Eskom	Scope Of Work	Kusile Power Station

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1. Introduction

Kusile Power Station requires mechanical maintenance of selected Coal, Ash, Limestone and Gypsum plants. The work will comprise of the mechanical maintenance and inspection of all the conveyors and related plants, as indicated in this Scope of Work (SOW).

This document further details the applicable plant areas, scope of work, standards, quality requirements, specifications, terms & conditions, as well as the qualification criteria for the participation in the tender.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to outline the requirements for the mechanical maintenance of conveyor belt plants for Ash, Coal, Limestone and Gypsum at Kusile Power Station. These requirements are intended to enable the interested tenderers to submit bids for the specified activities.

Kusile Power Station is expected to operate at 92% UCF, 6% PCLF and 2% UCLF. The mechanical maintenance strategy for conveyor belt plants must therefore support the achievement of these performance targets. It is therefore imperative that the successful and suitably qualified and experienced contractor aligns its organisation fully with the maintenance activities and processes set out in this document.

2.1.2 Applicability

This document shall apply to Kusile Power Station.

2.1.3 Effective date

The document shall be effective from the day of its authorization.

2.2 Normative/Informative References

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

2.2.1 Normative

[1] ISO 9001 Quality Management Systems

[2] 240 – 86973501 Engineering Drawing Standard - Common Requirements

[3] SANS 10162 - Design of Structural Steel work

[4] 240 – 99527377 Inspection Manual for Civil Work at Eskom Power Stations

[5] 240 – 55864504 Belt Conveyor Structural Steelwork and Welding Standard

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[6] 240 – 56364545 Structural Design and Engineering Standard

[7] Plant Safety regulations

2.2.2 Informative

414-32-C&IM-SP: Kusile Maintenance User Requirements Specification

240-92783805: Kusile Coal Handling Plant Maintenance Strategy Rev 1

240-85864602: Kusile Maintenance Execution Strategy for Boiler Bottom Ash Removal Plant

240-04005955: Kusile Power Station Mixed Ash Maintenance Strategy

237 - 0016: Integrated Business improvement Standard

237 – 0081: Post Mechanical Maintenance Re-qualification

32 – 726: S.H.E. Requirements for the Eskom Procurement and Supply Chain Management Process.

36 – 942: Arc Flash Protection Specification

ESKPVAEY6: Eskom Operating Regulations for High Voltage Systems

GGR 0992: Plant Safety Regulations

GGP 1045: Procedure for on-site splicing of plied textile conveyor belting

GGP 1046: Procedure for on-site splicing of steel cord conveyor belting

NMP47-7: Application of KKS plant coding

2.3 Definitions

Definition	Explanation
Contractor	Service provider contracted to provide a specific service to Eskom, Kusile Power Station.
Contracts Manager	This person is an employee of Eskom and is the DCF Holder, who is trained and has appropriate skill, knowledge and (if required) professional registration, and who is appointed in writing to ensure delivery of the contractually specified goods, services and/or works and that the contract is managed and administered on behalf of Eskom in terms of the contract itself and applicable law. This person is appointed by way of and in terms of a DCF, which is issued for each contract following approval by the relevant DAA or its delegate at the award of a contract and signed by the Contract Signatory. Where the DCF Holder is not the Eskom Agent, the DCF Holder should regularly ensure that the Eskom Agent reports, consults, and confirms decisions with the DCF Holder.
Procurement	Procurement is the process whereby goods, works or services are acquired.
Supplier	A provider, or potential provider, of goods, works or services to Eskom
Controlled Disclosure	Controlled disclosure to external parties (either enforced by law, or discretionary).
Employer	Eskom, Eskom Kusile Power Station or representative

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2.4 Abbreviations

Abbreviation	Description
AP:	Appointed Person
BOM:	Bills of Material
BS:	British Standard
BU:	Business Unit
COC:	Certificate of Compliance
CT:	Current Transformer
HV:	High Voltage (>1000V)
HVAC:	Heating, Ventilation & Air Conditioning
ISO:	International Standards Organisation
KKS:	Kraftwerk Kennzeichen System
LV:	Low Voltage (< 1000V)
NEC:	New Engineering Contract
O&M:	Operating and Maintenance Manual
PCLF:	Planned Capability Loss Factor
PJFFP:	Pulse Jet Filter Fabric Plant
PM:	Plant Maintenance
QMP:	Quality Management Programme
RP:	Responsible Person
SANS:	South African National Standards
SAP:	Systems, Applications, Products (Plant Maintenance, Procurement, Finance and Materials Management) integrated maintenance management system
SHE:	Safety, Health, Environment
SOW:	Scope of Work
UCF:	Unit Capability Factor
UCLF:	Unplanned Capability Loss Factor
PCLF:	Planned Capability Loss Factor
VT:	Voltage Transformer

2.5 Roles and Responsibilities

2.5.1 Employer

a) Performance is measured by the Employer against those areas which contribute to the Employer's business and the Contractor shall be compensated accordingly. (e.g. Reliability, Availability and Safety).

b) Areas of measurement include the Employer's key business indicators and will be redefined from time to time.

c) Employer shall provide training for PSR, ORHVS, FFFR and any other training as deemed necessary by the Employer.

