

 Eskom	SCOPE OF WORK	Lethabo Power Station
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Title: **Lethabo Power Station Conveyor WA16
Head Station Repair - Scope of Work**

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1. INTRODUCTION

Lethabo Power Station is a coal fired power station, with a total capacity of 3708 MW. Construction commenced in 1980 and by December 1990, the station was fully operational. The power station comprises of a vast number of conveyor structures, which require routine maintenance to preserve their optimum performance.

The removal of ash from the power island to the ash dump is done utilising a dual line conveyor system. On the 17th of June 2025, a fire broke out and damaged the Head Station of conveyor WA16. This document provides the scope of work relating to the repairs to the old KOCH Head Station, complete with all Electrical and Control equipment.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document covers the scope of works required for the WA16 Head station repair on the ash conveyor system at Lethabo Power Station.

2.1.1 Purpose

This aim of this document is to appoint a contractor to perform the required services.

2.1.2 Applicability

This document applies to Lethabo Power Station only.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

- ISO 9001 Quality Management Systems.
- 240-75655504 Corrosion protection standard for new indoor and outdoor Eskom equipment, components, materials and structures manufactured from steel standard

2.2.2 Informative

- 240-53114026 Project Engineering Change Management Procedure
- 240-53114002 Engineering Change Management Procedure
- 240-53113685 Design Review Procedure
- 240-53665024 Engineering Quality Manual
- 240-4332798 Engineering Policy

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2.3 DEFINITIONS

2.3.1 Disclosure Classification

- a) Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

Definition	Explanation
None	

2.4 ABBREVIATIONS

Abbreviation & Acronyms	Description
PS	Power Station
WA16	Mixed Ash Conveyor WA16
ITP	Inspection and Test Plan
QCP	Quality Control Plan
QMS	Quality Management System
QC	Quality Control
NCR	Non-Conformance Report
NC	Non-conformance

2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities shall be as per the Employer's Design Review Procedure.

2.5.1 Contractor

The Contractor ensures the following:

- Execute the defined scope according to contractual agreements.
- The proposed materials and tools used for the works satisfies the Employer's requirements.
- Conduct the relevant quality inspections, tests and assessments.
- Provide the required supervision for the works.
- All relevant Eskom design standards, procedures and guidelines must be adhered to.
- Submits all deliverables as indicated in the technical specification.
- Abide by Eskom's Life Saving Rules and Lethabo's Power Stations rules.

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2.5.2 Eskom Engineering

Eskom Engineering role of engineer is to:

- Review and accept the Contractor's method statement, safe work procedures, QCP and ITP.
- Be present for all applicable points of the ITP/QCP.
- Provide Engineering support for the certificate of compliance.
- Review all submissions made by the Contractor.

2.6 RELATED/SUPPORTING DOCUMENTS

- N/A

3. ENGINEERING AND DESIGN REQUIREMENTS

3.1 DESCRIPTION OF THE WORKS

3.1.1 Old KOCH structure

Shot blast and re-paint the structure. Refer to Doc 240-75655504

The following documents will be needed for a contractor to weld on our structures at Lethabo

1. ISO 3834 certificate Elementary minimum.
2. WPS BS 15614
3. Welder Qualification BS
4. QCP's

- Replace all deck plates.
- Replace all idler frames together with idlers.
- Replace all handrails.
- Shot blast sled and do thickness tests. (Replace sled if required)
- Manufacture missing portion of the take-up trolley.
- All bolts and nuts on structure to be replaced.
- Supply new tension cable.
- Manufacture new sheave arrangement for tension system.
- Supply Backstop. (FALK 1115 NRT)

3.1.2 Drive Train

- Manufacture 2 x Drive Bases complete with guards.
- Supply 2 x Fluid drive couplings complete with MSZ flanges. (Voith 562TVVS)
- Supply 2 x Gearboxes. (Hansen RLH 33 Ratio 23.170:1)
- Supply 2 x Gearbox hubs.

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- Supply 2 x Motor hubs.
- Supply 2 x Shrink disks for hollow shaft gearboxes.

