

	Scope of Work	Grootvlei Power Station
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1. Introduction

Grootvlei Power station is a coal fired power station that uses instrumentation to effectively run all its plants which are the main plant (includes the units and the common plant), water treatment plant and the Vaal Dam Pumping Site. Instrumentation found in these plants includes but not limited to temperature switches and transmitters, pressure switches and transmitters, level switches and transmitters, analysers, flow switches and transmitters, solenoid coils, thermocouples, RTDs, gauges, speed sensors, etc... These instruments need to be maintained to ensure plant availability, and their maintenance is of paramount importance as it reduces downtime. The maintenance also needs to be done by trained technicians to ensure good quality work and a safe plant for all stakeholders.

This document will outline the scope of work for the maintenance of the field instrumentation found at Grootvlei power Station.

2. Supporting Clauses

2.1 Scope

This document specifies the maintenance work that will be required to ensure all plants i.e. boiler, turbine, ash, RO, WTP and Vaal dam pumping site are always available, and issues are attend to timeously to avoid plant down time.

2.1.1 Purpose

The purpose of this document is to formally request the *Supplier* to avail the correct skills and expertise from its staff to be able to perform the required maintenance work at Grootvlei power station.

2.1.2 Applicability

This scope is only applicable to C&I Maintenance and Engineering departments at Grootvlei Power Station.

2.1.3 Effective date

This document shall be effective from the authorisation date

2.2 Normative/Informative References

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

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2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] 32-1033: Eskom Procurement and Supply Chain Management Policy.
- [3] 32-1034: Eskom Procurement and Supply Chain Management Procedure.
- [4] 240-39281048 Maintenance Strategy.

2.2.2 Informative

Not Applicable

2.3 Definitions

2.3.1 Classification

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

2.4 Abbreviations

Abbreviation	Explanation
C&I	Control and Instrumentation
CM	Corrective Maintenance
DCS	Distributed Control System
HART	Highway Addressable Remote Transducer
MCW	Main Cooling Water
PM	Preventative Maintenance
RTD	Resistance Temperature Detector
RO	Reverse Osmosis
QC	Quality Control
SHEQ	Safety, Health, Environment and Quality
WTP	Water Treatment Plant

2.5 Roles and Responsibilities

- **Maintenance Manager:** C&I Maintenance Manager shall ensure that all C&I maintenance procedures and strategies are followed when maintenance is being performed.
- **System Engineer:** The delegated Engineer is responsible for compiling this scope of work that is in line with the C&I maintenance procedures and strategies.
- **Supplier:** The supplier shall ensure that the completed maintenance is of the highest quality and is in line with the C&I maintenance procedures and strategies.

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2.6 Process for Monitoring

Procurement process will be used to monitor the contract placement process.

2.7 Related/Supporting Documents

Not Applicable.

3. WORK TO BE PERFORMED BY SUPPLIER

3.1 Plant description

Grootvlei power station consists of the boiler, turbine, coal, ash, WTP, MCW and RO plant. All these plants utilise instruments for running and controlling them. These instruments fail every now and then and procedures and strategies are developed to ensure maintenance of these instruments. The objective of the maintenance of these instruments is to ensure smooth running of the plants and hence plant availability.

3.2 Works Information and Description of Works

The scope for the *Supplier* is to provide maintenance (CM and PM) to all C&I instruments found at the station in all the plants. As a minimum the *Supplier* shall perform the following tasks but not limited to the following:

- Comply to 240-39281048: Maintenance Strategy.
- Maintenance to be performed will include cleaning of modules with their cabinets, inspections, verification, loop checking, stroke checking, function checking, commissioning, repairing, removing, replacing and testing of field instrumentation of all C&I related plants at Grootvlei Power Station including Vaal Dam.
- The works consist of maintenance of all control and instrumentation: Maintenance is also required on Common plant that is coal, Fuel, Ash, dams, Cooling water, water service, Compressed air, Low Pressure Gas, H2 Plant, CCTV system at weighbridge, procurement building and fuel oil loading bay and FFP Blower plants and any other plant, which is part of Grootvlei Power station including instrumentation at Vaal Dam.
- The Contractor is responsible for the maintenance of the total control and field instrument system that is working on 24Vdc. This shall also include any circuits that work on voltages less than 220V AC and 220V DC.
- The Contractor shall render service with no additional cost, for any tests required by other Contractors representing Maintenance at Grootvlei Power Station, and Grootvlei Power Station permanent staff.
- The Contractor shall also render a service to C&I engineering, outage department during outages and any other related work and no additional costs will be charged.
- The Site Manager shall report directly to the C&I Maintenance Manager/ Contract Manager, for the day-to-day issues.
- The Contractor must perform function checks and verification on the entire field Instruments, and the Calibration/Verification Sheet must be filled and both Eskom and the Contractor must have copies of such for filing.