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d) The Employer and Contractor in this SOW is committed towards the following:

I. Retention of critical skills

II. Continuous cost reduction

III. Health & Environment Safety

IV. Transfer of operational experience and skills

2.5.2 Contractor

a) The Contractor shall compile improvement programmes to enhance plant performance and achieve cost reductions and the Employer will approve such programmes.

b) The Contractor shall be responsible for all mechanical maintenance as per Employer's instructions, processes and systems.

c) The Contractor shall be responsible for all equipment alignment requirements within this scope of work.

d) Areas of measurement include the Employer's key performance business indicators and will be redefined from time to time.

e) The Contractor shall compile improvement programmes to enhance plant performance and achieve cost reductions and the Employer will approve such programmes.

f) The Contractor shall be responsible for all mechanical maintenance as per Employer's instructions, processes and systems.

g) The Contractor shall be responsible for all equipment alignment requirements within this scope of work.

h) Areas of measurement include the Employer's key performance business indicators and will be redefined from time to time.

The following complementary services to improve plant and labour performance can be defined as follows.

i. Project management

ii. Procedure, work instructions, work plans and documentation writing

iii. Approved plant modification

iv. Spares management

v. Technical advice

vi. Component failure analysis reporting

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a) The Employer may request the Contractor to ensure that an accurate description of spare parts is maintained in the Employer's stores and the Contractor informs the Employer as to any recommended changes.

b) The Contractor is to ensure that any service rendered does not interfere with the Employer's scheduled work and should align himself with the Employer's work control management process.

c) Should the Employer become aware of any changes to the activity schedule (programme of notifications), the Employer may issue the Contractor with a revised programme.

d) The contract entered into with the Contractor is non-exclusive and work against this contract can only be performed upon receipt of a task order.

e) All works will be subject to anytime inspection by the Employer.

f) Please note that equipment will only form part of the works once the respective area has been commissioned and handed over to Generation. The Contractor shall take cognisance of the fact that the contract start date can deviate due to delayed commissioning and handover. The Contractor shall do the work on equipment that is not handed over upon a written instruction from the Employer.

g) The Contractor maintains all year round, agreed base crew at Kusile Power Station which is supervised by the Contractor with any changes to the crew being negotiated and agreed upon with the Employer.

h) The Contractor will utilise the rotable process in SAP for all refurbishable spares item. Employer to provide appropriate training.

i) This contract is for preventative, predictive, corrective maintenance (breakdowns)

j) Spillage is viewed to be very important for plant housekeeping and any spillage caused as a result of the Contractor shall be cleaned by the Contractor.

k) The Contractor shall inspect, report and repair on all responsible plant areas and inform the Employer's representative accordingly. Defects must be raised on the Flip system to address any plant deviations and log writing by plant Operators.

l) The Contractor shall ensure the integrity of plant labelling and that deficiency with regards to KKS labelling is reported immediately.

m) The Contractor must ensure that they have responsible persons (in terms of PSR and ORHVS) for any work performed on plant.

n) This requires individuals to successfully complete a written and oral examination for the relevant regulation based on the Plant Safety Regulations and Operating Regulations for High Voltage Systems.

o) All maintenance technically qualified (above semi-skilled) Contractors will be trained and authorised (in terms of PSR, FFFR and ORHVS) within 6 months of the contract award date. Training will be supplied by the Employer. Availability of training to be communicated to the Contractor.

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p) Before any work starts on site the Contractor is responsible to submit their Safety File to the Employer for review and acceptance. SHE Specification to be submitted by the Employer.

q) The Contractor is also responsible for their employees annual medical checks which must be up to date and also kept in the Safety File. Site Induction must be done before any work is done by any Contractor on site. Eskom to take over medicals in future.

r) The Contractor shall ensure that all safety valves are sealed and that nameplates are fitted to all pressure equipment.

s) The Contractor to provide all required tools.

t) The Contractor shall assist in the implementation, recommendations and corrective actions which are identified by the Kusile Power Station Condition monitoring programme.

2.6 Process for Monitoring

This document is governed and monitored by 32-1034, Eskom Procurement and Supply Chain Management Procedure.

2.7 Related/Supporting Documents

N/A

3. Description Of the Works

This section outlines the requirements to be addressed by the Contractor within the SOW. The purpose of this scope of work is to appoint an experienced and competent Contractor to perform mechanical maintenance on the conveyor belts plants, including inspection, assessment, and repair in line with the original installed specifications.

All the maintenance activities shall be executed according to the maintenance strategy of conveyor plants in Kusile Power Station. The scope includes, but is not limited to, the following equipment:

a. Conveyor belting system and the mechanical components (Pulleys, Magnets, Idlers, and Moving heads)
b. Drive system.
c. Take-up system.
d. Moving head, including winches.
e. Conveyor Hydraulics (power pack and actuators)
f. Transfer chute.