3.1.3 Pulleys

- Replace all pulleys as per drawing 0.63/ 26699.00
- Drive pulley to be lagged with ceramic lagging.
- Rest of the pulleys to be lagged with 10 mm plain rubber lagging.
- Pulleys to supplied complete with "A-Brand" bearings.
- All bearings to be installed with hydraulic nuts.

3.1.4 Discharge Chute

- Shot blast and re-paint the chute.
- Manufacture new Bonnet/Deflector plate complete with ceramic tiling.
- Remove all ceramic tiles and do window repair where required.
- Re-tile complete chute.

3.1.5 Electrical

Install new cable racks on the new moving head and secure all cables with steel ties.

3.1.5.1 MV cables on the new cable racks:

- Replace or re-route existing cable for Extendable Conveyor Drive Motor 1(00WA16D001)
- Replace or re-route existing cable Shiftable Conveyor Drive Motor 1(00WC28D001)
- Replace or re-route existing cable Shiftable Conveyor Drive Motor 2 (00WC28D001)
- Replace or re-route existing cable from Switchgear to conveyor structure for 380V Ash Stacker Board 2(61GC001)
- Provide a junction boxes and connect flexible cable to each motor

3.1.5.2 MV Cable Specification:

- 3.3kV XLPE, Single Steel Wire Armouring
- 3 core,70mm², Stranded Copper
- General PVC sheathed
- Length to be determine by contractor

3.1.5.3 Replace or re-route the following LV cables on the new cable rack:

- Replace cables supplying the lights and fittings.
- Replace or re-route existing cable for wrench (00A16D005)
- Replace or re-route existing cable for wrench (00A28D005)

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**Lethabo Power Station Ash Conveyor WA16
Head Station Repair - Scope of Work**

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- Replace or re-route existing cables for brake(00WC28D003/4)
- Supply and install new lights with supports as per original design.

3.1.5.4 LV Cable Specifications:

- 600/1000V
- General PVC sheathed & covered
- Single Wire Armoured
- 3-Core, 4 Core for lights
- stranded copper
- 16mm²
- Length to be determined by contractor

3.1.5.5 WA16 Motor Specification to be installed on the new moving head

WA16 Primary and Secondary	Voltage: 3.3kV, Power: 265kW, Speed: 1485rpm, Frame: D355L, Mounting: B3, Insulation Class: F, Temperature Rise: B, Closure: IP66, Service Factor: S1
Winch motor	Voltage: 380V, Power: 12kW, Speed: 2900 rpm, Type: 2A6/100 Mounting: Flange, Insulation Class: F, Temperature Rise: B, Closure: IP55 Hoist Motor AS7

3.1.6 C&I

Plant	Device	Type	Quantity
Stacker 2	Data Radio	Proxim - Tsunami Quickbridge 1000/1000L series	2
WC28	ETR CT Systems	Head End Control Unit MK8/2 (Confirm voltage)	1
		CTS Intelligent End Unit	1
		CTS 1000 AVA (Confirm voltage)	1
		CTS TK -Termination Kits (Set of two)	2
		CTS PCC - Pull cable Carriers	150
	Tension unit/load cell	Load cell	1
	Speed sensor	Proximity - Perperl Fuchs	1
	Marshaling Junction box	Stainless	1
	Trunck cable	UVG 16 ACV	50

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Plant	Device	Type	Quantity
WA16			
	ETR CT Systems	Head End Control Unit MK8/2 (Confirm voltage)	1
		CTS SRBL striking roller misalignment LEFT & Right (Set of 2) head and tail (Set of 2)	1
		CTS MRD mechanical rip detector head & tail	1
		CTS 348 PSW/DC - Intelligent Conveyor Trip Switch	4
		CTS PC - Pull Cable	1000
		CTS PCC - Pull cable Carriers	150
		CTS TK - Termination Kits (Set of two)	2
		CTS Intelligent End Unit	1
		CTS 1000 AVA (Confirm voltage)	1
	Blocked chute detector	Hawk type Gladiator G3 Microwave Switch	1
	Tension unit/load cell	Load cell	1
	Tension unit position laser	Laser (0.2 to 10M)- IFM -01D100	1
	Speed sensor	Proximity - Perperl Fuchs	1
	Marshaling Junction box	Stainless	1
	Trunk cable	UVG 16 ACV	50

