

	Scope of Work	Kendal Power Station
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1. INTRODUCTION

This document is necessary to outline the technical requirements of the ash dust suppression scope and the area of exposed ash to be covered to prevent ash dust from spreading on the Ash Disposal Facility at Kendal Power Station.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document will cover the scope of work for dust suppression service provider. Detailing the technical requirements of the dust suppression and the area of exposed ash to be covered to prevent ash dust at Kendal Power Station Ash Disposal Facility. The scope covers the technical aspects, environmental and safety only. This scope is divided into two sections, first section covers the supply of all required equipment, installation and commissioning of a fully functional dust suppression system, the second section covers the supply and delivery of components for a period of 60 months (5 years) on an as and when required basis.

2.1.1 Purpose

The purpose of this document is to provide a scope of work for the sourcing of a Contractor for Kendal ADF, for supplying, delivering and installation of water pipelines and sprinklers for dust suppression on ash to prevent dust, which is in line with the National Dust Control Regulations (GNR 827).

2.1.2 Applicability

This document shall apply to Kendal Power Station- ADF.

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] Occupational Health and Safety Act (Act 85 of 1993) with applicable standards and regulations.
- [3] 32-95 OHS Incident Management Procedure Rev 9.
- [4] 32-136_Contractor Health and Safety Requirements
- [5] 32- 421 Eskom Life Saving Rules.
- [6] 32-726 Standard Contract and Contractor OHS Management Rev. 3
- [7] 32-727 - Eskom Safety, Health, Environmental and Quality (SHEQ) Policy
- [8] National Environmental Management: Air Quality Act (No. 39 of 2004)
- [9] Kendal Ash Disposal Facility Water Use License
- [10] Kendal Ash Dump Waste License
- [11] The National Water Act (Act 36 of 1998) and Regulation GN 704 including other applicable regulations.
- [12] Ash Dump Environmental Management Plan.

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[13] Ash Dump Operational and Maintenance Manual

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2.2.2 Informative

[1] Best Practice Guidelines (relevant and applicable).

2.3 DISCLOSURE CLASSIFICATION

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

2.4 ABBREVIATIONS

Abbreviation	Description
ADF	Ash Disposal Facility
PPE	Personal Protective Equipment
MSDS	Materials Safety Data Sheets
HDPE	High Density Polyethylene
UV	Ultraviolet
PVC	Polyvinyl Chloride
PPE	Personal Protective Equipment

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2.5 ROLES AND RESPONSIBILITIES

Compiler: Responsible for compiling the document and ensuring that the content is integrated.

Contractor: The Contractor shall be responsible for the duties as defined in section 7, "Duties of the Contractor" of the Construction Regulations and all duties as defined by Contract data.

Employer: Eskom Holdings is the owner of the plant and has the responsibility of providing reliable electricity to the country.

Functional Responsible: The Functional Responsible person is responsible to approve the content of the document and assure its correctness before the document is submitted for authorization.

Authorizer: The document Authorizer is responsible to ensure that the correct processes were followed in developing this document and that the relevant stakeholders have been involved. The authorizer also reviews the document for alignment to business strategy, policy, objectives and requirements. He/she shall authorize the release and application of the document. Process for monitoring this document shall be utilized as a baseline document during the validation of design documentation during the various, subsequent design phases by using the Design Review Procedure and the Verification and Validation (V&V) process. Should the document require modification, the appropriate Project Engineering Change Procedure will be adhered to.

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

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3. DUST SUPPRESSION SCOPE

The Supplier shall be responsible for all aspects of the project as outlined below, from supply and delivery to commissioning.

3.1. Supply and Delivery

The Supplier shall supply all necessary equipment in accordance with the specifications below. The equipment must be delivered to the site, Kendal Power Station Ash Dump.

- **3.1.1 HDPE pipe:**
 - Supply 110mm Nominal diameter HDPE pipe for connection from the cannons to the middle of the slope where water sprinklers will be connected.
 - Maximum Working pressure: 20 bar
 - The length of the pipe will depend in the distance from the cannon to the middle of the slope
 - The number of tap-off points for sprinkler connection will depend on the distance from the cannon to the slope and the size of the area to be suppressed per cannon.

