

1. INTRODUCTION

This Scope of Work defines the requirements for the refurbishment, repair, inspection and maintenance of Dust Handling Plant (DHP) equipment at Lethabo Power Station during planned outage opportunities. The contract covers maintenance activities on transfer conveyors, hopper conveyors, over-bunker conveyors, bucket elevators, slide gates, double flap valves and associated ancillary equipment required to maintain the reliability and availability of the dust handling system. Slide gates, mechanical flap valves and motorized double flap valves may also be refurbished on an as-and-when-required basis during approved maintenance opportunities outside planned outages. The detailed refurbishment requirements, quality standards, reporting requirements and contractor responsibilities are defined within this document.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of this contract includes the inspection, refurbishment, repair, replacement, testing and commissioning of Dust Handling Plant components during planned maintenance outages. Refurbishment of slide gates, mechanical flap valves and motorized double flap valves shall also be undertaken on an as-and-when-required basis when instructed by the Employer, including approved maintenance opportunities outside planned outages.

2.1.1 Purpose

The objective of this contract is to:

- Maintain and improve the long-term reliability of the Dust Handling Plant.
- Ensure the continued availability and maintainability of critical dust handling equipment.
- Execute planned refurbishment activities during outage opportunities to prevent equipment deterioration.
- Minimise equipment failures, forced outages and breakdowns between outage periods.
- Reduce Unit Capability Loss Factor (UCLF) attributable to Dust Handling Plant equipment failures.
- Restore equipment condition to an acceptable operational standard and design intent.
- Improve equipment performance, dust containment and overall plant housekeeping.
- Ensure equipment remains capable of operating reliably from one outage cycle to the next.
- Establish a consistent approach to refurbishment, inspection, quality control and reporting across all Dust Handling Plant equipment.

2.1.2 Applicability

This document shall apply to Lethabo Power Station.

2.2 NORMATIVE/INFORMATIVE REFERENCES

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

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems.

2.3 DEFINITIONS

Table 1: Definitions

Term	Description
Refurbishment	The inspection, repair, replacement, adjustment, cleaning, testing and restoration of equipment or components to an acceptable operating condition.
Contractor/Tenderer	Refers to the corporation appointed to perform the engineering, procurement, and construction works required for the project.
Employer	Refers to Eskom Holdings State Owned Company
Quality Control Plan (QCP)	A document prepared by the Contractor identifying inspection activities, acceptance criteria, hold points, witness points and records required during execution of the work.
Inspection and Test Plan (ITP)	A quality control document identifying the inspection, test, verification and acceptance requirements applicable to the work
The Client	The end user will be Eskom who will be represented by Lethabo Power Station throughout the duration of the Project.

2.3.1 Disclosure Classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

Table 2: Abbreviations

Abbreviation	Description
QCP	Quality Control Plan
TET	Technical Evaluation Team
DHP	Dust Handling Plant
TES	Technical Evaluation Strategy
ITP	Inspection and Test Plan
UCLF	Unit Capability Loss Factor
HSE	Health, Safety and Environment

2.5 ROLES AND RESPONSIBILITIES

2.5.1 The Contractor

The Contractor shall be responsible for the following:

- Executing the defined scope of work in accordance with the contractual requirements, approved outage schedules, technical specifications and quality requirements.

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

- Providing all labour, supervision, tooling, lifting equipment, consumables and specialist resources necessary for the execution of the works.
- Ensuring that all materials, replacement components, consumables, tools and equipment used during the refurbishment activities comply with Eskom's technical specifications and quality requirements.
- Conducting all required inspections, measurements, testing, refurbishment and commissioning activities in accordance with approved procedures and applicable standards.
- Preparing and submitting all required Method Statements, Quality Control Plans (QCPs), Inspection and Test Plans (ITPs), Risk Assessments and Safe Work Procedures for Eskom approval prior to commencement of work.
- Providing competent supervisors, artisans, technicians and quality personnel with suitable experience in the maintenance and refurbishment of ash and dust handling equipment.
- Ensuring that all personnel are equipped with and correctly utilise the required Personal Protective Equipment (PPE) and comply with all safety requirements applicable to Lethabo Power Station.
- Executing all work in accordance with applicable Eskom standards, procedures, maintenance strategies, engineering guidelines and quality requirements.
- Maintaining good housekeeping within all work areas and ensuring that dust, debris and waste material are removed and disposed of in accordance with site requirements.
- Submitting all required inspection records, quality documentation, refurbishment reports, test certificates and completion dossiers as specified in this Scope of Work.
- Fully complying with Eskom's Life Saving Rules and all Lethabo Power Station safety, health, environmental and security requirements.

