

	Scope of Work	Generation Komati Power Station
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Title: Komati Power Station Water and Ash Dam monitoring. (For period of 3 years)

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FOREWORD

Revision History

This revision cancels and replaces Revision No. 2 of Specification or Standard No. 1

Date	Rev.	Remarks
October 2020	0	Removal of Once off scope of Ash Dam and Water Dam evaluation and Monitoring

Authorization

This document has been seen and accepted by:

Name	Designation
Bongani Mashimbye	Engineering and Maintenance Manager
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Applicability

The scope of this contract is applicable to be utilised at Komati Power Stations:

Development Team

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

- William Setlaelo

Overview

The Employer (Komati Power Station) contracts with the consultant for a period of 3 years to take the professional responsibility for the monitoring of the Komati Power Station ash and water dams. The Consultant will provide professional engineering services and also support the Employers drive in sustaining and improving the performance and life expectancy of the Employer Asset.

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1. SCOPE

Water Dam and Ash Dam Monitoring. (Old Ash Dam and 3D Dam)

Komati Power Station comprises of a number of dams, which are required to be monitored and inspected as per the station requirements. The majority of the dams are water dams and ash dam which are namely as follows: Lake Stoffel : 6000 meter cubed, Lake Finn: 4000 meter cubed, 3rd Recovery: 1 000 000 meter cubed , Ash Water Return Dam: 120 000 meter cubed , Raw Water Reservoirs ca: 200 000 meter cubed 4 in total, Ash Dam (Dam 1 and 2): 493 900 meter cubed , 3D sumps(mini AWRs): 2000 meter cubed

Deliverable:

- The Consultant must take full responsibility of reporting on Komati Power Station Ash: 3D dam and Old dam as described in SANS 0286: 1998.
- The consultant must take full responsibility for reporting on the safe operation of the Ash water return dams.
- The Consultant must provide ongoing guidance to Komati Power Station on requirements of SANS 0286, to ensure compliance at all aspects and keep up to date with Dam Safety Office regulations.
- Conduct monthly inspection at the ash dams and chair the meeting to discuss the operation and maintenance of the ash dams.
- Prepares monthly inspections reports based on the study of the monthly report generated by the ash dam contractor.
- Performs slope stability analysis as and when required to quantify the risks on ash dams and all other dams and advice the employer on safety risks and environmental risks with recommendations.
- Ensure that the ash dam's structural integrity is not compromised in any way by any action.
- Provide advice on any actions deemed necessary to ensure the long term health of the ash dam and all other dams.
- Perform all minor modification including drawings pertaining to the ash dam operations and other dams.
- Execute the necessary geotechnical testing in order to quantify the strength parameters of the ash.
- Develop and assist in an overall operational strategy to coordinate activities between engineering, maintenance and operating functions.
- To review the current life cycle plan of the Ash Dam and to develop an operational strategy in terms of the capacity and rate of rise of the ash dam.
- Develop implementation strategies in the context of how to fix defects and potential defects for ash dams and other dams
- Review all existing emergency procedures and where none exist to compile one.

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- When required to do investigations with recommendations to improve the operation of the Ash Dam.
- Update the operations and maintenance manual to ensure that the ash dam contractor work to the latest changes in the tailings dam operation requirements.
- To monitor the rate of rise as well as the capacity of the Ash Dam and to submit 3 monthly reports.
- Analyse the current and future ash line configuration around the ash dam and to do recommendations.
- Assess distress signs such as cracking, wet spots on the downstream face, and critical settlement
- Install instrument, if possible, on the embankment or foundation to monitor changes which may be critical to stability and in order to help predict unstable conditions.
- Conduct an Aerial Survey for the ash dams every year.
- Develop a mentorship and coaching program for Komati Auxiliary Engineering Department that will be implemented for the duration of the contract.
- The mentorship program must include involving Komati Auxiliary Engineering Department in all designs, inspections and investigation undertaken.
- Hazard classification as per SANS 10286
- Continuous piezometer repairs 20 off
- Provision of civil engineering services for the ash and water dams at Komati Power Station
- Monthly Inspection reports and minutes of monthly meetings (this include the low
- Investigation reports with recommendation as and when required.
- Design and design report with drawings as and when required
- Quarterly progress report on mentorship and coaching program
- Once-off penstock design for Asbestos site for decommissioning at Komati Power Station and installation
- Once-off piezometer design for Asbestos site for decommissioning at Komati Power Station and installation
- Quarterly station drain inspection

2. NORMATIVE REFERENCES

Parties using this document shall use the most recent edition(s) of the document(s) listed in this section.

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

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3. DEFINITIONS AND ABBREVIATIONS

3.1 DEFINITIONS

- N/A

3.1.1 Classification

- Public domain:** published in any public forum without constraints (either enforced by law, or discretionary).
- Controlled disclosure:** controlled disclosure to external parties (either enforced by law, or discretionary).
- Confidential:** the classification given to information that may be used by malicious/opposing/hostile elements to **harm** the objectives and functions of Eskom Holdings Limited.
- Secret:** the classification given to information that may be used by malicious/opposing/hostile elements to **disrupt** the objectives and functions of Eskom Holdings Limited.
- Top Secret:** the classification given to information that may be used by malicious/opposing/hostile elements to **neutralize** the objectives and functions of Eskom Holdings Limited.

3.2 ABBREVIATIONS

Abbreviation	Description
CWW	Cooling Water West
NEC	New Engineering Construction Contract 2013
NCR	Non Conformance Report
OEM	Original Equipment Manufacturer
OSH act	Occupational Health and Safety Act of South Africa
CWE	Cooling Water East
RBO	Reliability Based Optimisation
PSR	Plant Safety regulation

4. REQUIREMENTS

- Compliance to scope of work.

4.1 SUBHEADING

- N/A

5. TESTS

- N/A

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5.1 SUBHEADING

- N/A

6. MARKING, LABELLING AND PACKAGING

- N/A

7. SPARES

- N/A

8. BIBLIOGRAPHY

- N/A

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