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- The Contractor shall maintain the environmental conditions where C&I equipment operates in the equipment and server rooms as specified in 240-56355731 Environmental Conditions for Process Control Equipment Used at Power Stations Standard.
- The Contractor will provide maintenance from the field instruments up to the control system cabinets Field Termination and Assembly card. The Contractor will therefore be expected to work with the DCS contractor and the Employers Engineering team beyond this point.
- The Contractor must assist at no additional costs other than provided in this contract, in terms of commissioning of all new plants and maintenance on new handed over plant after a modification.
- The Contractor must perform Stroking of all Actuators or any other actuator that is installed at Grootvlei Power Station including Vaal Dam.
- All documents generated in the course of executing work on behalf of the Employer in accordance with this contract to be filed and stored appropriately, and to be made available for audit purposes as and when required.
- The Contractor to perform the Protection Checks when required and/or after a GO, mini-GO or an IR.
- The Contractor shall also assist with monitoring and optimisation of process parameters on a small scale where required and manage field simulations.
- The Contractor shall ensure that all its employees are authorised in terms of Plant Safety Regulations (PSR), training will be provided by The Employer on site.
- All C&I documents (either on softcopy or hardcopy) in Eskom's possession, whether it be OEM or at "Black Box Interfaces" with similar Contractors, which is required for plant operation and maintenance purposes will be made available to the Contractor.
- Any tool required for maintenance work needs to be supplied by the Contractor as per the minimum standard tool list (list at the last page) but not limited to the tool list.
- All transportation requirements required by the Contractor for its employees will be provided for by the Contractor and must meet Eskom's requirements.
- Workshop tools must be maintained, kept safe and under working condition, when lost shall be replaced by The Contractor.
- Preventative and Routine maintenance to be performed on the plant
- The pulling of cables work will be required on an, as and when required, basis at no additional cost (included in the contract).
- The Contractor shall be responsible for cabling by pulling in and out of new cabling which is C&I related and termination from a Junction box, Cubicle to the instrument or Local control panel. The Employer will supply all cables required and the Contractor shall execute the activity at no extra cost.
- The Contractor is responsible for all aspects of C&I cables matters and is not limited to only staffing and staff management.

The supplier is also required to always adhere to the following when on site:

- The Contractor shall provide themselves with the correct PPE including dust masks and a safety harness if required.
- The Contractor shall provide adequate skilled personnel for the supply and delivery of C&I cables.
- The **contractor** to comply to the Employer's Life Saving Rules, stipulated as follows:
- Open; Isolate, test, earth, bond, and/or insulate before touch.
- Hook up at height
- Buckle up

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- Be sober
- Ensure you have a permit to work

3.3 Education and Skills Requirements for Supplier's Technical Staff

The technical staff to be supplied by the supplier for maintenance work must have the relevant qualifications, experience and skills and the Eskom will embark on a skills assessment process for the employees provided by the supplier. The following skills must be covered as a minimum:

- An understanding and knowledge of field maintenance of all instruments and analysers which are used in the power generation industry. This will include calibration/verification and stroke checking of control valves, calibration of digital valve positioners, calibration of smart transmitters for measuring flow, level, temperature and pressure, pressure gauges, pressure switches.
- Ability to make use of hand and power tools, such as pipe bender, pipe cutter, spanners, crimpers, etc.
- Ability to use instruments test equipment such as multi-meters, signal generators, temperature dry blocks, configuration tools with or without HART protocol etc. It is also of utmost importance that the supplier can outsource calibration and maintenance of process equipment that belong to the supplier.
- Understanding and application of flow measurements (Using differential pressure and orifice plate, magnetic flow, Coriolis flow, ultrasonic etc), pressure measurements (Guage, absolute pressure etc), level measurements (Using differential pressure, ultrasonic, radar, magnetic switch and buoyancy), temperature measurements (RTD, Thermocouples, Thermopiles etc), linear Variable Displacement and Eddy currents.
- Reading and understanding of loops, schematic drawings and electrical interlock drawings.
- Understanding of basic concepts related to DCS – Experion Process Knowledge System, boiler protection systems, turbine Control and Protection systems and programmable logic controllers.

3.4 Spares

Spares required for performing maintenance are the responsibility of Eskom and will be supplied by Eskom on request by the supplier.

3.5 Information to be provided

All information required to perform maintenance will be supplied by Eskom on request by the supplier.

3.6 Exclusions

The following shall be noted as exclusions as per this scope of work:

- The *Supplier* shall not supply spares
- Subcontracting shall not be permitted, unless declared and accepted prior to contract placement

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3.7 Constraints on how the *supplier* provides the maintenance services

3.7.1 Documentation control

The plant information needed for performing maintenance will be provided either in electronic format or hard copy. The classification of the plant information is to be treated accordingly and never shared with unauthorized people.

3.7.2 Quality assurance requirements

The maintenance work to be provided shall conform to all quality assurance requirements that will be defined in the quality standards and at contracting phase.

3.8 SHEQ

The *Employer* reserves the right to request certification from the *Supplier* that proves compliance to relevant SHEQ legislations, standards, and procedures. If, during procurement, the *Supplier* is found guilty of contravention of any SHEQ legislations, the *Employer* shall, at *Employer's* discretion, cancel the contract and the *Supplier* shall be liable to all the costs incurred therein.

4. ACCEPTANCE

This document has been seen and accepted

5. REVISIONS

Date	Rev.	Remarks
March 2026	1	New document

6. DEVELOPMENT TEAM

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

C&I Team

7. ACKNOWLEDGEMENTS

N/A

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