	Scope of Work	Generation Komati Power Station
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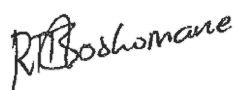
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1. INTRODUCTION

To maintain a detailed scope of work for the operation of the Common Plant and Outside Plants and on a contract basis provided at Komati Power Station.

2. SUPPORTING CLAUSES

Scope of Work for Provision of Ash and Outside Plant Operation Services at Komati Power Station for the duration of 24 months.

2.1 Scope

2.1.1 Purpose

To keep the Common Plant at Komati Power Station operational by the Control Desk Operators. Work breakdown structure applicability and operating personnel

2.1.2 Applicability

This document shall apply to Komati Power Station.

2.1.3 Effective date

This document is 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.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems

2.2.2 Informative

[2] Plant Safety Regulations (PSR) (360-681), Limited Access Register (LAR).

[3] Operating Regulation for High Voltage Systems (ORHVS) (32-846)

2.3 Definitions

Not Applicable

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2.4 Abbreviations

Abbreviation	Explanation
HOG	HOG Head of Group or Group Manager
OPS	OPS Operating Department.
Prod. Supp.	Prod. Supp. Production Support
SPO	SPO Senior Plant Operator
PSR	PSR Plant Safety Regulation
HOD	HOD Head of Department
GM	GM General Manager
PPE	PPE Personal Protective Equipment
KKS	KKS Kraftwerk Kennzeichen System (Power Plant Classification System)
KV	KV Kilo Volt.
V	V Volt
TEMP	TEMP Temperature.
ESP	ESP Electro-Static Precipitator
CW	CW Cooling Water
LAR	LAR Limited Access Register
PSR	PSR Plant Safety Regulation
ORHVS	ORHVS Operating Regulation for High
QMS	QMS Quality Management Systems

2.5 Roles and Responsibilities

Employer Representative

Ensure contractor representative is familiar and conversant with this scope.

Consult and inform contractor representative of any intended modification to the scope.

Review the scope as and when required.

Contractor Representative

Familiarize to all applicable standards and procedures associated with the excursion of this scope of work.

Influence any review or modification of this scope.

Ensure all contractor personnel are familiar and conversant with this scope.

Contractor Personnel

Carry out their duties in line with this scope of work.

Familiarize themselves and comply with all applicable standards and procedures associated with the excursion of this scope of work.

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Ensure all required health, safety, environment and quality measures are put in place while executing this scope.

2.6 Process for Monitoring

Not applicable

2.7 Related/Supporting Documents

- Eskom SHE specification for Ash Plant and Outside Plant operations
- All monitoring and check sheets as per applicable procedures and/or work instruction.

3. SCOPE OF WORK

Scope of work for the Provision of Common Plant Operations for period of 36 months

The purpose of this scope of work is to preserve the status of the Ash Plant and Outside Plant through adequate operations as requested by the client. This scope of work will be carried on the 12hrs shift cycle on the 24-hours basis.

The following resources will be required to cover the Ash Plant and Outside Plant operations

- Outside Plant Shift Supervisors x 4
- Common Plant Panel Operators x 4
- Common Plant Senior Plant Operators x 4
- Plant Operators Operating Ash Plant x 4
- Safety Officer (as and when required) x 1

Below is the list of activities/plant sections and functional/job outputs which needs to be incorporated into the WTP Operating Contract. (Compressor Plant, Ash Plant, Cooling Water System and Operation of Ash Dam Pumps)

1. Provide seasoned Operators to man and operate the Common Plant Control Panel and all related plants on a 24-hour basis on the DCS. (Common Plant Panel Operators x4)
 - Operate and monitor the Compressor Plant System
 - Operate and monitor the Cooling Water Plant System
 - Operate and monitor the Ash Plant System including the sluice pumps
 - Monitor CW forebay level
 - Ash dams seepage pumps (3D sump and PMH)
 - Complete the panel check sheet at interval times for the above plant.
 - Operate plant in accordance with laid down procedures and instructions
 - Report all defects on the to the Shift Supervisor and ensure that SAP defects are loaded, and SAP number is generated.

