practicable to provide a material safety data sheet, the manufacturer, importer, seller or supplier (*Contractor*) must supply the receiver of any hazardous chemical substance (*Employer*) with sufficient information to enable the *Employer* to take the necessary measures as regards the protection of health and safety.

ENVIRONMENTAL REQUIREMENTS

The *Contractor* ensures that all goods, services or *works* supplied in terms of the Contract conform to *Employer's* environmental procedures and specifications:

1. HSPHO/058: "Safety, Health and Environmental Specifications for Principal Contractors"
2. HSPPPIN005: "Hendrina Power Station Environmental Policy"
3. HSPPIN024: "The Identify & Update Environmental Aspects Procedure"
4. HSPPIN032: "The Environmental Emergency Preparedness Procedure"
5. HSPPIN003: "The Waste Management Procedure"
6. HSPPON003: "Hendrina Power Station Environmental Procedures"
7. HSPPIN024: "The Identify and Update Environmental Aspects Procedure"
8. 32-95: "Procedure for The Effective Management of The Safety, Health and Environmental Related Incidents"

DISPOSAL OF CHEMICAL CLEANING WASTE

All waste introduced and/or produced on the *Employer's* premises by the *Contractor* for this contract, is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry Act 1994 Ref: ISBN0621 - 16296-5.

Chemical cleaning wastes are disposed of by routing them either to the ash handling system, or to the dirty drains system, for eventual absorption into the ash fields. All mineral wastes must be neutralised with lime prior to disposal.

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GENERAL SPECIFICATIONS

Title	Date or revision	Tick if publicly available
Safety, Health and Environmental Specifications for Principal Contractors	HSPHO/058	X
Eskom Hendrina Power Station Quality Procedure	HSPPA/006 R4	X
Protective Services – Access Control System Procedure	HSPHO/020	X
Hendrina Power Station Environmental Policy	HSPPPIN005	X
The Identify & Update Environmental Aspects Procedure	HSPPIN024	X
The Objectives and Targets Procedure	HSPPIN026	X
The Environmental Emergency Preparedness Procedure	HSPPIN032	X
The Training, Awareness & Competence Procedure	HSPPIN029	X
The Waste Management Procedure	HSPPIN003	X
Hendrina Power Station Environmental Procedures	HSPPON003	X
Emergency Response Procedure	HSPHO/059	X
The Identify and Update Environmental Aspects Procedure	HSPPIN024	X
The Roles and Responsibilities Procedure	HSPPIN028	X
Procedure For the Effective Management of The Safety, Health and Environmental Related Incidents	32-95	X
Specification for Corrosion Protection of Plant Equipment with Coatings	36-1126	X

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Condenser Health Care Policy	36-1121	X
<u>Technical specifications:</u>		
[1] Condenser Healthcare Standard, Revision 1.	240-56176026	Controlled Disclosure
[2] Condenser Healthcare Guideline, Revision 3.	240-55030499	Controlled Disclosure
[3] Cooling Water System Healthcare Guideline, Revision 3.	240-55030508	Controlled Disclosure

3.2 LEGAL COMPLIANCE

3.2.1 Section 37(2) (Legal) Agreement

A section 37(2) agreement must be signed between Eskom and the main contractor at the time of submitting the safety file. The main contractor must ensure that a section 37(2) agreement is compiled between the main contractor and all their appointed contractors for the contract. The original copy of the section 37(2) agreement must be retained by the contractor, and a copy must be retained by the responsible project manager/end user. A copy of all the agreements must form part of the respective contractor's OHS file.

3.2.2 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:

1. *being protected from exploitative labour practices.*
2. *not be required or permitted to perform work or provide services that*
3. *are inappropriate for a person of that child's age; or*
4. *This places 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 child's constitutional rights. Where work is being performed which is not prohibited in terms of the constitution, then such work must be conducted in terms of the OHS Act "Regulations on Hazardous Work by Children in South Africa" with emphasis on paragraph 2: Purpose and Interpretation. Eskom

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does not condone the use of child labour and, therefore, all effort must be exercised, and child labour should not be used.

3.2.3 OHS Act

The main contractor and appointed contractors shall have an up-to-date copy of the OHS Act and regulations which will be available to all employees.

3.2.4 Legislative Compliance

All contractors will comply with all the legislation pertaining to this contract being:

The Main contractor and all appointed contractors will comply with all the legislation pertaining to this project being:

- The Constitution of the Republic of South Africa (particularly Section 24 of the Bill of Rights).
- Occupational Health and Safety Act 1993 (Act 85 of 1993) and its Regulations.
- National Environmental Management Act 1998 (Act 107 of 1998).
- Environment Conservation Act 1989 (Act 73 of 1989).
- National Water Act 1998 (Act 36 of 1998).
- Civil and Building Work Act.
- National Road Traffic Act 93 of 1996.
- Compensation for Occupational Injuries and Diseases Act.
- SANS Standards –Contractor shall use the relative standards applicable to the project.

3.3 ESKOM REQUIREMENTS

All contractors shall, before commencement of the project ensure that all their employees are familiar with the relevant Eskom OHS documentation that is applicable to contract services.

3.4 SHEQ POLICY

A SHEQ policy is a statement of intent and a commitment by the organization's CE and senior management in relation to the relevant OHS roles and responsibilities, the achievement of their strategic objectives, and values of integrity, customer satisfaction, excellence, and innovation. The main contractor and all appointed contractors, if not already in place, will be required to compile an organisational SHEQ policy in line with their OHS responsibilities. The policy must be signed by the organisation's CE or the appointed assistant to the CE, OHS Act Section 16(2). The policy must be displayed in a prominent place within the workplace. A copy of the policy must be filed in the contractor's OHS files and attached as an annexure to the OHS Plan.

3.5 COVID -19 POLICY

Due to the current pandemic the contractors are required to submit the Covid policy signed by the most senior person. The policy must be displayed in a prominent place within the workplace. A copy of the policy must be filed in the contractor's OHS files and attached as an annexure to the OHS Plan.

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3.5.1 Covid -19 requirements

Covid-19 costs are not for profit making purpose and Eskom reserves the right to accept and/or decline the list of PPE which will be listed in the detailed Covid-19 costs. Due to the current pandemic the contractors are required to provide Eskom with a Covid-19 risk assessment and a detailed plan on how to prevent the spread of the virus and what control measures will be put in place to protect Eskom employees and members of the public. The risk assessment must include the following but not limited to, adherence to Covid-19 protocols in designated smoking areas. Covid-19 costs are applicable for the duration of the pandemic and the Covid-19 costs will be ceased once the country has declared that Covid-19 is no more a pandemic. The contractors have an obligation to comply with the National Disaster Management Act including the appointment of the Compliance Officer.

3.6 COID

The Main contractor and all his/her appointed contractors shall be registered with an appropriate employment compensation commissioner and have available a valid letter of good standing (LoG) from such commissioner. The obligation lies with the contractors to ensure that the LoG remain valid throughout the contract period. A copy of the LoG must be filed in the contractor OHS files.