4. MANAGEMENT AND START-UP

4.1 MANAGEMENT MEETINGS

1. The *Contractor* and the *Project Manager* attends formal progress meetings as required by the *Project Manager* on site. These meetings may involve *Others* so that the progress of the Project onsite and other *works* may be reviewed. Such meetings will be held monthly, or at such other intervals to be decided by the *Employer and/or Project Manager*.
2. The venue for these meetings is as determined by the *Employer*. The *Project Manager* and the *Contractor* records the minutes of meetings. Any action of the *Project Manager*, *Supervisor* and *Contractor* in the minutes of meetings is expected to be closed as soon as possible to positively support the project progress.

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3. Meetings of a specialist nature may be convened as specified by persons and at times and locations to suit the involved Parties, the nature and the progress of the *works*. Records of these meetings is to be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.
4. All meetings are to be recorded using minutes, a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

4.2 DOCUMENTATION CONTROL

4.2.1 Document Identification

- The documentation requirements cover the various engineering stages, from the unloading and/or removal stage through to fabrication, installation, testing and commissioning
- The *Contractor* is responsible for the compilation and the supply of the documentation during the various project stages and to provide the documentation programme linked to the milestone dates.

4.2.2 Documents Submission

- All documents and records are submitted according to Technical Document and Record Management Work Instruction (240-76992014), Reporting and Data Requirements Specification for *Contractors* (240-83561037) and all other Engineering standards referenced in this works information. The *Employer* ensures that the *Contractor* is provided with latest revisions of all these documents. All documents used within the project follows the same standard of layout, style and formatting as described in the documents mentioned above.
- Any uncertainty regarding all specified documents is clarified with the *Employer* and clarification updates are recorded in clarification meeting minutes.

4.2.3 Documentation Review and Turn-around

- For review purposes, the *Contractor* submits all documentation in native electronic format as prescribed in the Engineering Drawing Standard – Common Requirements (240-86973501). Final documentation is to be submitted in both electronic and hard copies to the *Project Manager*. The *Contractor* submits one (1) hard copy and one (1) electronic copy (USB).
- The *Contractor* maintains the Master Document List (MDL) of all documents submitted. The MDL is submitted on monthly basis to the *Employer*.
- The *Employer* has a minimum 14 calendar days to review, consolidate and send back review comments for documentation submitted by the *Contractor*. The *Contractor* also has a minimum 14 calendar days to respond and/rectify as per the comments by the *Employer*.

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- The *Employer* provides the *Contractor* with a mailbox address to be used for all contractual documentation/correspondence to and from the *Contractor*. The *Contractor* files and manages his own contract documents.

4.3 QUALITY ASSURANCE REQUIREMENTS

4.3.1 General

- The *Contractor* complies with the Eskom Quality Requirements Standards as follows:
 - The *Contractor* and all Subcontractors comply with the *Employer's* quality requirements including those listed in the *Employer's* specification document, Supplier Quality Management (240-105658000) also referred to as QM58.
 - The *Contractor* uses the Quality Management System (QMS) for all phases of the project. The *Contractor* provides evidence of a fully implemented QMS within his own organisation. The *Employer* may, at his sole discretion, carry out an audit on the Contractor or Subcontractor's QMS for acceptance.

4.3.2 Quality Management Documents Requirements

- The Contractor is *certified* to conform to the quality management requirements as per ISO 9001: 2015 and ISO 10005:2018 the Employer's Supplier Contract Quality Requirements Specification document (240-105658000). The Contractor submits documentation as stipulated in 240-105658000, which is:
 - Documents to be submitted during tender stage.
 - Documents to be submitted 30 days of Contract Date.
 - Documents to be submitted during execution of the contract.
 - Documents to be submitted on Completion of the contract.

