Eskom	Scope Of Work	GROOTVLEI

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Content

Page

1. INTRODUCTION 3

2. SUPPORTING CLAUSES 3

2.1 SCOPE 3
2.1.1 Purpose 3
2.1.2 Applicability 3
2.2 NORMATIVE/INFORMATIVE REFERENCES 3
2.2.1 Normative 3
2.2.2 Informative 4
2.3 DEFINITIONS 4
2.3.1 Disclosure classification 4
2.4 ABBREVIATIONS 4
2.5 ROLES AND RESPONSIBILITIES 5
2.6 PROCESS FOR MONITORING 5
2.7 RELATED/SUPPORTING DOCUMENT 5

3. EMPLOYERS WORKS INFORMATION 5

3.1 EXECUTIVE OVERVIEW 5
3.2 WORK TO BE PERFORMED BY THE CONTRACTOR FOR THE WORKS 5
3.2.1 Electrical Specification 6
3.3 CONTRACT DELIVERABLES 6
3.4 TENDER EVALUATION STRATEGY 6
3.4.1 Technical Evaluation Threshold 6
3.5 WORKING HOURS 7
3.5.1 Normal Hours 7
3.5.2 Emergency Hours 7
3.6 ACCESS TO FACILITIES AND SYSTEMS 7
3.7 SAFETY PRECAUTIONS 7
3.7.1 Health and Safety Plan (Construction Regulations) 7

3.8 QUALITY ASSURANCE REQUIREMENTS 8

3.9 ENVIRONMENTAL REQUIREMENTS 8
3.10 SITE SERVICES AND FACILITIES 8
3.10.1 ROADS 8

3.11 GENERAL 8

4. AUTHORISATION 9

5. REVISIONS 9

6. DEVELOPMENT TEAM 9

7. ACKNOWLEDGEMENT 9

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1. INTRODUCTION

Grootvlei Power Station is a coal fired power station located in Grootvlei, Mpumalanga, South Africa. The station is made up of six units, with three units which are currently in service which is Unit (1-3) and three units which are on cold reserve which is unit (4-6). The three units generate approximately 585 MW to Eskom national grid. The ability to generate electricity is made possible by the electrical reticulation network within the station.

The coal that is used is taken from the mines and transported via trucks to the station. The coal will then be taken directly to the station boilers for combustion. Once the coal has been burnt, the ash will then be formed and filtered via the FFP. The flying ash will then be taken up to the stack and the hard ash will be stored at the ash hoppers. Once the ash hoppers are full, the ash will then be mixed with water and then transported to the Ash dams. The level switches play an important role in the process by giving an indication of the level of the ash hoppers before the hoppers overflow and cause blockages in the system. Later on, this will result in an air pollution.

The contract is for Supply, Delivery, installation and commissioning of Dust hopper level measurement at Grootvlei Power Station in a form of a project for a period of 1 years. They are instruments that are currently installed in the plant and will be removed.

2. SUPPORTING CLAUSES

2.1 Scope

This document provides the scope of work for the Supply, Delivery, installation and commissioning of Dust hopper level measurement at Grootvlei Power Station.

2.1.1 Purpose

The purpose of the document is to formally capture all the relevant information pertaining to the dust hopper levels measurement installation.

2.1.2 Applicability

This document is applicable to Grootvlei 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.

2.2.1 Normative

[1] ISO 9000: Quality Management Systems.

[2] Occupational Health and Safety Act and Regulations (Osh Act; Act 85 of 93)

[3] ISO 14001 Safety Management Systems

[4] 240-56227443 Requirements for Control and Power Cables for Power Station Standard

[5] 0.00/1310 Standard Power and Control Cable

[6] NRS 028:1991 Cable lugs and ferrules for copper and aluminium conductors

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[7] 85-A-001 Functional Location KKS Coding and Labelling Standard