3.7 COSTING FOR OHS WITHIN THE PROJECT

The costing for OHS must be itemised based on the overall scope of the project (i.e.) Training, provision of PPE, safety equipment purchases etc.

3.8 STATUTORY APPOINTMENTS

The Main contractor and all appointed contractors must appoint competent workers who will comply with the OHS Act for the duration of the contract. Before requiring appointees to accept an appointment, the employer must ensure that they have received appropriate training and/or information about their responsibilities. The relevant statutory appointments must be made in compliance with the OHS Act's criteria, which include appointing a qualified individual to the appropriate roles. The following should be included in the statutory appointments, but not limited to:

- OHS Act General Administrative Regulation 9(2) – Incident Investigator
- OHS Act Section 19 (3) - Health and Safety Committee Member
- OHS Act Section 19(6)(a) – Co-opted Health and Safety Committee member
- OHS Act Hazardous Chemical Substances Regulation 3(3) Hazardous Chemical Substances Co-coordinator
- OHS Act, Section 17 – Health and Safety Representative.
- OHS Act General Machinery Regulation 2(1) – Supervision of Machinery
- OHS Act: Pressure Equipment Regulations 11 & 12 Portable Gas Container Inspector
- OHS Act General Safety Regulations 3(4) – First Aider/s

3.8.1 Non statutory appointments

- Eskom requirement – Emergency Planning Co-coordinator
- Eskom requirement - Chairperson of Health and Safety Committee
- Eskom Site Manager
- Eskom Site Supervisor

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- Risk Assessor
- Safety Officer
- Working at Heights planner

3.9 ESKOM LIFE-SAVING RULES

1. Eskom places a high value on health and safety and urges every organization that undertakes work for Eskom to do the same.
2. Eskom has developed five life-saving guidelines that will apply to all Eskom employees, agents, consultants, and contractors. Any Eskom employee or employee of a Main Contractor or appointed contractor who fails to follow these rules would be deemed a serious violation. These rules are in place to protect any employee, labour broker, or contractor working from significant injury or death.
3. If any contractual work (including delivery of any product) is to be undertaken on Eskom premises, the rules shall be obeyed by any contractor and their employees.

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.

Eskom will take a zero-tolerance approach to these policies.


Noncompliance to Life-saving rules is regarded serious misconduct and will result in serious disciplinary action, which may include dismissal.

This is to ensure that everyone who works on or visits an Eskom facility returns home to their families safely.

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3.10 SUBSTANCE ABUSE

1. Alcohol and substance abuse are serious threats to any business, especially when it comes to workplace accidents and car driving. As a result, Eskom has the right to take reasonable procedures to identify and prohibit drunk people from entering the company.
2. General Safety Regulation 2A specifies the legal position on intoxication.
3. The allowable alcohol and drug level is 0%.
4. All contractors must follow Eskom's procedure 32-37 ("Substance Abuse Procedure"), taking into account that this is an Eskom Life-saving Rule number 4: (BE SOBER)", and anyone entering the Eskom site will be subjected to ad hoc alcohol testing if the BU has self-alcohol testing equipment.
5. Contractors are invited to develop their own manual and test their own employees for alcohol on a regular basis.
6. Test results must be marked "Confidential" and kept in the employee's personal file.
7. Eskom's life-saving rules must be included in the induction process.
8. All employees involved in the scope of work must sign the Life-saving rule pledge before commencement of work.

3.11 CONTRACTOR ORGANISATIONAL STRUCTURE

3.11.1 Main Contractor Organogram

The Main contractor must provide an organisational organogram on the company's letter head related to this contract, depicting all the levels of responsibility from the CE down to the supervisors responsible for the contract. List the relevant positions held, names of appointees, legal appointments and the Organogram must be signed off by the company's 16(1) or 16 (2).

The Main contractor must ensure that all appointed contractors comply with this requirement. The Main contractor is responsible for keeping copies of all the organograms' as well as submitting them with the OHS plan. All organograms shall be updated timeously when appointments are changed. This diagram must be kept up to date and filed in the project OHS files.


3.11.2 Appointed Contractor/s Organogram

1. Appointed contractors are required to compile their company organogram for the project on the company's letter head, listing the reporting structure from their CE down to their project supervisors. The diagram must list the names, positions held, any appointments made and must be signed off by the company's 16(1) or 16 (2).
2. This diagram must be kept up to date, a copy of which must be given to the Main contractor and a copy filed in the relevant project OHS files.
3. This diagram must be kept up to date and filed in the project OHS files.

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3.12 ROLES AND RESPONSIBILITIES

Commitment

Visible commitment is essential to providing a safe work environment. Managers, supervisors and employees at all levels must demonstrate their commitment by being proactively involved in the day to day operations, in particular the Occupational Health and Safety aspects of any project / contract. Legislation requires that each employee must take reasonable care of themselves and their fellow workers, from management level down to the lowest employee level.

3.12.1 Main contractors and appointed contractors

Note 1: Most of the roles and responsibilities listed apply to both Main contractors and any appointed contractors. Where some of the listed do not apply to both, then the specific responsibilities will be listed and titled. The contractors shall:

1. Carry out all duties as listed in section 8, 9 and 10, the various other regulations that form part of the OHS Act and Regulation 7 of the Construction Regulations.
2. Carry accountability and responsibility for the safety and health of their employees and their appointed contractors within their working area, as contemplated by section 37(2) of the OHS Act;
3. Shall keep a record of all employees including the appointed contractor employees, including date of induction, relevant skills and licenses and be able to produce this list at the request of the Eskom Project Manager.
4. Ensure that all their 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.
5. Ensure that the minimum legislative, regulatory and Eskom OHS requirements are complied with on all work sites.
6. Give the Eskom project managers and line managers / responsible managers their full participation and cooperation.
7. Compile a OHS (Occupational health and safety) file where all relevant health and safety records must be kept for each work site.
8. The Main contractor must provide the project manager with the Compensation Commissioner's valid letter of good standing before the commencement of work and any future renewal letters obtained during the contract for record-keeping purposes. The letter of good standing shall reflect the name of the contractor's company. Similarly, the Main contractor must provide the Eskom project manager with all the valid letters of good standing from their appointed contractors.
9. Contractors must provide the Main contractor with a certified copy of the Compensation Commissioner's valid letter of good standing before the commencement of work and any future renewal letters obtained during the contract for record-keeping purposes. The letter of good standing shall reflect the name of the contractor's company.
10. Appoint competent staff to perform the project work and ensure that all employees are trained in the health and safety aspects relating to such work and that the employees understand the hazards associated with all other work being carried out on the project.
11. Ensure that all employees are conversant with all relevant work procedures and that they adhere to such procedures. Similarly (without removing the appointed contractors' responsibilities), ensure that their appointed contractors and their employees are conversant with all relevant work procedures and that they adhere to such procedures.
12. Co-ordinate the activities of all the appointed contractors in the interests of safety and health;