4.3.3 Contract Quality Plan

- The *Contractor* submits to the *Project Manager* within 30 days of Contract Date and prior to the commencement of works, a Contract Quality Plan (CQP) detailing the *Contractor's* organisation, quality assurance and quality control procedures specific to this project, for review and acceptance. The CQP aligns with and references ISO 10005:2018 QMS, guidelines for quality plans and complies with the guidelines contained in QM58 and the QP sample template 240-109253698.
- The CQP makes reference to the Contractor's QMS documents to be used in this contract as follows:
 - The *Contractor's* QMS compliance with the requirements of ISO 9001.
 - *Contractor's* quality manual.
 - *Contractor's* quality procedures.

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- *Contractor's* quality forms and work instructions.
- *Contractor's* quality system documents referenced in this Works Information.
- *Employer's* Works Information, drawings, specifications, standards and codes, etc.

4.3.4 Quality Control Plan

- The *Contractor* drafts and submits to the *Project Manager*, 20 days prior to the commencement of any works, the requisite Inspection and Test Plan (ITP) or Quality Control Plan (QCP) as per sample template 240-109253302 for acceptance. The ITP/QCP shows each activity from the Works Information.
- The *Project Manager* inserts intervention points based on the risk profile of the equipment.
- The interventions points include all witness, hold, verification, surveillances and review points required by the *Project Manager*. The *Contractor's* failure to allow the intervention points will constitute a non-conformance (NC).
- The intervention requirements take into consideration the criticality of the Plant and Materials.
- Where intervention points have been by-passed without prior written waiver from the *Project Manager*, the activity is repeated at the *Contractor's* cost to allow for execution of the intervention and a non-conformance is issued.

4.3.5 Operational Documents

- The *Contractor* submits as a minimum the following documents, as required by the *Project Manager* during the execution of the works:
 - Updated QCP register as per sample template
 - Inspection notifications accompanied by their inspection report
 - Non-conformance and Defects registers and reports
 - Updated site and off-site inspection schedules
 - Inspection and/or FAT/SAT dates
 - Inspections, completed and outstanding
 - Inspections and test reports
 - Weekly and monthly contract quality progress report
 - Data books in accordance with data books specification

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4.3.6 Inspections and Tests

- All Plant and Materials are comprehensively tested in accordance with the agreed ITP/QCPs prior to delivery.
- The *Employer* reserves the right to appoint Others to inspect all or parts of the works during manufacturing, installation and commissioning and/or to be present at any of the tests specified. The witnessing of tests by the *Supervisor* or Others, and if the *Supervisor* chooses to waive the witnessing of any tests, does not relieve the *Contractor* of his responsibilities.
- The *Contractor* carries out tests required by the *Employer* during manufacturing, installation and commissioning to prove compliance with the specification independent of any other tests that may have been carried out at the *Contractor's* premises.
- The *Supervisor* inspects parts of the Plant at his discretion during manufacturing stages and before shipment, this will be indicated in the ITP/QCP. The following are the *Contractor's* responsibilities regarding inspections and tests:
 - The *Contractor* is responsible for the inspection of all the works performed and the *Supervisor* only verifies that the work is conducted as per the Works Information.
 - The *Contractor* conducts all inspections in accordance with the accepted ITP/QCP.
 - The *Contractor* provides suitably qualified personnel to conduct on-and-off site inspections.
 - The *Contractor* ensures that all works are inspected and approved before the *Supervisor* is invited for verification.
 - The *Contractor* provides a minimum of 5 working days' notice for local off-site inspections, 48 hours for local on-site inspection, and 21 working days' notice for foreign inspections. The notice contains copies of the *Contractor's* inspection reports.

4.3.7 Quality Responsibility

- The *Contractor's* responsibilities include but are not limited to the following:
 - Accountability and liability for the quality of the output and any failures related to the works.
 - Implementation of his QMS on site.
 - Administration of his QA/QC systems on site.
 - Verification of approval status of Subcontractor's Quality programmes such as CQPs, QCPs, NCs, Defects and all his operational procedures and work instructions.
 - On and offsite inspections.
 - Weekly and monthly progress reporting on quality performance.
 - The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections in line with the *Employer's* requirements.

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- The Contractor is responsible for defining the level of intervention of QA/QC or inspections to be imposed on his Subcontractor, suppliers and sub-suppliers and must ensure that these are in line with the Employer's requirements.
- The *Supervisor* is to be responsible for the following:
 - Duties of the *Supervisor* in accordance with the contract conditions.
 - Review of the quality submissions.
 - Verification of the *Contractor's* intervention points.
 - Review of the *Contractor's* ITP/QCP documents (procedures, test results).
 - Review of the data books.