[8] 32-345 Eskom Vehicle Safety specifications

[9] 32-846 ORHVS Regulation

[10] 36-681 Generation Plant Safety Regulations

2.2.2 Informative

2.3 Definitions

Definition	Explanation
Ash	powdery residue left after the burning of a substance
Combustion	the process of burning something
Commissioning	the process of ensuring that all systems and components of a building, industrial plant, or other facility are designed, installed, tested, and operated as intended, according to the owner's or client's operational requirements.
Dust	fine, dry powder consisting of tiny particles of earth or waste matter lying on the ground or on surfaces or carried in the air
Flying ash	powdery residue left after the burning of a substance that can be blown to the air.
Hopper	is a collection area, typically a funnel-shaped structure, used to gather ash and slag. It's located at the bottom of a furnace or other combustion chamber, such as in a power plant or boiler. The hopper's primary function is to collect and temporarily store ash, which is then removed for further processing or disposal.
Level switch	is a device that detects and monitors the level of liquids or solids within a container or system.
Instrument	Is a device that is used to measure, control, and monitor various parameters and processes within a system or plant.

2.3.1 Disclosure classification

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

2.4 ABBREVIATIONS

C&I	Control and instrumentation
DCS	Distributed Control System
FFP	Fabric Filter Plant
KKS	Kraftwerk Kennzeichen System
MW	Mega Watts

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2.5 ROLES AND RESPONSIBILITIES

This document shall be managed and maintained by Control and Instrumentation Engineering, Projects, Outage and Control and Instrumentation Maintenance at Grootvlei Power Station.

Roles and responsibilities are as follows:

a) **System Engineer** Compile the scope of work for the contract and provision for technical assurance.

b) **The Contractor** is responsible for Supply, Delivery, installation and commissioning of Dust hopper level measurement at Grootvlei Power Station.

c) **Projects Departments** are responsible for making sure that the project contract is placed and managed properly for the duration of the project.

d) **Maintenance Department** are responsible for ensuring that they take over the maintenance responsibilities once the project has been handed over by the projects department.

2.6 PROCESS FOR MONITORING

The contractor manager must ensure that the contractor follows all Eskom procedures and process. The contractor is to ensure the use of Inspections and quality to monitor progress and quality of the work.

2.7 RELATED/SUPPORTING DOCUMENT

Not Applicable

3. EMPLOYERS WORKS INFORMATION

3.1 Executive Overview

The project is for the Supply, Delivery, installation and commissioning of Dust hopper level measurement at Grootvlei Power Station.

3.2 Work to be performed by the contractor for the works

- All work to comply with all legal safety aspects.
- The level measuring devices shall be installed in all running units.
- The instruments must be configured to indicate the dust hopper level in the boiler plant from the DCS.
- The level indication on DCS may set to be digital or analogue.
- Level measuring instruments must be accurate for measuring solid ash particles in the plant.

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- To ensure operational integrity, functional device performance is assessed on-site. Where applicable, corrective actions are proposed and included in device reports supplied.
- The Contractor shall make the spares specifications available for the replacement of defective instruments.
- The C&I Maintenance team is required to repair all the defects found in the plant with the assistance of the contractor either telephonically or physically.
- Contractor shall always adhere to the delivery agreement period as per Eskom standard (24-56361435)
- Contractor shall comply to Eskom's policies and procedures.
- Contractor shall provide the service using a qualified person.

3.2.1.1 Electrical Specification

N/A

3.2.1.2 Control and Power Cabling Requirements

The Contractor is to ensure that the cables are accordance with Eskom standard 240-56227443 Requirements for Control and Power cables for Power Stations standard.

3.2.1.3 Low Voltage and Medium Voltage Switchgear Requirements

N/A

3.3 Contract Deliverables

The following deliverables are required as per the Configuration Management requirements, during the Contract period:

- Spares specification

3.4 Tender Evaluation Strategy

3.4.1 Technical Evaluation Threshold

Mandatory Technical Evaluation Criteria (gatekeepers) are 'must meet' criteria. These criteria shall not be weighted, or point scored but shall be assessed on a Yes/No basis as to whether the criteria are met unless set otherwise. An assessment of 'No' against any criterion shall technically disqualify the tenderer and shall not be further evaluated against Qualitative Criteria.