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- Ensure plant status is discussed with the incoming/outgoing shifts.
 - Log all events in a chronological order
 - Communicate clearly the status of plant with the Shift Supervisor, Plant Operator and Client.
2. Provide a **Senior Plant Operator** to operate the Compressor Plant including the interval routine inspections and recording of readings by completing the Common Plant Running Check Sheet (day/night shift) (Common Plant Senior Plant Operators x 4)

Compressor Plant:

- Drier in service
- Compressor in service
- Check visible air and oil leaks on the Compressor Plant
- Check water traps on the air receivers to be open.
- Housekeeping around compressor plant vicinity
- Report any abnormal conditions to the Shift Supervisor

3. Provide a **Senior Plant Operator** to operate the Cooling Water (CW) plant system including routine inspection and recording of readings by completing the Common Plant Running Check Sheets (day/night shift)

Cooling Water System Including the CW Pumps:

- Check DE and NDE motor bearing oil levels to at NWL
- Check CW pumps hydraulic valve oil level and lube oil diff pressure.
- Check visible water and oil leaks on the CW pumps system
- Monitor CW forebay level
- Housekeeping around CW pump house
- Report any abnormal conditions to the Shift Supervisor.

4. Provide a **Plant Operator** to operate the Ash plant system including the routine inspection on the ash lines by completing Ash Plant Running Check Sheet (day/night shift) (Ash Plant Operator x4)
- To operate the ash plant in accordance with laid down instructions and procedures
 - To operate the Ash pumps associated manual valves when the pumps are being used or as per the instruction from the Shift Supervisor.
 - Report detailed defects on any plant item of ash plant which may require the attention of Maintenance
 - Ensure that the plant status is handed over the Shift Supervisor before the end of shift.

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- Monitor the Ash sump level and start the bilge pump when required.
 - Prepare the plant for service by completing the pre-start check sheets on the plant before returning to service.
 - Operate the plant under normal and emergency situations as directed.
 - Carry out frequent inspections and complete plant check sheet. i.e. Ash and sluice pumps, gland sealing water pumps, and any visible leaks on the ash lines from the sump to the security fence)
5. Provide an authorised Appointed Persons (AP) and Appointed Operators (AO) on all shifts on a 24-hours basis. (PSR and ORHVS). The Shift Supervisors will assume this role to cover the Compressor Plant, Ash Dam Pumps and Ash Plant.
6. Inspect all electrical apparatus in his/her area of responsibility as per schedule i.e. switchgear, electrical boards and transformers. Shift Supervisor
7. SHE Officer that will work as and when required.

Manpower requirements, qualifications and experience

Outside Plant **Shift Supervisors** Functional Outputs: TG (T11)

- Supervision of the Ash plant and Outside Plant operating activities and people and associated auxiliary systems through adequate planning, organising, coordinating, monitoring and control of activities.
- Check that the plant is operated within specified limits and at optimum efficiency by carrying out frequent monitoring checks, recording such data and report any non-conformances
- Conduct regular visual inspections on the plant
- Conduct job observations and take corrective actions when required
- Conduct a risk assessment on critical operating activities and mitigate the impact on the operator's safety, plant and environment.
- Authorised as an appointed person (AP)/appointed person (AO) to issue and revoke permit to work (PTW) in terms of PSR and ORHVS
- Physical isolate/de-isolate plant as per work instructions, procedures and standards and complete all related documentation.
- Inspect /test run the plant /equipment after maintenance has been completed.
- Keep an accurate chronological log of all operating occurrences, incidents and other activities while on shift duties and follow up on defects submitted.
- Management of staff resource requirements such as times sheets and leave overtime.
- Plan and execute planned maintenance (PM's) as and when required

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- Ensure good housekeeping in area of responsibility and chair the daily toolbox talks meeting.
- Enforce discipline, coach and mentor staff and perform job observation on the critical activities.
- Minimum Qualification Requirements:
 - N5 with Maths & Science or
 - Plus, NQF level 4 National Certificate Power Plant Operations or
 - Certificate of Competency to be competent to work as Outside Plant Operator (SPO)
 - Related Minimum Experience: Senior Plant Auxiliary/Outside Plant

Common **Plant Panel Controller** Functional Outputs: TG (T09)

- Control plant operations within the prescribed parameters as dictated by the production plan, work scheduling requirements and the Operating Technical Specifications.
- To operate and control part of the Ash and Outside Plant operations from the Control Panel.
- Keep an accurate chronological log of all operating, incidents, occurrences and other activities while on shift.
- Take corrective action to restore plant to normal as soon as possible to maintain the movement of water within the effluent and Ash dams to eliminate the risk of dams overflow.
- Promptly respond and take corrective action to all plant alarms, trips and failures.
- Report and address conditions and any other factors that could affect the safety of personnel, any risk to plant.
- Enforce compliance to all statutory requirements
- To operate the LP Services, Compressor Plant, Pumps, CW Plant and Ash Dams Seepage Pumps.
- Minimum Qualification Requirements:
 - Grade 12 or N3 with Maths & Science
 - Plus, NQF level 4 National Certificate Power Plant Operations
 - Certificate of Competency to be competent to work as Outside Plant Operator (SPO)
 - Related Minimum Experience: Senior Plant Auxiliary/Outside Plant