4.3.8 Non-Conformances

- Where Non-Conformance (NC) notifications are issued, the *Contractor* acknowledges receipt within the period of reply and proposes corrective and preventive actions to the *Supervisor*. The start and completion dates for corrective and preventative actions are included in the proposal. Progress on all NC notifications issued to the *Contractor* are reported to the *Supervisor* on a weekly basis.
 - The *Contractor's* Quality Manager keeps a register of all NC notifications issued.
 - Records of NC notifications are kept and form part of the data book records.
- During the contract execution phase, the *Contractor* is monitored by the *Supervisor* for performance on quality related aspects. The monitoring is performed in the form of audits and assessments. The *Employer* reserves the right to request ad-hoc audits to ensure continuous compliance.
- The *Employer* reserves the right to penalise the *Contractor* for any NC transgression not closed within 14 working days from date of issue to the value of R20 000 per event. In the event where the NC transgressions remain open beyond 14 days, an additional 5% charge shall be added on compounded penalty amount for each day the matter remains opened until the response is received and accepted by the *Employer*.

4.3.9 Quality Reporting

- The Contractor submits a monthly quality management report on the last working day of each month. The report content includes but not limited to the following:
 - A register of NCRs, concessions, Defects and targeted completion dates for open items.
 - Updated QCP/ITP register
 - Updated Risk Register

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- QA monthly report summary
- Planned and completed local and foreign inspection dates
- Completed and outstanding inspections and associated schedules
- Internal Audit findings report
- External Audit findings report
- Monthly Preservation Report, if applicable

4.4 PROGRAMMING CONSTRAINTS

- The *Contractor* uses an Eskom approved planning tool (Oracle Primavera P6) for planning, scheduling and reporting of all works as per Reporting Data Requirement Specification for Contractors 240-83561037.
- The Contractor shows in his programme the following activities by the *Employer* and Others:
 - Design activities, reviews and acceptance
 - SHE documentation review and acceptance
 - Quality documentation review and acceptance
 - Quality intervention points Tests carried out by the *Employer* and/or Others
 - Construction, Pre-Outage and Unit outage activities
 - Plant Safety Clearances by the *Employer*
 - Commissioning activities
- The *Contractor* develops at minimum a Level 3 plan with detailed programme showing the following:
 - Data as per contract conditions.
 - All activities in the Works Information (including works performed by Subcontractors).
 - Significant temporary works.
 - Activity durations.
 - Activity starts and finish dates.
 - Key Dates.
 - The works is to be completed within accepted durations that are in consistence with key dates provided in the contract data.
 - Activity sequences (no open-end logic, lags and leads to be replaced with the activities)
 - Assigned resources per activity (schedule should reflect the resources needed to do the work and resource levelling to be done).
 - Critical path.
 - Free and total floats.
 - Periods of inactivity.

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- The *Contractor* submits the first programme within one month of Contract Date and the programme must be signed off by the *Project Manager* and *Contractor*.
- The *Contractor* submits a revised programmes at intervals no longer than one (1) week.
- Changes made to a schedule must be documented by following proper change control Specification- Reporting Data Requirement Specification for Contractors - 240-83561037.

4.5 CONTRACTOR'S MANAGEMENT, SUPERVISION AND KEY PEOPLE

- The *Contractor* submits an organogram for the project to the *Project Manager* showing his people and their lines of authority/communication within a month of the contract date. The *Contractor* appoints personnel qualified and competent to carry out the works as specified herein. The *Contractor* supplies detailed CV's of all key staff that it intends assigning to this project.
- The Contractor provides the following personnel as a minimum requirement to carry out the works:
 - Dedicated Project Manager
 - Contracts Manager (NEC)
 - Dedicated Health and Safety Manager
 - Dedicated Health and Safety Officers
 - Dedicated Quality Manager
 - Dedicated Project Planner

5. ENGINEERING AND THE CONTRACTOR'S DESIGN

5.1 EMPLOYERS DESIGN

The Employer has performed a high-level visual assessment of the structural steel. During this evaluation, several defects, including damage, distortion, and deflection, were identified in the steel elements of the head station. Temporary supports have been installed to maintain the overall stability of the structure to allow for operation until a repair scope could be carried out.