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13. Ensure that their contractors (whom they intend appointing) have made detailed provision for the cost of safety and health measures throughout the project.
14. Stop his /her employees and any appointed contractors if such work poses a threat to the health and safety of persons or a risk of degradation to the environment.
15. Take reasonable steps to ensure cooperation between all their appointed contractors.
16. Ensure that Eskom OHS requirements are communicated to the appointed contractors, evaluate, and assess the appointed contractors OHS files. Only appoint contractors who are competent to do work, have satisfied the OHS compliance requirements and satisfied that the contractor has the necessary competencies and resources to perform the work safely.
17. Appoint full-time competent employees in writing to supervise the performance of all specified work throughout the contract period.
18. Ensure that the supervisor or manager do not supervise work on any site other than the site for which such supervisor has been appointed for.
19. Not victimise or dismiss employees, by virtue of the employee's divulging health and safety information or suspecting such information has been divulged, in the interests of health and safety requirements.
20. Follow a process of disciplinary action if any of their employees or their appointed contractor employees have transgressed any of the requirements of the health and safety specification, safety and health plans, site rules or any other requirements.
21. Before the commencement of work, review the submitted baseline risk assessments to include site or emerging risks. This should be done by a competent person appointed in writing with a view to identify hazardous and potentially hazardous work operations.
22. Ensure that pre-task risk assessments are conducted and documented daily and prior to the starting of any new task, irrespective of whether it is a repetitive task or not.
23. Must ensure that an organisation medical surveillance programme for the duration of the contract is in place and maintained.
24. Prior to having pre-employment and periodic medicals fitness examinations conducted, person/man job specifications must be compiled and handed to the occupational health practitioner.
25. Issue risk-based personal protective equipment (PPE) as a measure of last resort to their employees, inspect such equipment regularly and ensure recipients of PPE are trained in the proper use, care and where necessary, the maintenance of PPE;
Note: should the Main contractor or his/her appointed contractors entertain visitors on site, they will be held responsible for the provision and wearing PPE.
26. Must have a substance abuse program which must be in line with Eskom requirements.
27. Ensure that all incidents are reported and investigated timeously by competent incident investigators as and aligned with 32-95 requirements.
28. Be involved in all of their appointed contractor's incident investigations.
29. When appointing contractors, advise the project manager in writing timeously and obtain his/her approval prior to them commencing work.

3.12.2 Contractor site supervisor

The contractor site supervisor must be trained in the following:

- HIRA, Incident investigation training, Supervisor training, authorised person & PSR, Legal liability

Must:

1. Be competent to perform the required supervisory tasks;

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2. Ensure their employees and all appointed contractors comply with the required statutory and Eskom project requirements;
3. Inspect all work done by the contractors to ensure adherence to Eskom's standards and specifications
4. Conduct follow-up inspections to ensure findings are closed out and preventative action is in place.
5. Monitor contractors for adhere to statutory requirements and safety standards.
6. Monitor contractors overall OHS performance on site in order to achieve excellent results
7. Discuss all OHS related problems with the relevant contractor management timeously in the first instance and thereafter the Eskom project manager in the second instance relating to procedure requirements, non-conformances identified, corrective actions, audits and inspection schedules.
8. Continual liaison between the Main contractor, appointed contractors and employees.
9. Ensures that employees and appointed contractors are aware of latest standards, procedures, work instructions and safety regulations issued by Eskom:
10. Conduct site Inspections for compliance to OHS requirements and compiles the relevant inspection reports.
11. Submit the observation reports to the relevant management.
12. Submit the required OHS reports communicated by Eskom e.g., manpower numbers, incident statistics report etc
13. Have meaningful participation in the project statutory health and safety committee meetings.
14. Participate in all appointed contractor incident investigations.
15. Participate in the Main contractor's emergency preparedness planning.
16. Ensure that their own employees and those of any appointed contractor are competent to perform the tasks assigned.
17. Issue site instructions on behalf of the Main contractor where and when the appointed contractors deviate from safety requirements.

3.12.3 Contractor Health and Safety officer full/time

- **Safety Officer is required full time for this contract**

The contractor health and Safety officer must be trained in the following:

- SAMTRAC, HIRA, Incident investigation training, Legal liability, Training, knowledge and understanding of ISO 45001, Minimum work experience 2yrs, OHS Diploma (applicable to 3-5 years contract)

3.13 RISK ASSESSMENT (REFER TO 32-520)

It is a legal requirement in terms of Section 8 (2)(d) of the OHS Act for an employer to carry out risk assessments, to establish which risks and hazards are attached to the health and safety of persons due to any work which is performed, any article or substance which is, handled, stored, transported. A risk assessment is defined as an identification of the hazards present in the activity, work, site, and an estimate of the extent of the risks involved, considering whatever precautions are already being taken.

It is essentially a three-stage process:

- identification of all hazards.

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- evaluation of the risks;
- Measures to control the risks.

Risk assessments are required to be maintained. This means that significant changes to a process or activity, or any new process or activity should be subjected to a risk assessment and that if new hazards come to light during the work process, then these should also be subjected to risk assessments. Risk assessments for long term processes should be periodically reviewed and updated. Method statements or written safe work procedures are an effective method as information and record of the way jobs / tasks must be performed. Daily or issue based or task specific or on the job risk assessments must be conducted at the place where work is to be performed/ conducted to allow managers and employees to assess any inherent risks that could have been overlooked during the initial risk assessment or any changes that might have occurred in a period of absence. For example if a job / task is extended over a day or halted due to inclement weather.

Guidelines for actual steps involved in a job/task specific risk assessment are:

- Each activity is listed.
- Specific hazards are identified and listed against each activity.
- The magnitude of each risk is rated as Low. Medium or High.
- All known documentary and supervisory controls are listed. For instance: What safe work procedures exist for ladders.
- The relevance, effectiveness and sufficiency of these controls are assessed.
- In the event of insufficient or deficient controls for the particular activity, steps to be taken to rectify this shall be recorded, and safe working procedures drawn up.
- Persons responsible for implementing and supervising the task shall be identified, nominated and duly assigned.
- Persons responsible for monitoring the task and carrying out the planned job observation must be nominated.
- Completed risk assessment shall be handed to the Eskom project manager representative for comment and approval.
- The relevant section of the risk assessment shall be issued with a Transmittal Note to the Supervisor nominated as the responsible person; and the names of workmen who have received instruction on the work content and the sequence of the activities listed in the risk assessment shall be recorded, and their competence established. This instruction shall be done through an interpreter if required and recorded on the Pre-Job Brief (Daily Safe Task Instructions), with reference to applicable Risk Assessments.