- **3.1.2 Sprinklers:**
 - Supply a minimum of 35 industrial-grade trolley water sprinklers.
 - Sprinklers shall be impact-driven or gear-driven, suitable for high-flow applications.
 - Throw diameter: 50m.
 - Maximum working pressure: 20 bar
 - Material: Corrosion-resistant, heavy-duty construction (e.g., brass, stainless steel, or durable plastic).
 - Nozzles: A selection of interchangeable nozzles must be provided to allow for adjustments to flow rate and spray pattern

- **3.1.3 Flexible Hose:**
 - Supply a minimum of 35 flexible hoses, each with a length of 100 meters.
 - Hose diameter: 25mm nominal
 - Material: Heavy-duty, abrasion-resistant, and UV-stabilized material suitable for industrial and outdoor environments (e.g., PVC lay-flat or reinforced rubber).
 - Working Pressure: Minimum of 6 bar.
 - Fittings: Hoses shall be supplied with high-quality, corrosion-resistant fittings on both ends for quick connection to the water source and sprinklers.

- **3.1.4 Stacker Side**
 - 409m of 280mm NB HDPE pipes (sub-main). Assuming they come in 6m lengths, required will be 70 off (2 spares)
 - 440m of 110mm NB HDPE pipes (take-off). Assuming they come in 6m lengths, will need 75 off (2 spares).
 - 25 sprinkler sets (couplings, isolation valves, flexible hoses, stands and sprinklers).
 - 2x reducers (reducing from 280 to 110mm) HDPE
 - 2 elbows 280mm HDPE
 - 2x tee piece 110mm HDPE

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- 1500m of 110NB HDPE pipe with tap off points (t-piece and a stopper) every 100m to run along 00ETK24
 - **3.1.5 Spreader Side**
 - 327m of 280mm NB HDPE pipe (sub-main). Assuming they come in 6m lengths, we will need 56 off (1 spare)
 - 4x tee-piece and stoppers for each tee
 - 2 stoppers at the end.
 - All components for the spreader side are 280mm diameter.
 - **3.1.4 Ancillary Equipment:**
 - Supply all required connectors, adapters, gaskets, clamps, valves, fittings and seals to ensure a leak-proof and secure installation.
 - Provide any required spanners or tools for the installation and operation of the hose fittings.
 - **3.1.5 Supply and deliver for 5 years**

In addition to the above, the supply shall, for a period of 5 years, on an as and when required basis supply and deliver the items below:

- 1500m of 280ND HDPE pipe
- 3000m of 110NB HDPE pipe
- 50 sprinklers set (couplings, isolation valves, flexible hoses, stands and sprinklers)

3.2. Installation and Commissioning

The Supplier shall be responsible for the full installation and commissioning of the system at the Kendal ash dump location.

- **3.2.1 Site Preparation:** The Supplier shall coordinate with the Client to identify the specific locations for the water points and sprinkler deployment.
- **3.2.2 Installation:**
 - Connect the HDPE pipe to the existing water supply points (at the cannons).
 - Have tap- off points with manual valves along the HDPE pipe for the connection of sprinklers. This will be connected according to the client's discretion.
 - Install the supplied sprinklers at the end of each hose.
 - Secure all connections to prevent leaks and ensure stability under pressure.
- **3.2.3 Commissioning and Testing:**
 - Conduct a full system test to verify proper operation of all sprinklers and hoses.

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- Check for any leaks at all connections and fittings.
- Ensure each sprinkler is delivering the correct flow rate and spray pattern as per specifications.
- The Supplier shall provide a brief demonstration and training to the Client's nominated personnel on the correct operation, connection, and disconnection of the system.

3.3. REQUIREMENTS

3.3.1 Deliverables

Upon completion of the work, the Supplier shall provide:

- A complete and fully functional water sprinkler system as per this scope.
- A hand-over document confirming the successful installation and commissioning.
- A basic user manual or data sheets for the supplied equipment.

3.3.2 Safety

The Supplier must adhere to all site-specific safety regulations and industry standards. All personnel must always wear appropriate Personal Protective Equipment (PPE) while on site.

- Equipment to be used will need to be inspected by Eskom Safety Department for acceptance into Eskom premises.
- Plant to be utilized need to be capable of driving and navigate on unstable terrain (given the ash).
- Human resources will be subjected to vetting by Eskom Security Department and be in possession with access control.
- Contractor must make provision adequate PPE for personnel given the dust fall condition on an operational site.

3.3.3 Warranty

The Supplier shall provide a minimum 12-month warranty on all supplied equipment and the installation work, covering defects in materials and workmanship.

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4 AUTHORISATION

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5 REVISIONS

Date	Rev.	Compiler	Remarks
October 2025	0	M Mkhize	

6 DEVELOPMENT TEAM

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

- M Mkhize

7 ACKNOWLEDGEMENTS

- N/A

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