The location of WA 16 Head station at Lethabo Power Station is shown by Figure 1 below, with Coordinates

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Latitude: 26°42'59.22"S **Longitude:** 27°58'51.14"E



Figure 1: Location of the WA 16 chute

5.2 CONTRACTOR'S DESIGN

The scope of the services required entails the appointment of a *Contractor* to carry out the following:

5.2.1 General

- The *Contractor* takes full professional accountability and liability for the *works* as described in the technical specification.
- The *Contractor* adheres to all design requirements, codes of standards and regulations stated in this technical specification.
- Any discrepancy or ambiguity between the *Employer's* Specifications or requirements is to be immediately brought to the attention of the *Project Manager* for clarification.
- Where the *Contractor* requires additional information to install certain components on the Plant, the *Contractor* notifies the *Project Manager* of the *Contractor's* requirements a minimum of one (1) week before continuing with the *works*.

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- All documentation, as specified in this technical specification, forms part of the *works* and is supplied to the *Project Manager* by the *Contractor*. The *Employer* reserves the right to issue the *Contractor's* design, reports or drawings to other *Contractors* for purposes of maintenance, spares, verifications, modifications in future or any other purposes required by the *Employer*. The *Employer* has total rights to use the information as the *Employer* requires. The *Contractor* notes that all drawings and other documentation supplied to the *Employer* become the property of the *Employer* upon completion of the *works*.

5.2.2 Condition Assessment

- The *Contractor* is required to conduct a detailed visual inspection of the entire area to determine the full extent of the damage. This assessment includes visually assessing all member connections (i.e. endplate, bolts, welds, etc.) and structural steel elements for the head station.
- All visual assessments/inspections are to be done in accordance with the *Employer's* standard (i.e. 240-99527377: Inspection Manual for Civil Works at Eskom's Power Station).
- The detailed condition assessment report is to be submitted to the *Project Manager* for review and acceptance.

5.2.3 Repair works of the head station

- All datasheets and documents are to be submitted to the *Project Manager* for review and acceptance prior to such materials being utilised.

5.3 OTHER REQUIREMENTS OF THE CONTRACTOR'S DESIGN

5.3.1 Temporary Works

- The *Contractor* designs all temporary works necessary to execute the *works* in accordance with the applicable codes and standards as stated in this document and as required by good engineering practices
- All temporary works designs, where existing infrastructure is impacted by the works, are submitted to the *Project Manager* for review and acceptance, to prove that the existing infrastructure can withstand the induced load. The *Contractor* therefore submits all design calculations, in a design report, which includes, but is not limited to, all inspection reports, survey data, design analysis models, assumptions, drawings/sketches, etc
- The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the works.
- The *Contractor* designs, procures, manufactures and constructs all temporary works required for the execution of the works. The *Contractor* dismantles/demolishes temporary works when such works are no longer required.

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- The *Contractor* takes note that review and acceptance of any document/ drawing/ design calculations by the *Project Manager* in no way relieves the *Contractor* of his liability for the works. The *Contractor* remains liable for all *works* conducted as per this technical specification.

5.3.2 Plant and Material Supply

- The *Contractor* provides all tools and equipment for the handling of material and the proper execution of the *works*.
- The *Contractor* takes reasonable care to ensure that equipment used does not cause damage to any existing infrastructure. If such damages do occur to the surrounding infrastructure, the *Contractor* is responsible for repairing such damages and is liable for all costs associated with the repairs.
- The *Contractor* is to supply, deliver, offload and temporarily store (as may be required) all materials needed to carry out the *works*.

5.3.3 Storage Facilities

- The *Contractor* is to make his own arrangements with regard to storage facilities and laydown areas that are required to complete the works. All laydown areas on *Site* are as per agreement with the *Project Manager*.
- All storage facilities (Plant, Material and Equipment) will be within the boundaries of the *Site* in order not to affect the operations of *Others*.