3.14 SAFE WORK PROCEDURES / METHOD STATEMENTS

There must be written safe work procedures for all activities, the safe work procedures must be aligned with the risk assessments. Method statements / written safe work procedure are control measures used to prevent an incident from occurring during the execution of the project. A written safe work procedure/ method statements provide guidance how to execute the task safely. A safe working procedure should be written when: -


- a. Designing a new job or task.
- b. Changing jobs or task;
- c. Introducing new equipment or substances; and

The safe working procedure should identify:

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

3.15 ROOF WORK (REFER TO 32- 418)

Where roof work is to be performed, a risk assessment must be carried out prior to climbing on to the roof to determine the hazards i.e. stability, suitability and strength etc. The consequences of climbing and control measures that are required to be implemented should form part of the risk assessment and the fall protection plan. Should the weather change, the wind velocity must be measured before continuing with roof work.

3.16 FIRE EQUIPMENT AND MAINTENANCE

1. All firefighting equipment's that have been provided shall:
 - a. Be clearly labelled
 - b. Conspicuously numbered
 - c. Entered in a register
 - d. Inspected monthly by a competent person
2. Tested and serviced every 12 months.
3. Results entered in the register and signed by competent person.

3.17 FLAMMABLE AND COMBUSTIBLE LIQUIDS

1. 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 e.g. by-laws.
2. For storage of hazardous and flammable liquids, a maximum storage as per the scope of work and the approval to be obtained from the local Municipality and to be complied with for the duration the project.
3. The maximum of 40 litres of fuel is allowed to be stored. Anything greater than 40 litres to be stored in a flammable/combustible liquid store with adequate spillage retention and proper labelling.
4. Adequate numbers of dry chemical fire extinguishers, each with a minimum capacity of 4.5 kg, shall be provided, installed and maintained.
5. All fuel storage areas must comply with the following requirements: -
 - a. Storage should be well clear of buildings.

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- b. Storage areas must be kept free from all combustible materials.
- c. All Safety signs must be prominently displayed i.e.
 - Flammable Liquid.
 - No Smoking.
 - No open flames.
- d. Adequate firefighting equipment must be available.
6. Diesel tanks are to be installed in a bunded area; bunded area must be able to contain 110% of tank capacity.
7. Bunded area shall be of a concrete or steel construction and lined with a leak proof sealing material.
8. Bunded area shall have a drain valve.
9. No other material/equipment shall be stored in the bunded area.
10. For storage of hazardous and flammable liquids, the approval must be obtained from the Fire department and/or the Municipality (if the services are rendered/available in the local Municipality).
11. The storage of flammable or hazardous storage must be well ventilated.
12. The appropriate Jerry cans designed for petrol/diesel shall be used to store petrol on Eskom sites and the appropriate colour coding should be complied with.

3.17.1 Refuelling at Eskom sites

Before a machine/vehicle can be refuelled, the motor must be stopped. Refuelling shall take place at designated safe areas and appropriate warning signs installed. Suitable drip trays must be used to prevent spillage at the filling nozzle.

3.18 FIRST AID AND EQUIPMENT

1. The requirements of the OHS Act GSR 3 must be observed.
2. First aid appointments must be made to meet the legal requirements. Appointees must be trained to level 2 and the training service provider must be registered in accordance with section 26(1) of the Skills Development Amendment Act, Act No. 37 of 2008. It is good practice for all employees to be trained to at least level 1.
3. When appointing employees for work sites, cognisance must be taken into account the type of work performed, the distance teams are working apart and the terrain to be covered if an emergency should arise.
4. A list of emergency numbers must be displayed on the notice boards and made accessible for all employees.
5. Main Contractor must ensure that his /her employees and appointed contractor employees are familiar with the emergency numbers.
6. 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, taking into account the type of work performed and the distance between teams.
7. More first aid boxes shall be provided in accordance with the risk assessment. Boxes must be available and accessible for the immediate treatment of injured persons at the workplace.

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8. For offices, signs 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 shall be erected.
9. The Main Contractor and appointed contractor shall ensure that alternative arrangements be made for incidents occurring after working hours.

3.18.1 Boxes and equipment

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

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

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

3.19 OHS COMMUNICATION SYSTEMS

1. Main Contractor/s and their appointed contractors must develop a communication strategy outlining how they intend to communicate OHS issues to their staff, the mediums they will employ and how they will measure the effectiveness of their OHS communication. Below is a brief on how communication should take place. Where project meetings are conducted on site, OHS shall be included as a standing agenda point and minutes of these meetings shall be available on site at all times. Minutes of meeting must be compiled and filed in the relevant OHS files. All employees shall have access to these minutes. Attendance register shall be kept for all the health and safety meetings.


3.19.1 Statutory Health and Safety Committees

1. The Main contractor shall establish statutory health and safety committee in terms of Section 19 of the OHS Act. Similarly, appointed contractors shall establish their own statutory health and safety committee.
2. All appointed contractors shall be members of the Main contractor's safety committee.
3. The Committee shall meet to discuss OHS issues concerning the current work being performed, training, upcoming work and OHS requirements, incidents and lessons learned

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specific OHS problems, safety performance, action plans and other relevant OHS issues. Listed below is a preferred agenda.

4. OHS representatives for a workplace shall be members of the relevant workplace safety committees (Refer to Section 19 (2) (a) of the OHS Act).
5. The number of persons nominated by employer must not be more than the Health and Safety Representatives on that specific statutory health and safety committee. (Refer to Section 19(2)(c) of the OHS Act)
6. A statutory health and safety committee meeting shall be held at least 3 monthly (where medium to high risk work is involved, more frequent if required), and all appointed members of the committee shall attend the meeting.
7. Statutory health and safety committees may make recommendations to the Main contractor and the project manager and the Inspector at DEL.
8. All health and safety committees shall discuss all projects related OHS Act Section 24 and 25 incidents and other notified serious incidents.
9. Health and safety committees shall follow up on incident investigation recommendations and shall keep record of all recommendations made by the committee.
10. Statutory health and safety committees may make recommendations for the revision of current standards, procedures and practices.
11. The Main contractor and appointed contractors shall ensure that statutory and non-statutory health and safety committees carry out their duties.
12. The chairperson of the health and safety committees shall be selected and appointed by the contractor. The appointed chairperson must be competent to chair meetings and be able to make informed decisions.