Common Plant **Senior Plant Operator**: TG (T0)7)

- To operate, monitor and inspect the Compressor and Cooling Water Plant in accordance with laid down instructions and procedures.
- Carry out frequent inspections and complete plant check sheet at interval times
- Report any abnormal conditions to the relevant personnel
- Report detailed defects on any item of plant that may require attention to relevant personnel
- Operate plant in accordance with laid down procedures and instructions

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- Assist the Appointed Person with mechanical isolation/de-isolation on the plant.
- Comply with good housekeeping practices
- Perform first line fault finding on ash plant and take corrective actions.
- Assist main control room with routine plant testing
- Prepare the plant for service by completing the pre-start check sheets on the plant before returning to service.
- Witnessing plant operating condition while it is being placed into service or test running to detect any abnormalities.
- Minimum Qualification Requirements:
 - Grade 12 or N3 with Maths & Science
 - Plus, NQF level 3 National Certificate Fossil Power Plant Operations or
 - Certificate of Competency to be competent to work as Ash Plant and Outside Plant Operator
 - Related Minimum Experience: Auxiliary Plant Operator Experience

Plant Operator Operating (Ash Plant and LP Services) TG (T06)

- Carry out frequent inspections and complete plant check sheet
- Report levels of ash sump to the relevant personnel
- Report detailed defects on any item of plant that may require attention to relevant personnel
- Operate plant in accordance with laid down procedures and instructions
- Assist the Appointed Person with mechanical isolation/de-isolation on the plant.
- Comply with good housekeeping practices
- Perform first line fault finding on ash plant and take corrective actions.
- Assist main control room with routine plant testing.
- Minimum Qualification Requirements:
 - Grade 12 or N3 with Maths & Science
 - Plus NQF level 3 National Certificate Power Plant Auxiliary Systems Operations or
 - Certificate of Competency to be competent to work as Ash Plant and Outside Plant Operator
 - Related Minimum Experience: Auxiliary and Outside Plant Operator Experience

SHE Officer

- Minimum Qualification Requirements:
 - Grade 12 plus National Diploma in Safety or related qualification and power station experience

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7.1 Employer's Requirements for service

7.1.1 Adherence of Eskom generic policies

All Contractor employees shall comply with Eskom's policies and site regulations, including no smoking in restricted areas, adherence to Eskom's lifesaving rules, etc. These requirements will be detailed during the induction training process.

7.1.2 Provision of manpower

There are four shifts and each shift shall have five personnel: 2 x Plant operators operating Ash Plant, 1 x Common Plant Panel Operator, 1x Common Plant Senior Plant Operator and 1 x Outside Plant Shift Supervisors.

- Working Hours

The common plant and outside plant personnel are on a 12-hour shift cycle. The shift starts at 06H30 and ends 18H30 for the day shift. The night shift starts at 18H30 and ends at 06H30. Each shift must do handover from 06H30 to 06H45 (morning) and 18H30 to 18H45 (night shift).

Eskom reserves the right to change the hours of work, but shall duly notify the Contractor of the intent to do so. The Contractor may be required to comply immediately with the new hours of work.

It is a requirement that the control desk is manned 24/7.

- Safety Aspects

The Contractor shall comply with:

1. The Occupational Health and Safety Act 1993 – Section 37 and all regulations made there under.
2. All Eskom Holdings Limited Safety and operating procedures.
3. The Contractor acknowledges that he is fully aware of the requirements of all of the above and undertakes to employ only people who have been duly authorised in terms thereof and who have received sufficient safety training to ensure that they can comply therewith.
4. The Eskom SHE specifications for this contract

8. ACCEPTANCE

This document has been seen and accepted by:

Name	Designation
Shoki Mbowane	Operating Manager (Acting)
Vincent Makhubedu	Operating Support Manager

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Name	Designation

9. REVISIONS

Date	Rev.	Compiler	Remarks
September 2021	0	Dinah Mahlangu	First issue
May 2023	1	Delina Letswalo	Revision

10. DEVELOPMENT TEAM

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

- Vincent Makhubedu

11. ACKNOWLEDGEMENTS

None.

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