

Title: **Scope of works for the supply, site erection, commissioning, testing and hand over of the motorized hoists at various power stations**

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1. INTRODUCTION

Eskom Rotek Industries, a wholly subsidiary of Eskom Holdings is contracted to Eskom Kusile to complete works on Unit 4 - 6 Dust Handling Plant and Silo 4 - 6 as per scope of works **366-369424 & 366-299036**.

The scope comprises of mechanical, electrical, control, instrumentation, and civil works. For maintenance purposes, the overhead hoists at the top of the ash handling silos are required to ensure ease of movement of tools and equipment to the top of silos. The following scope depicts the requirements of the supply, delivery to site, site installation, testing, commissioning, and hand over of the motorized hoists at both Medupi and Kusile Power Station.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of works is for the supply, delivery to site, site installation, testing, commissioning, and hand over of the motorized hoists at Kusile and Medupi Power Stations.

2.1.1 Purpose

The purpose of this document is to provide the requirements for the supply, site erection, commissioning and testing of the motorized overhead hoist (2 Ton) at various power stations – **Kusile** Power Station, Delmas, and **Medupi** Power Station, Lephalale.

2.1.2 Applicability

This document shall apply to **Kusile Power Station** and **Medupi Power Stations**.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

The applicable reference documents are listed below. These documents (latest revision) form part of this specification to the extent as specified in this specification. In the event of a conflict between the text of this specification and the applicable parts of the Eskom documents listed below, the text of this specification takes precedence. However, this specification does not supersede applicable laws and regulations (including the SANS standards), unless a specific exemption has been obtained from the relevant authorities.

- [1] 240-53665024: Engineering Quality Manual.
- [2] ISO 9001: Quality Management Systems.
- [3] 240-105658000 Supplier Quality Management Specification.
- [4] 240-83539994 Eskom Kusile NDT requirements.

2.2.2 Informative

- [5] Lifting Machinery Regulations.

2.3 DEFINITIONS

Definition	Description
Pneumatic Conveying	Ash conveying system using process air.
Aeration Air	The heated air used to agitate the ash in the hoppers.
Process air	Compressed air used to pressurise MD Pump vessel system
Structural steel	Structural steel supports for the conveying system

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2.3.1 Disclosure Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
DHP	Dust Handling Plant
Unit	Unit
Sil	Silo
CM	Configuration Management
SANAS	South African National Accreditation System
SANS	South African National Standards
QMS	Quality Management System
C&I	Control and Instrumentation

2.5 ROLES AND RESPONSIBILITIES

2.5.1 Eskom Rotek Industries

- As principal contractor, ensure that the services are available as and when required.
- To ensure that the supplier has safe access to site and the works.
- To ensure that the supplier has all the applicable specifications governing the service.

2.5.2 Eskom Rotek Industries – Quality Controller

- Ensure that the resources tendered are qualified for the works.
- Ensure that the works are monitored timeously.
- Ensure that all **H1, H2 and H3 Data Books** are tendered as and when the works progresses.
- Ensure that the relevant material certificates/calibration certificates are included in the

2.5.3 Service Provider/Supplier

- Ensure that they have the capacity to carry out the works.
- Ensure that the works are monitored timeously.
- Ensure that they produce the relevant **Data Books** containing of **material certificates**.
- Ensure they have an authorized **LMI** to sign off on the works.

2.6 PROCESS FOR MONITORING

- Site diary to be signed and accepted by ERI Site/Project Manager.
- Signed site diary to be confirmation of works and should accompany any invoice sent to ERI.

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2.7 RELATED/SUPPORTING DOCUMENTS

The applicable Eskom Standard governing all installation, testing, and commissioning of motorized overhead hoists works on an Eskom Sites. (Medupi Power Station, Lephalale, and Kusile Power Station, Delmas).

3. GENERAL

The following are the general requirements for the supply, site erection, commissioning and testing of the motorized hoist at various power stations (Medupi PS and Kusile PS).

A total of **12 Number/Twelve Hoists** are to be erected.

3.1.1 MECHANICAL WORKS

CE-086.1P-F - Electric chain hoist

Rated capacity	2000 kg
Height of lift	54 m
Load chain	Galvanized
Reeving	1
Hoisting speed	8 / 1.3 m/min
Hoisting motor power	3.6 KW
Hoisting motor - nominal current	8.2/4.3 A
Hoisting motor - starting current	39/6.7 A
Hoist duty group	M6
Hoist suspension	Rigid
Trolley type	Swivelling motorized trolley (normal headroom)
Trolley flange width range	200-259 mm
User girder flange width	200 mm
Radius of curved rail/beam	800 mm
Travel speed control	Inverter two steps
Travel speed high	20 m/min
Travel speed low	5 m/min
Main voltage	380 V
Phase	3-Phases
Frequency	50 Hz
Control voltage	48 V
Pendant cable length	3 m
Chain bag	Yes
Mechanical overload device	Friction torque limiter
Standard temperature range	-10°C to +40°C with rated load and speed
Hoisting limit switch	Electrical upper & lower limit switch (2 steps)
Paint	RAL 7021
Standard maximum humidity	90%
Control pendant	PSQ 4 button pendant with emergency stop
C-dimension (headroom)	684 mm
Overheating protection for hoisting motor	Included
IP66 protection	Yes
Chain lubrication	Grease
Thermal protection for trolley	Yes
Towing arm	Yes
Radio control options	Radio control system HBC 308: 2 lift+2 trolley+On+Off (including provision)
Higher lift required (SO)	Yes
Chain bag (SO)	Steel

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Electric Chain Hoist C/S MOTORIZED TROLLEY;

Pricing to be inclusive of the following;

- Electric Chain Hoist c/w Motorized Trolley.
- Festoon Power System (Excluding Isolator and Intermediate).
- Delivery of the unit to site (Medupi Power Station and Kusile Power Station).
- Assembly and Erection of hoist (Excluding Mobile Crane and Scaffolding and Labour for the erection of the scaffolding).
- Commissioning of Hoist.
- Site Load Testing of Hoist by LMI.
- Hand Over of Hoists to Client.

3.1.2 ELECTRICAL

As per the above requirements.

3.1.3 CIVIL

N/A

3.2 REQUIRED INFORMATION

- Eskom Rotek Industries to ensure that the supplier has the relevant Eskom Specification governing welding works on site.

3.3 TESTING AND CONFORMANCE

- **Lifting Machinery Regulations.**

5. AUTHORIZATION

This document has been seen and accepted by:

- Khomotso Mothata.

6. REVISIONS

Date	Rev.	Compiler	Remarks
20/07/2022	00	Khomotso Mothata	First Draft.
20/08/2022	00	Khomotso Mothata	Comments addressed.

7. ACKNOWLEDGEMENTS

- K Mothata.
- G Magagula.

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