3.19.2 Non-statutory health and safety committees

1. Where there are large worksites, then non-statutory sub-committee must be established within that worksite to assist with the communication of health and safety related matters between the statutory health and safety committee and the workplace.
2. The duties and responsibilities of the non- statutory health and safety committees will be the same as the statutory safety committee

3.19.2.1 Agenda

1. The following serves as the guideline for the OHS Committee meeting agenda.
 - List of agenda items:
 - Matters arising from previous minutes
 - Matters arising from Contractor's OHS meetings.
 - Covid-19 compliance
 - Audit results and feedback
 - Review Health and Safety Representative Inspection Reports
 - Review

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- Incident investigation reports
- Non-Conformances
- Announcements (near miss/injury/damage)
- Follow up on recommendations made by the employer in incident investigation reports
- Accident Prevention – Safety Promotion
 - Planned Job Observations
 - OHS Training
 - Protective clothing and equipment
 - Incident Announcements / Recall
- Forthcoming High hazard activities.
- Non-conformances.
- Housekeeping.
- Work permits.
- Work procedures.
- Hazardous materials / substances.
- Fire Prevention
- Occupational Hygiene Assessments, Health Risks and Actions
- Security
- Rules, Instructions
- Public Safety
- Environmental Management
- Emergency Preparedness
- Statistics report
- Closure

3.19.2.2 Minutes and action items for all health and safety committee meetings

1. Minutes and record of action items shall be kept of all health and safety committee meetings.
2. Action column with target dates and responsible person shall be clearly visible on the minutes and shall be completed during the meeting.
3. Statutory health and safety committee meeting minutes and record of action items shall be kept for the duration of the project or a minimum period of three years.
4. Non-statutory health and safety committee meeting minutes shall be kept for the duration of the project or a minimum period of 12 months.
5. All other meeting minutes where OHS is on the agenda, shall be kept for a minimum period of 12 months.
6. The original copy of the minutes and record of the action items must be signed by the chairperson.
7. The relevant project manager and Main contractor shall endorse the relevant minutes with his/her recommendations and return the minutes to the relevant contractors chairperson within 14 calendar days of the meeting.

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3.20 TOOL BOX TALKS / DAILY TEAM TALKS / PRE JOB MEETINGS

1. A meeting must be held prior to the commencement of the day's work 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 an attendance list of that pre-job brief form undertaking that they have an understanding of the tasks, risks and control measures required.
2. Where possible, tool box talks can be included in the pre-job brief meetings. If this does not occur, then weekly tool box talks must be conducted. The toolbox talk topics will be based on OHS issues pertaining to the project site. The topic and the contents shall be in writing. Attendance registers with the topic listed shall be kept.

3.21 OHS TRAINING

1. The Main contractor, when making a bid for this project shall provide a breakdown list of the OHS training requirements and the costing of such requirements. Similarly, appointed contractor must provide the same requirements when bidding with the Main contractor.
2. The scope of training includes but is not limited to the type of work being performed and the relevant procedures. Additional to the requirements, will be that the Main contractor and appointed contractors must have the appropriate qualifications, certificates and employees should always be under competent supervision.
3. Where legislative and Eskom recommended appointments are made, the relevant training shall be given to those appointees prior to the acceptance of those appointments.
4. When there is an amendment to the Acts and/or to the regulations, OHS specification and OHS plan, all affected staff shall undergo the applicable refresher training.
5. Appropriate time must be set aside for training (induction and other) of all employees.
6. Records of all training and qualifications of all contractor employees must be kept on the OHS file.

3.21.1 Main Contractor Induction training

The contractor is required to make arrangements with the Business Unit for its employees to attend induction in order to be granted permission to access site.

1. The Main contractor shall ensure that all his / her employees, appointed contractors and their employees have undergone the Eskom OHS induction training prior to commencing work on site.
2. Attendance registers must be completed of any induction training given, which must indicate that they have received and understood the induction training.
3. Prior to attending the induction training, all employees must undergo a pre-employment medical examination and found fit for duty. A copy of the certificate of fitness must be kept in the OHS file on site for the duration of the project.
4. All employees and visitors on site shall carry the proof of induction training.
5. It is the contractors responsibility to keep records of induction training.

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3.21.2 Appointed Contractor induction training

The Main contractor shall ensure that all his / her employees and appointed contractor employees undergo site specific work induction with regard to the approved project OHS plan, hazards prevalent on the work site, scope specific risk assessment, rules and regulations, and other related aspects. The induction training should also include identification of sensitive features such as wetlands/vlei areas, red data species, graves, etc.

3.21.3 Visitors to site induction

1. Visitors to the site shall be required to undergo and comply with the Eskom site-specific safety induction prior to being allowed access to site.
2. 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 work onsite, of any nature.
3. Visitors who have completed site induction must be provided with a record of proof of Induction training.

3.22 GENERAL TRAINING

The Main contractor will be required to ensure that before an employee commences work on the project/site, the respective supervisor informs the employee of his scope of authority, the hazards associated with work as well as the control measures to be taken. This will include man-job specifications, the discussion of any task procedures or hazardous operational procedures to be performed by the employee. The Main Contractor is to ensure that the supervisor has satisfied himself that the employee understands the hazards associated with the work to be performed by conducting task/job observations.

3.23 CONTRACTOR SITE ESTABLISHMENT


where contractors are providing their own facilities, the following shall apply:

1. Prior to establishing a project site, a site plan is required to be drawn and submitted to the project manager, listing position of all buildings, amenities, storage, stacking areas and temporary electrical installations. The appropriate colour coding and demarcation of storage and stacking areas must be carried out.
2. When compiling the site plan, cognisance must be taken to the establishment of the site camp, ablution facilities and dining area in relation to one another and away from stacking and storage areas.
3. Main contractor's site facilities should be managed and kept hygienically clean.
4. Where the materials are stored at the work sites, proper stacking and storage shall be carried out and maintained in good order at all times.
5. The contractor shall during the enquiry make provision for the Occupational Hygiene Surveys costs in the bill of quantities as per the OHS Act and its regulations and inline with the scope of work.

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Where Eskom is making provision of the facilities to the contractor, the following shall apply:

1. Prior to handing over the site to the contractor, the client (project managers/end users) shall together with the contractor management conduct inspections, draft and sign the service level agreement.
2. Main contractors shall manage and keep the allocated Eskom facility hygienically clean at all times.
3. It is the responsibility of the contractor to maintain and keep the facility in a good condition.
4. It is the contractor's responsibility to immediately report to the Eskom contract manager/project manager the defects incurred.
5. Eskom reserves the right to conduct unannounced site inspections.

3.24 SITE ROADS

1. When planning, sufficient areas must be allocated for parking of vehicles and mobile equipment's as well as roadways for ease of manoeuvrability of these vehicles.
2. Sufficient width roads to be provided and adequate space is to be allowed for large vehicles traversing the sites.

3.25 VEHICLE MANAGEMENT

1. It is the responsibility of the driver to ensure:
 - a. Their passengers wear seat belts whilst the vehicle is in motion.
 - b. Comply with all traffic road rules, safety, direction and speed signs.
 - c. Ensure that vehicle loads are properly secured prior to moving off.
 - d. Ensure that vehicles are not overloaded.
2. No persons maybe transported at the back of the bakkie.
3. Drivers are required to conduct the route risk assessment prior to travelling/driving.
4. No drivers or operators may text, talk on cell phones or two-way radios whilst driving.
5. All drivers shall have a valid medical fitness certificate.
6. The First aid box with valid contents and fire extinguishers must be included in the vehicle, be services annually and inspected monthly. Drivers must be trained on how to use the First aid box and fire extinguishers.
7. Two triangles must be included in the vehicle and the emergency number be displayed at the back of the vehicle.
8. Each Project site that is enclosed by demarcation will have system/ process to manage vehicle access to site.
9. Contractor must maintain their vehicles in a roadworthy condition and a vehicle license must be valid at all times and this is applicable to yellow plant.
10. Drivers of light vehicles must avoid stopping or parking in the vicinity of machines. At least 30 (thirty) meters must be left clear between such a vehicle and such a machine.