2.5.2 The Employer (Eskom)

Eskom shall be responsible for the following:

- Providing access to the work areas during approved outage periods and maintenance opportunities.
- Supplying outage schedules and approved work scopes applicable to each outage.
- Supplying Employer-issued spares, materials and replacement components where applicable.
- Providing isolation and plant access in accordance with station operating procedures.
- Providing scaffolding requirements where required and agreed upon for execution of the works.
- Reviewing and approving the Contractor's Method Statements, Risk Assessments, Safe Work Procedures, Quality Control Plans (QCPs) and Inspection and Test Plans (ITPs).
- Providing Eskom representatives for all applicable hold, witness and release points identified in the approved quality documentation.
- Providing technical clarification and engineering support where required during execution of the works.
- Reviewing and accepting all inspection records, quality documentation, refurbishment reports and other contract deliverables submitted by the Contractor.
- Issuing acceptance and close-out documentation upon satisfactory completion of the required work

CONTROLLED DISCLOSURE

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

Maintenance Execution Strategy for the Submerged Scraper Conveyors (SSC) Japanese Pipe Conveyors (JPC) and Dust Handling Plants (DHP) - LBT00137SG

3. SCOPE OF WORK

3.1 TRANSFER CONVEYORS

- Inspect both transfer streams for ash leaks and overhaul front and rear conveyors on A and B Stream
- Replace casings with Buhler type casings (Only for old type casing)
- Replace wear rails.
- Replace flight/chain.
- Replace tension units.
- Top up gearbox oil.
- Inspect/Replace fluid drive coupling.
- Replace high speed coupling bushes.
- Repack drive shaft and return idler shaft glands with suitable gland packing.
- Replace damaged expansion joints.
- Tension chain.
- Repack all easy opening door seals with felt material making sure that a dust tight seal is achieved.
- Replace under tension detection arm and bearings.
- Tighten all the hold-down bolts

3.2 HOPPER CONVEYORS

- Inspect all casings for leaks and repair/replace casings, wear rails, bottom plates, sprockets, and tension units if necessary.
- Inspect and refurbish all bottom plates if required.
- Replace flight/chain.
- Replace casings with Buhler type casings (Only for old type casing)
- Repack the drive shaft and return idler shaft glands with suitable gland packing.
- Refurbish/Replace all defective slide gates on the DHP together with its ancillary equipment (lubricator bottles, pipework, solenoids, etc).
- Make sure that the slide gate-plate is moving freely and is sealing.
- Replace all defective expansion joints.
- Inspect and replace drive and end stations if necessary.
- Repair all casing supports / structures.

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

- Repair all casings where necessary (Patchwork where the structure is corroding).
- Repack all easy-opening door seals with felt material.
- Open, clean, and replace bearings (Tail and drive).
- Replace all defective flap valves.
- Replace under tension detection arm and bearings.
- Ensure hoppers are blocked off during and after casing washing/repairs to prevent foreign materials from entering the casings.

3.3 OVERBUNKER CONVEYOR

- Replace/overhaul over bunker conveyor completely.
- Open top inspection cover plates and doors.
- Repair all leaks, replace chains, wear rails, bottom plates & expansion joints.
- Top up gearbox oil.
- Refurbish/Replace all defective slide gates.
- Replace all defective expansion joints.
- Clean and inspect the slide gate lubricator and all air pipework and refill the lubricator with suitable oil if required.
- Make sure that the slide gate-plate is moving freely and is sealing.
- Open, clean, and replace all bearings (Tail and drive)
- Inspect and replace sprockets if worn beyond 2.5mm.
- Replace under tension detection arm and bearings.
- Repack all easy-opening door seals with felt material.