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3.1 Scope of Work

3.1.1 Applicable plant area

Ash Plant

The Ash Plant is defined as the plant and equipment interfacing with processed coal (ash), operating between the following points:

- Co-disposal of Ash and Gypsum

For the first two (2) years, Ash and FGD gypsum will be co-disposed. During this period, the produced ash and gypsum will be conveyed to the co-disposal facility. Afterward, once the required infrastructure has been constructed, ash and FGD gypsum will be disposed of separately.

Coarse Ash systems

Starting from the receiving chutes of the Coarse ash Conveyors:

- Coarse Ash Conveyors (CAC 1-6)

Mixed Ash Conveyor Systems

- Transverse Conveyor system (TAC 1&2)
- Overland Link Conveyor system (OLC 1&2)
- Link Conveyor system (LC 1&2)
- Radial Stacker (RS 1&2)
- Emergency Stacking Conveyor (ESC)
- Emergency Reclaim Conveyor (ERC)
- 60 Year Ash Dump Conveyors (To be handed over after 2028)
    a. Ash Overland conveyors (OC 1&2)
    b. Ash Extendable conveyors (EC 1&2)
    c. Ash Shiftable conveyors (SC 1&2)
    d. Crawler mounted Ash Stackers (AST 1&2)
    e. Gypsum conveyors (GYC 3 A&B)
    f. E-Discharge Link conveyor (EDLC)
    g. E-Discharge Radial Stacker (EDRS)
    h. E-Discharge Reclaim Feeder (EDRF)

Gypsum Conveyor Systems

Starting from the inlet of the discharge chute of dewatering belts

- Gypsum Conveyor system 1 (GYC1 A&B)
- Gypsum Conveyor system 2 (GYC2 A&B)
- Gypsum Conveyor system 3 (GYC3 A&B)
- Emergency Gypsum Cross Conveyor 1 &2 and Stacking Conveyor

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Coal Plant - Coal Conveying systems (including associated mechanical equipment)

- Stockyard Conveyors (SY1, SY2 A&B, SY3 A&B)
- Stacker Conveyor System (SYS 1&2)
- Reclaim Conveyor System (SYR 1,2&3)
- Additional Feed Conveyor (AFC)
- Terrace Coal Conveyor System 1 (T1 A&B, T2 A-F, T3A-F, T4 A-F, T5 A-F, T6 A-F T7 A-F, T8A-F)
- Coal Offloading System (Hopper, POLC, SOLC) and Coal Silo Bypass System

All storage systems

- 1000 Ton Silos (1&2)

All structures and associated components

- Transfer houses (Coal, Ash, Limestone and Gypsum)
- Steel structures (Conveyor structures)

Limestone Conveying Systems (including associated mechanical equipment)

- Limestone Feeder (FDR)
- Limestone Conveyor 1 (CVY1)
- Limestone Conveyor 2 (CVY2A&B)
- Limestone Shuttling Conveyor 3 (CVY3A&B)

3.2 General

The contractor shall perform the following Mechanical Maintenance Scope of Work (SOW) within the specified plant areas in line with Kusile Power Station's approved maintenance strategies:

a) Maintain all guarding within the specified plant area.

b) Maintain all Counterweights, Pulleys, Magnets and related equipment within the specified plant area.

c) Inspect the pulley lagging and report all anomalies.

d) Carry out maintenance and inspections on drive gearboxes and couplings in accordance with Kusile maintenance strategies.

e) Inspect conveyor structures and guards for signs of damage/wear & perform repairs as when required.

f) Inspect the general condition of the belt identifying any large cuts, splice condition for any signs of deterioration or tears in the belt and report accordingly

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g) Verify the conditions of the tension weight cable.

h) Inspect and report on the condition of the belt scrapers.

i) Inspect the condition of the chute and repair where necessary (excluding chute lining).

j) Verify on all gearboxes that oil level is correct, inspect for leaks, inspect for any abnormal noises and repair where necessary

k) Inspect all couplings and repair where necessary

l) Inspect & repair all valves, actuators, hydraulic cylinders, pulleys, idlers, chutes, moving head, pipes & gearboxes.

m) Inspect and replace damaged idlers

n) Inspect all wash boxes and report findings accordingly

4. Acceptance

This document has been seen and accepted by:

Full Name and Surname	Designation
Busi Nkomo	Auxiliary Plant Engineering Manager
Fulufhelo Netshiongolwe	Engineering Group Manager(Acting)
Sherperd Dibakoane	BOP Chief Engineer
Thami Simelane	Maintenance Manager
Klaas Leso	Senior Supervisor - Mechanical Maintenance
Phetheni Mhlongo	Senior Advisor – Technical Support

5. Revisions

Date	Rev.	Compiler	Remarks
October 2025	1	Klaas Leso	New Document

6. Development Team

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

a) Nolo Ramabya

7. Acknowledgements

N/A

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Appendix A – Eskom Document Hierarchy

A.1 Document Hierarchy (an example of a picture /photos /diagram etc.)

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