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11. Contractor vehicles can be subject to inspections by the Client/Agent's representative. Vehicles which are not roadworthy will not be permitted to be used on site.
12. Drivers/operators shall be responsible for the travel-worthiness of all loads conveyed by them. Precautions shall be taken to secure 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 materials.
13. The vehicle inspection checklist must include but not limited to:
 - Reverse alarm / beeper
 - Yellow reflective tape
 - Mud flaps
 - Fire Extinguisher
 - 2 Triangles
 - First Aid Box
 - Safety belts for every seat
 - No fold-up or jockey seat
 - Tyres
 - License disc
 - Yellow reflective tape that must be fitted at a height of between 250mm and 1.5 metres
 - Speed warning sign (100km/h) at the back of the minibus
 - Driver have a Public Driving Permit

3.26 HOUSEKEEPING AND ORDER

1. All contractors shall maintain a high standard of housekeeping within their sites and vehicles for the duration of the project/contract.
2. Prompt disposal of waste materials, scrap and rubbish is essential and be stored temporarily in a designated waste area, awaiting disposal.
3. Materials/objects shall not be left unsecured in elevated areas – falling objects may cause serious injuries/fatalities.
4. Nails protruding through timber shall be bent over or removed so as not to cause injury.
5. All packaging material including boxes, pallets, crates, etc. to be removed from the work area immediately.
6. On completion of his / her work, the contractor is responsible for clearing his / her work area of all materials, scrap, temporary buildings and building bases to the satisfaction of the client/agent.
7. 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 Main contractor in the first instance and the Eskom project/contract manager in the second instance.
8. The Eskom project/contract manager has the right to instruct the Main contractor and appointed contractors 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

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stoppage. Failure to comply with this requirement will result into site cleaning by another cleaning contractor company at the cost of the Main contractor.

9. The Main contractor shall carry out regular safety/housekeeping inspections daily to ensure maintenance of satisfactory standards. The Main contractor shall document the results of each inspection and shall maintain records for viewing.

3.27 STACKING AND STORAGE

1. The competent personnel must be appointed in writing to manage and supervise all stacking and storage on site.
2. Before stacking any material, the contractors or their employees must consult the contract manager for authorisation to use such an area for stacking purposes. This is to prevent haphazard arrangements.
3. Adequate care must be taken by the contractor to ensure that storage and stacking is carried out correctly and safely.
4. Correct shelf stacking must be carried out, heavy and bulky on the bottom, light and small on top.

3.28 WORKPLACE SIGNAGE AND COLOUR CODING

1. Symbolic safety signage shall be displayed where it is required by legislation.
2. All symbolic safety signage shall conform to the requirements of SANS standard 1186.
3. Signs shall be positioned to be seen from most positions within the work sites / areas.
4. All signage must be clear at all times and be replaced timeously when worn out.
5. Contractors establishing sites must erect a company sign at their site offices to reflect the name and contact details of the: contractor site/responsible manager; supervisors; Health and Safety Manager/Practitioner; First Aider; Health and Safety Representative and Evacuation warden.
6. The location of every first aid box; fire extinguisher and emergency exit is to be clearly indicated by means of a sign.
7. When using, an explosive power tool the appropriate signage shall be erected, warning people of its use.
8. Contractors shall provide 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.
9. The meanings of the appropriate symbolic signage must be discussed during induction training and toolbox talks.
10. Where possible, within workshops, work areas and established premises, the appropriate sign indicating the meaning of symbolic safety signs must be displayed.

3.29 TOOLS AND EQUIPMENT

1. Contractors shall ensure that all tools and equipment are identified, safe to be used and is maintained in a good condition.

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2. Contractors shall ensure that all tools and equipment are listed on an inventory list, be regularly inspected at least monthly or as required by legislation and risk assessments. The equipment should be numbered or tagged so that it can be properly monitored and inspected.
3. Where applicable, tools and equipment must have the necessary approved test or calibration documentation prior to being brought onto the project and the records shall form part of the OHS plan. Maintenance calibration shall be undertaken in terms of the manufacturer's requirements.
4. All fuel driven equipment must be properly maintained in accordance with the manufacturer's recommendations and legal requirements.
5. Eskom reserves the right to inspect tools or items of equipment brought to site by contractors for use on this project.
6. Should Eskom personnel find any item that 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 Eskom personnel shall advise the contractor in writing and the contractor shall forthwith remove the item from site and replace it with a safe and adequate substitute.
Note: In such cases, the contractor shall not be entitled to extra payments or extensions of time in respect of delay caused by Eskom's instructions.
7. Where defective tools and equipment's are identified, such tools and equipment shall be removed out of site immediately, locked away to prevent further use until such time as the tool or piece of equipment has been repaired.
8. Contractors shall ensure that the appropriate records are kept for all tools and equipment used on the project. Such tools and equipment's shall be subjected to regular inspections.

3.29.1 Hand tools

1. All hand tools (hammers, chisels, spanners, etc.) must be recorded on a register and inspected by the construction supervisor on a monthly basis as well as by users prior to use.
2. Under no circumstance will the contractors be allowed to use their equipment's with mushroom heads, to be removed at the end or beginning of shift prior to use.
3. Tools with sharp points in toolboxes must be protected with a cover.
4. All files and similar tools must be fitted with handles.
5. No make shift tools are permissible on the project.

3.30 LADDERS (FROM 3.30 TO 3.31 SCOPE SPECIFIC)

1. Ladders used shall conform to the requirements of GSR 13A and used in terms of GSR 6.
2. The appropriate head protection, with chin strap shall be worn by employees working from a ladder or with climbing irons.
3. The ladder wheels, brakes and platform must be in good condition.
4. All metal parts to be in good condition, no cracks.
5. The appropriate head protection, with chin strap shall be worn by employees working from a ladder or with climbing irons.