5.3.4 Methods Statement

- This Method Statement clearly illustrates how the *Contractor* accounts for the risks of this project and is tailored to address the specified project objectives and requirements.
- The Method Statement includes, as a minimum and where applicable, the following:
 - Constraints identified and considered by the *Contractor*.
 - Interfacing with *Others*; the *Contractor* illustrates an understanding of the work that is to be completed by *Others* and accommodates for the completion of such work in his methodology.
 - Design tools and systems that the *Contractor* plans to use.
 - Installation methodology, rigging study and sequence of construction taking into consideration access restrictions and safety requirements.
 - Detailed risk assessment which lists risks specific to the works and is accompanied with associated proposed mitigations.
 - List and description of plant and machinery required to carry out the civil and structural components of the works.
 - Inspection and quality control plan.

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- A clear description of the responsibilities of the Contractor's personnel involved with the works, including (where applicable) his Project Manager, Site Quality Manager, Site Engineer, Health and Safety Manager, Technical Office Manager, Production Manager, Supervisor, Environmental Officer, Fabricator, Erection Engineer, Shop detailer, Transporter and other personnel required for the civil and structural works.
- Construction sequencing considerations, which take into account any constraints.
- Health, safety and quality control for the activity.
- All plant, equipment and machinery required to complete activity.
- Manufacturer's literature/ Technical Data Sheets for all materials used including product description, composition, material and performance properties, installation and application procedures, use limitations and recommendations.
- Plan for confining, collecting, and disposing of waste materials as a result of removal operations, where applicable.
- Works required to safeguard existing infrastructure and services.
- Laser alignment report for alignment of motor to gearbox. Alignment to be done radially and axially within 0.05mm.

5.3.5 Constructability Analysis

- The *Contractor* uses the *Employer's* standard: 240-107981296, Constructability Assessment Guideline to perform the constructability analysis.
- The *Contractor* has a structured process in place for constructability analysis, for the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve the *Employer's* objectives.
- Qualified people with adequate skills in construction knowledge and experience are involved from the beginning of the project, to maximize the benefits of the constructability analysis. This process includes examining design options, where applicable, that minimize construction costs while maintaining standards of safety, security, quality, cost and schedule, and is initiated in the front-end planning process. The Contractor considers various phases of the project and demolition activities, where applicable, that includes manpower plans, organization, construction equipment usage, material storage and handling and preparation of construction facilities.
- The *Contractor* submits a Constructability Analysis Report, based on the Method Statement, to the *Project Manager* for review and acceptance. The report is to clearly indicate how the *Contractor* considers interfaces with other *Contractors* where applicable, together with the Site and time constraints. This report clearly illustrates how the construction would be completed within the allowable timeframes and highlights the risks of meeting this requirement. The *Contractor* is required to plan his activities to avoid the following interface risks and any other risks relevant to the works:
 - Interface issues arising from working near Others.
 - Access to Site.
 - Material storage.

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- Delivery.
- Other Works related risks.
- This report clearly illustrates the construction sequencing and durations for the completion of the works within the contract period. The *Contractor* submits a risk assessment as part of the Work Method Statement, which is informed by the Constructability Analysis Report that advises on a proposed approach and methodology to mitigate risks described above and any other risks, which may impede successful execution of the works.

5.3.6 Handover

Apart from any statutory data packages required, the *Contractor* also submits a data package of the relevant drawings, test certificates etc. to the *Project Manager* for acceptance. These include, but are not limited to:

- Approved ITP's, QCP's
- Method statements and specifications adhered to
- Risk assessments
- Approved drawings
- Inspection reports
- Notifications
- Modifications
- All statutory test results and certificates
- Technical Queries, Engineering Responses and communications with *Project Manager/Employer*
- Non-conformance reports
- Transport notifications
- Welding procedure and required test results
- Calculations for any temporary works that may be required for the safe execution of the works
- Material certificates and datasheets
- As-built data and drawings of the completed works upon handover. As-built drawings are submitted in PDF and native CAD formats.

5.3.7 Deliverables

The *Contractor* provides the following document deliverables as part of the *works*.