3.4 BUCKET ELEVATORS (A&B STREAM)

- Thoroughly inspect the condition of the belt on both streams
- Open inspection covers. Remove all old buckets from the belt. Remove the bottom/tension pulley. Remove old belt by utilizing ten-ton winch. Replace dove tails and traction pads on top / drive pulley.
- Refurbish the bottom pulley.
- Replace top slats.
- Repair leaks on both the ash conveying side and on the vacuum plant.
- Inspect clean and replace if needed bucket inlet and outlet grizzlies. Repair any damage to outlet chute. Replace belt. Splice bucket belt by making use of supplied mechanical splice plate. The contractor only to assist Eskom personnel with this activity.
- Reassemble bottom pulley bearings (repack with high temperature grease) and make sure that air and grease pipes are attached to the bearing assembly.

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

- Both bucket elevators will be serviced; belts will be replaced based on condition and running time.

3.5 FLAP VALVES REFURBISHMENT

- Inspect, clean and refurbish the mechanical flap valve body, flap/clapper plate, seat/sealing surfaces, shaft, hinges, bushes/bearings, counterweight/spring return arrangement, access covers, gaskets and mounting hardware.
- Remove ash build-up, foreign material and hardened deposits from the valve body, flap seating area and discharge path.
- Inspect flap plates and sealing faces for wear, cracking, corrosion, distortion, erosion and loss of sealing contact; repair or replace defective components where required.
- Inspect and refurbish hinge pins, shafts, bushes/bearings and support brackets to ensure free flap movement without binding, excessive play or misalignment.
- Inspect, adjust and restore counterweights, spring-return mechanisms and closing arrangements to achieve positive flap return and sealing.
- Inspect and restore shaft sealing, gland/packing/labyrinth sealing arrangements and flange joints to prevent ash/dust leakage and loss of airlock or vacuum.
- Replace defective fasteners, guards, access covers, gaskets, seals and worn internal components as required.
- Function test each refurbished mechanical flap valve to confirm free movement, correct closing action, effective sealing and absence of abnormal rubbing, jamming or visible leakage.

3.6 MOTORIZED FLAP VALVES REFURBISHMENT

- Inspect, clean and refurbish the complete motorized double flap valve assembly, including upper and lower flap assemblies, valve body, seats, shafts, bearings, linkages, cam mechanism, gearbox, motor, guards, access panels, seals and mounting hardware.
- Inspect the gearbox, cam, bearings and drive mechanism for wear, oil leaks, seizure, mechanical jamming, misalignment and loss of ash flow control; repair or replace defective items where required.
- Inspect flap plates, seats and sealing faces for wear, erosion, cracking, deformation and poor sealing; refurbish or replace defective components to restore effective airlock and dust-tight operation.
- Inspect and refurbish operating linkages, rod ends, couplings, drive arms, return mechanisms and fasteners to ensure correct movement, alignment and sequencing of the upper and lower flap assemblies.

CONTROLLED DISCLOSURE

- Inspect the electric motor, gearbox mounting, drive guards and associated mechanical supports for looseness, corrosion, damage and abnormal vibration or noise.
- Verify correct operating sequence of the double flap valve, including full open/close travel of each flap, correct timing/synchronisation and prevention of simultaneous loss of sealing.
- Restore all sealing arrangements, access cover gaskets, flange joints and shaft seals to prevent ash leakage, air ingress and vacuum loss.
- Function test each motorized double flap valve after refurbishment and record the as-found/as-left condition, replaced parts and test results