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6. Non-slip devices must be in good condition and no paint to be on wooden ladders
7. Climbing irons are permitted to be used in place of ladders on condition that the requirements of GSR 6 are not compromised and from an electrical point of view not damage any cabling. The working at heights risk assessment must indicate the use of climbing irons.
8. Employees using climbing irons shall be suitably trained in the use, care and maintenance of such climbing irons.
9. When using climbing irons, the appropriate rope grab fall prevention system shall be used.
10. The correct fall protection equipment shall be worn and used whilst climbing up, working from and climbing down ladders.
11. The appropriate head protection, with chin strap shall be worn by employees working from a ladder (risk based) or with climbing irons.
12. A detailed inspection of all ladders shall be conducted monthly by a competent person and every time prior to climbing by employees using such ladders. The inspection check lists must be filed in the site OHS files

3.31 SCAFFOLDING

1. Scaffolding use shall conform to the requirements of Eskom procedure 32-418 and used in terms of GSR 6.
2. The requirements for using a scaffold platform shall be determined by the work at heights risk assessment.
3. All scaffolding that will be used shall conform to the SANS standard 10085.
4. Scaffolding shall be erected and inspected by the competent personnel.
5. The appropriate training for scaffold users shall be conducted prior to climbing on to the scaffold.
6. The correct fall protection equipment shall be worn and used whilst climbing up, working from and climbing down the scaffolds as the risk assessment.
7. A detailed inspection of all scaffolding shall be conducted at suitable intervals not exceeding seven days by a competent person and visual inspection shall be done every time prior to climbing by employees using such scaffolding. The inspection check lists must be filed in the site OHS files.
8. Visual inspections must always be carried out prior to every use.

3.32 AUDITING

3.32.1 Approval and compliance of Main contractor OHS plan

The Contractor's OHS Plan will be audited against compliance checklist so as to verify compliance to the requirements of the Eskom OHS specifications. Once there is compliance only then will the Main contractors OHS plan be approved by the project manager or an appointed Eskom contract custodian. The implementation of the OHS Plan shall be assessed / audited by Eskom personnel on a regular basis. This will include physical conditions evaluation.

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3.32.2 Eskom OHS audits

Eskom shall evaluate all contractors' OHS performance on an ongoing basis against the legal, Eskom requirements, OHS specification and the contractors OHS plans.

Note: Eskom reserves the right to conduct unannounced audits on contractors

There will be monthly audits conducted by Eskom on the Main contractor/s and/or appointed contractors. These audits shall be attended by the contractor's site manager or his representative.

If there are any findings / non-compliance identified as serious in these audits, an activity will be stopped for that specific Main Contractor and appointed contractor. Refer to section on "Work Stoppage" in this OHS Specification.

3.32.3 Contractor audits

Main Contractors are required to conduct internal audits on both their employees and their appointed contractors on the implementation of their OHS 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 Eskom project manager within one week after completion of the audit. Where appointed contractors are audited by the Main contractor a copy of the audit report shall be submitted to the appointed contractor within 7 days of the audit.

3.33 SMOKING

The national smoking policy must be observed and smoking is permitted in designated areas only (Eskom Smoking Procedure 32-36).

3.34 CELLULAR PHONES

The National Road Traffic Act requirements regarding the use of cellular phones must be observed, when driving and or operating mobile equipment and or machinery. The personal use of cell phones in the plant is prohibited unless it is an emergency or for work purpose. The use of cell phone camera in the plant must be in line with the national key point Act and the Plant safety regulation.

3.35 OCCUPATIONAL HEALTH, HYGIENE AND REHABILITATION

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

3.35.1 Medical Assessments

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

1. Main contractors must ensure that their employees and their appointed contractor employees have a medical surveillance program whereby their employees undergo entry, periodic and exit medical fitness examinations.
2. The health risk assessment must be used to compile the man job specification and address the hazards that the employees will be exposed to.

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3. For the appropriate medical examinations to be conducted, each employee must have a man job specification, which must indicate the description of work, list of hazards and potential occupational exposure limits, physical hazards and required physical attributes.
4. Medical fitness certificates shall be renewed annually for employees who are working on site. This shall be maintained until completion of the contract.
5. The Main Contractor must ensure that his / her employees and appointed contractor employees have undergone pre-entry medical examination before starting work on the contract.
6. The Main contractor shall provide a documented process for managing those employees who are issued with a conditional certificate of fitness.
7. The contractor shall include in the OHS file the record of the employees exit medical fitness certificates as and when their employees leave the company.

3.36 ROLES AND RESPONSIBILITIES

All contractors are required to list employee's roles and responsibilities pertaining to the contract.

3.37 WORKING AT HEIGHTS

3.37.1 General Requirements


Wherever reasonably practicable, preference is given to the performance of work at ground level as opposed to the elevated position. Where work in an elevated position is necessary, preference is given to fall prevention measures such as, but not limited to, effective barricading and the use of work platforms. Persons may only work from a fall risk position if a site-specific fall protection plan developed by the appointed competent person (as per 32-418 procedure) is in place and correctly implemented and consists of the following:

1. All appointments for the fall protection plan developer and implementer are in place.
2. Baseline risk assessment, which is specific and incorporates the working at height risk assessment, as well as the site-specific risk assessment, has been completed for the work to be conducted.
3. Safe working procedure/task analysis and work instructions, approved by a competent person, are in place.
4. A fall rescue plan, along with necessary equipment's and trained rescuers, are in place.
5. Appropriate training, as determined by the risk assessment, has been provided.
6. Appropriate height safety equipment and personal protective equipment have been issued to the individual.
7. There are equipment inspection procedures and up-to-date inspection records.
8. Individuals are medically fit to work at height, and records of this are kept.
9. A site-specific risk assessment is performed.

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While work is in progress, adequate warning signs and/or barricades shall be used in all areas where there is a risk of persons being injured by materials or equipment falling from the work area. Barricades should be continuous and easily visible.

A drop zone shall be established with appropriate warning signs and barricading, warning personnel below of workers above and potential falling objects.

Every employer shall ensure that work at height is:

1. properly planned;
2. appropriately supervised; and
3. carried out in a manner that is, as far as is reasonably practicable, safe and that its planning includes the selection of work equipment.

3.38 CONFINED SPACES

1. The contractor shall ensure that they comply with the plant safety regulation (240-150642762) in relation to the confined spaces.
2. The contractor must ensure that at least one person or there is a responsible person who is trained on work that will be carried in the confined spaces, also to rescue and conduct the risk assessment.
3. The contractor must ensure that the station rescue emergency number is always available.

3.39 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

1. The Main contractor must provide a detailed programme that includes the issuing, maintenance and replacement of PPE for all his employees and appointed contractors on site.
2. All contractors shall comply with the requirements of GSR 2 of the OHS Act and PPE Specification Standard 240-44175132.
3. The risk based PPE matrix must be compiled detailing the types of PPE that is required to be issued to employees performing the respective tasks.
4. If there are exceptional circumstances in which certain activities necessitate the use of additional PPE, a risk assessment must be done, in which such PPE requirements will be determined and issued.
5. All contractors shall ensure that their visitors wear and use the correct PPE whilst on worksites.

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6. Where PPE is required and visitors are not in possession of, then it is the individual contractor's responsibility to provide the PPE.
7. All PPE purchased and used by all contractor employees including visitors must comply with the relevant SANS standards.
8. Where deemed as a requirement (as per risk assessment), then high visibility vests shall be worn.
9. Monthly inspection records of PPE must be kept in the Safety file
10. The contractor shall provide training to his/her employees on the correct use, care and maintenance of PPE and keep the record.