5.3.7.1 Tender Phase

The tenderer submits the following as a minimum in the tender submission:

- High-level Method Statement for the entire *works* clearly demonstrating compliance with the full scope of work as detailed.

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- Relevant experience in the construction of similar projects. A list of verifiable references to be provided. (At least 3 similar projects completed in the last 5 years). As a minimum, the following is to be provided:
 - Project name
 - Client's name
 - Telephone contact details
- General outline and description (e.g. diagrams, charts, organogram, etc.) of the Quality Management system to be used in the execution of the works.
- Organogram reflecting the key project staff together with CV's for the Construction Manager's and Artisans involved in the *works*.

5.3.7.2 Planning phase

- A Level 3 schedule (schedule with defined activities) for the design scope clearly highlighting all activities involved, major milestones and provision.
- Detailed Method Statement (including constructability analysis) for the execution of the works.
- Risk Assessments.
- Project specific safety file.
- Project Quality Control Plan.

5.3.8 Scope

- The contractor shall assess the structural integrity and implement repairs to restore the Head Station to its original design capacity and functionality.
- Lethabo will be responsible for the final installation of the Head Station at its desired position.
- The contractor shall be responsible for final commissioning.

5.4 RECEIVABLES

- Eskom governance documents.
- Aerial image from Google maps.
- Drawings

5.5 DELIVERABLES

The Contractor provides the following document deliverables as part of the works.

5.5.1 Pre-Construction

- Detailed method statements for the construction of the works (including Rigging Studies)
- Inspection and Test Plans (ITP's) indicating all intervention points
- Quality Control Plans (QCP's)

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- Construction Programme
- Project Specific Safety File (updated)
- Any temporary works required as part of construction signed by a professionally registered Structural Engineer/Technician
- Detailed Risk Assessments (updated)

5.5.2 Post Construction/Installation

- QA returnable (monthly)

5.6 GOVERNANCE

As a minimum, the *Contractor* is expected to comply with the Eskom Engineering Governance documents as listed in section 2.2.2.

5.7 TIME FRAME & SCHEDULE

The *Contractor* will have a period of one week, from the date of approval of the contract, or notice to proceed with the works. The *Contractor* may propose their own schedule to Eskom for consideration and approval.

6. LIST OF EMPLOYER'S DRAWINGS

6.1 DRAWINGS ISSUED BY THE EMPLOYER

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Table 1: List of drawings issued by Eskom

Drawing Number	Revision	Title
0.63/20127	00	DISPOSITION TENSION CAR
0.63/20128	02	TENSION CAR
0.63/20129	00	TENSION CAR CHASSIS
0.63/20133	00	CONVEYOR 00-WC-17 HEAD CHUTE
0.63/20134	00	CONVEYOR 00-WC-17 SHEAVE ARRANGEMENT
0.63/20229	00	DISPOSITION DRIVE UNIT 00-WC-27
0.63/26699	00	CONVEYOR EQUIPMENT & PULLEY SCHEDULE
0.63/55551_1	00	LETHABO POWER STATION IN PIT ASH DUMP STACKING SYSTEM PULLEYS
0.63/55551_2	00	LETHABO POWER STATION IN PIT ASH DUMP STACKING SYSTEM PULLEYS SHAFT DETAILS
0.63/20130	00	ASH HANDLING PLANT TENSION CAR PARTS DETAILS

7. AUTHORISATIONS

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**Lethabo Power Station Ash Conveyor WA16
Head Station Repair - Scope of Work**

Unique Identifier:

Alternative Identifier

LET08SOW001

Document Type

SOW

Revision:

00

Page

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Name & Surname	Designation
Johan Brink	Manager: Outside Plant Engineering
Thuli Njapha	Engineering Manager: Lethabo Power Station

8. REVISIONS

Date	Rev.	Compiler	Remarks
July 2025	0.0	Pieter Holtzhausen	First review for comments

9. DEVELOPMENT TEAM

- Pieter Holtzhausen - Outside Plant Engineering.
- Louis Nel - C&I Engineering.
- Ntebaleng Maidi - Electrical Engineering.

10. ACKNOWLEDGEMENTS

- N/A

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