Qualitative Technical Evaluation Criteria are weighted evaluation criteria used to identify the highest technically ranked tenderer after determining that all the Mandatory Evaluation Criteria have been met. The Qualitative Evaluation Criteria are weighted to reflect the relevant importance of each criterion. The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is **70%**.

Evaluation will be done according to **Tender Engineering Evaluation Procedure *240-48929482***

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3.5 Working Hours

The official working hours at Grootvlei Power Station are as follow:

- Monday to Thursday: 07:15 - 16:30
- Friday: 07:15 – 12:15

3.5.1 Normal Hours

- The Contractor shall adopt the working hours of the Employer during the contract period.

3.5.2 Emergency Hours

N/A

3.6 Access to Facilities and Systems

- The Employer arranges an access permit to Grootvlei site for the Contractor and his vehicle(s) for delivery of spares.

- While the Employer provides the accesses mentioned, the Contractor makes use of these facilities and systems within all procedures or other rules governing the similar use of these facilities by the Employer's employees. These shall include the Employer's safety, security, and ethics rules. The onus rests with the Contractor to ensure compliance to the relevant rules.

3.7 Safety Precautions

3.7.1 HEALTH AND SAFETY PLAN (CONSTRUCTION REGULATIONS)

Upon the award of the contract, successful Contractor must submit a Health and Safety Plan, filed in a Health and Safety File.

The Safety Officer employed by Grootvlei Power Station will audit these Health and Safety Plan to ensure compliance with the provisions of the Act. The approval of the health and safety plan can sometimes take 2 to 3 days to approve, and NO WORK shall be conducted before the plan is approved. The Contractor must consider this for their health and file costing.

a) The Health and Safety Requirements to be met by contractors will be always complied with.
b) The *Life Saving Rules* will be always applied to:
    - Rule 1: Open, Isolate, Test, Earth, Bond and/or Insulate before Touch
    - Rule 2: Hook up at heights
    - Rule 3: Buckle up.
    - Rule 4: Be Sober
    - Rule 5: Ensure that you have a Permit to Work

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3.8 Quality Assurance Requirements

The Contractor will be subject to periodic audits by the Employer to ensure compliance with the system. Any deviations will be corrected to the Employer's satisfaction.

The Supply Manager has the right to stop the Contractor's work activities which, in the opinion of Supply Manager, does not meet the requirements of the system and will have a detrimental effect on plant performance.

3.9 Environmental Requirements

The contractor shall comply with all Eskom Grootvlei Power Station environmental requirements such as policies, standards and procedures (work instructions). Non-conformance, incident reporting and investigations shall be done by the contractor. Polluter pays principles shall apply to all Contractors. It is the responsibility of the polluter to clean all spillages and for the rehabilitation of the polluted land and the cost associated with that.

Eskom Grootvlei Power Station shall issue non-conformances where there are deviations from Grootvlei Power Station Procedures and any other environmental requirements. Adherence to the 'Duty of Care' as stipulated in section 28 of the National Environmental Management Act 107 of 2008.

All incidents shall be managed according to Eskom Environmental incident management procedure-**240-133087117**; Station Waste management procedure and colour coding shall be always adhered to.

3.10 Site Services and Facilities

3.10.1 Roads

Main access roads are surfaced and complete and may be used by the Contractor with the necessary care. The Employer maintains the roads, described above, to a fair condition. Evacuation, First Aid and Fire Fighting

The Contractor must have a trained First Aid and Fire Fighter, in case of emergencies.

3.11 General

This contract and all information associated with its management is confidential and may not be divulged beyond the provisions stated within the contract. Should the Contractor violate this condition, the Employer may terminate this contract forthwith and nullifying any outstanding or further claims by the Contractor.

The Contractor and the key persons are to declare any interest, pecuniary, material or otherwise, in any tender, offer or quotation to the Contracts Service Manager for any other work, supply or service, to the Employer's Agent at the time when such tender, offer or quotation is submitted. The Contracts Service Manager's interpretation of a situation shall apply where there is a conflict.

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4. Authorisation

This document has been seen and accepted by:

5. Revisions

Date	Rev.	Compiler	Remarks
May 2025	1		New Document

6. Development Team

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

- N/A

7. Acknowledgement

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