3.40 INCIDENT INVESTIGATION

All incidents shall be investigated in terms of OHS Act General Administrative Regulations 8 and 9, using Eskom Procedure 32-95 OHS incident management as a reference, and where injuries as contemplated in sections 24 and 25 have been sustained, be reported to the Department of Employment and Labour.

Contractors shall use the Eskom Flash report to report incidents immediately or before end of shift. The standard General Administrative Regulation Annexure 1 "Recording of an Incident form" for all incident investigation reports. The objective of incident investigation, should not only be a legal requirement, but should establish why and how the incident occurred and find out the real root cause of the incident and to decide on precautionary measures that are required to address the root cause to prevent any further recurrences of the same or similar incidents.

3.41 EMERGENCY MANAGEMENT

The art of emergency preparedness and response is to minimise the effects of any emergency and to restore normal activities as soon as possible. The contractor must develop and align their own Emergency response plan with Eskom's to address any emergency which might arise at any given point in time. The contractor to familiarise themselves with the Eskom emergency response plan and procedure. Periodic emergency drills must be undertaken to test the effectiveness of their plan. This must be recorded and provided on request.

3.42 NON-CONFORMANCE AND COMPLIANCE

1. Any non-compliance to any health and safety requirement in this OHS specification is subject to discipline in terms of the Eskom Procurement and Supply Chain Management Procedure.
2. Main contractors are required to implement a non-conformance procedure (if not already in place) for issuing to contractors for transgressions. The procedure can include "quality" related non-conformance issues. Similarly, appointed contractors must implement a non-conformance procedure.

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3. The procedure for the issuing and closing off of non-conformance reports shall be strictly adhered to.
4. Contractor project management must monitor the close out of non-conformances issued, in not doing so; any recommendations made may not be implemented.
5. Where non-conformances are issued by Eskom then one of the close-out steps of the procedure will be for the offender to be called by the responsible project manager to explain the non-conformance issued and what plan is in place to prevent a recurrence of the non-conformance.
6. Should the contractor fail to provide adequate PPE (as per PPE standards) to their employees for the tasks being performed and/or to visitors; failure to enforce the wearing of such PPE will be viewed as a transgression of the legislative and Eskom requirements.

3.43 OHS FILES

1. OHS file means documents or records in permanent form, containing the information about the safety and health management system from inception, execution to completion of works.
2. All contractors are required to keep the OHS file on every project site. If there is more than one site per project, a file per site shall be kept at that site. Contractors may keep additional files at their head office as additional records. The OHS file shall be maintained by all the contractors on their project sites and shall be available on request for audit and inspection purposes.
3. The OHS file shall consist of the OHS documentation/information in line with the OHS requirements/specification, legal and other requirements.
4. The sequence of filing the documentation must be kept in the same sequence as listed in this OHS requirements /specification and the OHS plan.
5. Each record shall be separated by partitions to afford easy identification and access. Each partition must be labelled.
6. On completion of the work/project, the main contractor must hand over a consolidated health and safety file to the project manager.
7. In case where the project is extended, should the documentation in the OHS files become cumbersome, the older documentation must be archived in boxes which shall be correctly labelled and be available for auditing purposes. The archived documentation must be handed over at the completion of the project.

3.44 WORK STOPPAGE

1. Any person may stop any activity where an unsafe act or unsafe condition that poses or may pose an imminent threat to the safety and health of an individual or create a risk of degradation of the environment. This includes any unauthorised work or service performed by, or legally or contractually non-compliant acts or omissions by, any contractor contracted to work at that site.
2. Work stoppages that are initiated due to OHS concerns, non-compliance, or poor performance related to the contractor's works or services shall not warrant any financial compensation claim lodged against Eskom where the contractor has not met the requirements defined legally or contractually.

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3. Where stoppages are carried out, the required non-conformance report shall be raised.
4. All work stoppages ideally should be investigated and documented by contract custodians.

3.45 HOURS OF WORK

The requirements of the Basic Conditions of Employment Act, Chapter Two “Regulation of Working Time” must be adhered to. All contractors are required to maintain an accurate record of time worked by each employee.

3.45.1 Normal work

All work conducted on site shall fall within the legal requirements in accordance with the Basic Conditions of Employment Act. Contractors will notify their Eskom Supervisor or project manager 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 Employment and Labour and /or the letter of approval from the Department of Employment and Labour.

3.45.2 Night work

When night work is to be performed, the baseline risk assessment must be reviewed to include the management of night work. 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.

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.

3.45.3 Overtime

When overtime is required to be performed, the appointed contractors shall inform the Main contractor of such action. The Main contractor shall inform the Eskom project manager of such function and provide proof of exemption from the Department of Employment and 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.

3.46 OMISSIONS FROM SAFETY AND HEALTH REQUIREMENTS SPECIFICATION

By drawing up this OHS specification Eskom has endeavoured to address the most critical aspects relating to OHS issues in order to assist the contractor to adequately provide for the health and safety of employees on site.

Should Eskom not have addressed all OHS aspects pertaining to the work that is tendered for, the contractor needs to include it in the OHS plan and inform Eskom of such issues when signing the contract.

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3.47 CONTRACTOR PERFORMANCE MONITORING

Contractor management is required to do the following as part of the continuous improvement initiatives:

- Visible Felt leadership by top management
- Identify critical tasks and monitor by conducting Job Observations
- Contractor Chief Executive or Managing Director shall present the lost time incidents at Business Unit Power Station General Managers meeting

3.48 CONTRACT SIGN OFF (AT THE END OF CONTRACT)

On completion of the project, all Eskom team must conduct the final audit, inspections, and housekeeping to identify defects, outstanding actions, and open incident cases, and present their findings to the contractor and Eskom contract manager, who must facilitate the closeout. Once the contractor has closed all findings the Eskom's team will verify and sign off prior to issuing a completion certificate and final payment.

3.49 ESKOM'S RIGHT TO TERMINATE THE CONTRACT

The contractor/supplier shall at all times comply with Eskom's occupational health and safety (OHS), legal and other requirements as amended for the duration of the contract. In addition, the contractor shall comply with the requirements contained in the SHE Specification. Eskom reserves the right to terminate the contract in the event that the contractor has built up a history of poor performance or non-conformance in relation to matters of Eskom OHS and legal compliance. No work may commence until the health and safety file has been approved by Eskom OHS personnel.

4. AUTHORIZATION

The OHS Manager & Contracts Manager to authorise, include their names

5. REVISIONS

Date	Rev.	Compiler	Remarks
APRIL 2024		BHEKI RAMUSHU	This provides the initial OHS specification requirements that must be met by the relevant contractors who have been awarded a contract for the work to be performed for Eskom Generation.
APRIL 2024		BHEKI RAMUSHU	This provides the initial OHS specification requirements that must be met by the relevant contractors who have been awarded a contract for the work to be performed for Eskom.

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6. DEVELOPMENT TEAM

- Bheki Ramushu
- Beauty Sibiya
- Hans De Wet

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