3.7 SLIDE GATE REFURBISHMENT

- Inspect, clean and refurbish all pneumatic slide gate assemblies, including the gate plate/slide blade, frame, guides, retainers, rollers/slides, gland boxes, seals, gaskets, flanges, pneumatic cylinder, clevises, solenoid valves, air pipework/tubing, lubricators, regulators, limit switches and position indication devices.
- Remove ash build-up, hardened deposits and foreign material from the gate body, guides, sealing surfaces and slide path.
- Inspect the gate plate for wear, scoring, corrosion, distortion, cracking and edge damage; repair or replace where required.
- Inspect and refurbish guides, rollers, retainers, sliding surfaces and gland boxes to ensure correct alignment, free travel and effective sealing.
- Inspect and replace defective seals, gaskets, gland packing and sealing strips to prevent ash leakage, air ingress and vacuum loss.
- Inspect the pneumatic cylinder, piston rod, clevis, mounting brackets and stroke arrangement for wear, leaks, misalignment, damage and correct travel.
- Inspect, clean and test solenoid valves, air lines, fittings, lubricator bottles, regulators and associated pneumatic components; replace defective items and refill lubricators with suitable oil where required.
- Verify that the slide gate plate moves freely from fully closed to fully open and seals effectively in the closed position.
- Test local/remote open-close operation, limit switch/proximity switch feedback and open/closed position indication.
- Confirm that all refurbished slide gates are correctly installed, securely fastened and left in the required operational position for return-to-service.

As-and-when-required refurbishment: The Employer may instruct the Contractor to remove, inspect, refurbish, test, reinstall or return slide gates, mechanical flap valves and motorized double flap valves as individual components outside planned outage work. Such work shall be scheduled with Maintenance through an approved work instruction and shall comply with the same technical, quality, safety, reporting and acceptance requirements defined in this Scope of Work.

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

4. QUALITY CONTROL AND INSPECTION

All Dust Handling Plant works shall be subject to quality control and inspection to ensure compliance with this Scope of Work, approved method statements, approved QCP/ITP requirements and applicable Eskom standards. The Contractor shall implement an approved Quality Control Plan detailing the inspection activities, hold points, witness points and acceptance criteria applicable to the work. No work shall proceed beyond an identified hold point without the required inspection and approval.

The Contractor shall:

- Ensure all work is executed in accordance with approved procedures and specifications
- Provide competent personnel to carry out inspections
- Maintain proper records of all inspections and tests

5. HEALTH, SAFETY AND ENVIRONMENT (HSE)

The Contractor shall:

- Ensure that all work complies with the Occupational Health and Safety Act and applicable Eskom safety requirements.
- Comply with all Lethabo Power Station safety regulations and procedures.
- Provide the required PPE and ensure that personnel follow safe work practices.
- Follow lockout/tagout and isolation procedures where applicable.
- Manage dust, waste materials and debris in an environmentally responsible manner

6. DELIVERABLES

6.1.1 Pre-work submissions

The following documentation must be submitted and approved before work begins:

- Quality Control Plans for approval
- List of all components replaced, repaired or refurbished.
- Test and commissioning records for refurbished slide gates, flap valves and motorized double flap valves.

6.1.2 Handover

The contractor must provide a complete final handover package, which must include:

- The signed Quality Control Plan (QCP)
- All inspection and assessment reports
- The final inspection and acceptance certificate, signed by the Contractor's QC representative and Eskom's Engineering and Maintenance representatives

7. GENERAL REQUIREMENTS

- All work shall be executed during planned outages, approved maintenance windows, or on an as-and-when-required basis for slide gates and flap valves when instructed by the Employer.

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

- The Contractor shall coordinate with plant personnel for access and scheduling.
- Any deviations from scope must be approved by the Employer.

8. AUTHORISATION

This document has been seen and accepted by:

Name & Surname	Designation
Joel Patchy	Outside Plant Engineer
Bugie Sithole	Project Co-ordinator
Andrew Matlala	Chief Engineer

9. REVISIONS

Date	Rev.	Compiler	Remarks
August 2026	1	J Patchy	Compiled

10. DEVELOPMENT TEAM

The following people were involved in the development of this document:

- Joel Patchy

11. ACKNOWLEDGEMENTS

- None

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.