

Title: **Kriel Power Station Fabricate, Supply and Delivery of Ash Plant Pipework on an As and When Required Basis for a Period of 5 Years Scope of Work**

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System Engineer

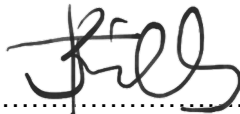


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Functional Responsibility

*(Acting)* Auxiliary
Engineering Manager

p.p.



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Authorised by

*(Acting)* Group Engineering
Manager

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1. INTRODUCTION

The proposed scope of work is for the fabrication, supply and delivery of ash plant pipework on an as and when required basis for a period of 5 years to Kriel Power Station Main Stores.

Brief Plant Overview:

The function of the coarse ash plant is to collect all the ash at bottom of the ash hoppers (including rejects from the mill rejects bins) and pump it to the ash dams for disposal and water recovery. The coarse ash plant consists of the following mechanical equipment:

- 2 hopper cooling pumps.
- 2 sluice pumps.
- 2 ash crushers.
- 1 ash sump (bilge) pump.
- 2 ash pumps
- Ash lines

2. SUPPORTING CLAUSES

2.1 SCOPE

This document covers the maintenance requirements in the form of a scope of work for supply of various Ash plant pipework with its associated components installed on Kriel ash plants.

2.1.1 PURPOSE

The purpose of this document is to provide technical details to be adhered whenever there is purchasing and supplying various Ash plant spares.

This document is intended to be the input to the NEC Part 3: Scope of Work.

2.1.2 APPLICABILITY

This document is applicable to Kriel Power Station material handling Ash plant maintenance and engineering sections.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 NORMATIVE

[1] ISO 9000: Quality Management Systems.

[2] Applicable P&ID's

Drawing Number	Description

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2.2.2 INFORMATIVE

Not applicable.

2.3 DEFINITIONS

Table 1: Definitions

Definitions	Description

2.3.1 DISCLOSURE CLASSIFICATION

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

2.4 ABBREVIATIONS

Abbreviations	Description
AKZ	Anlagen Kenn Zeichnungs
MT	Main Turbine
OHSA	Occupational Health and Safety Act
P&ID's	Piping and Instrumentation Diagrams
QC	Quality Control
QCP	Quality control program/plan/procedure
SHE	Safety, Health & Environmental
SHEQ	Occupational Safety, Health, Environmental, and Quality
SOW	Scope of Work
MBTF	Mean Time Between Failures

2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities are as follows:

- N/A

3. THE *WORKS*

The *works* is the fabrication and supply of various Ash plant pipework installed on Kriel Power Station Ash plants.

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3.1 BACKGROUND

3.2 DESCRIPTION OF THE *WORKS*

The *works* is the fabrication, supply and delivery of various ash plant pipework items on an as and when required basis to Kriel Power Station stores.

3.2.1 SCOPE

3.2.1 Fabrication Works and Welding

Eskom procedure: 240-72273656 and 240-106628253; to be consulted to determine system classification level then followed by Welding Rulebook to establish appropriate quality requirements from the applicable application specific Welding standard such as 36-775 for Control of Plant Erection, Repair and Maintenance welding activities. Personnel competencies involved in welding activities and related quality management requirements are to be found in the Eskom standard referenced in the Welding Rulebook.

All welds to be continuous fillet welds full penetration butt weld, changes to fillet will be effected according to material thickness.

- The weld shall have a minimum yield stress and minimum tensile stress at least equal that of the parent material.
- Welding electrodes shall comply with the applicable requirements of SANS 455 or such other standard
- Welding techniques shall be such as to prevent undue distortion and minimize shrinkage stresses.
- All welds shall be visually inspected to identify any flaws for re-weld; where there are slag and spatter they shall be removed.
- The Weld connection of old and new beams shall ensure a minimum safety factor of 10, hence for 300WA Steel which has a minimum yield strength of 300 MPa and at a maximum working stress of 30 MPa , the weld strength shall exceed 300MPa
- The weld shall have a minimum yield stress and minimum tensile stress at least equal that of the parent material
- All the welds shall be checked for defects using a penetration flaw detection method conforming to BS EN 571-1 of 1997 "Non-destructive testing – Penetrant testing", under employer's supervision
- Welding shall be done under clean and protected conditions
- Factory acceptance testing shall be conducted at stages deemed relevant by the employer , minimum documentation but not limited to shall be required by the employer at any stage of the FAT assessment , refer to the below for databook requirements: QCP / ITP
 - a. WPS and PQR
 - b. Material certificates
 - c. Welding Procedure Specification accompanied by a valid WPQR/PQR
 - d. NDT Reports
 - e. Surface preparation and coating reports
 - f. Certificate of conformity

3.2.2 The supply requirements:

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- For all bends and spool pieces contractor is required to come to site and perform measurements prior to fabrication including the cast iron spool piece from the sump, the discharge and underneath precipis.
- Contractor to supply & deliver Johnson coupling (with rubber seals)
- Contractor to confirm delivery lead time of items upon receipt of order and communicate with site. No changes of delivery date will be accepted without assurance.
- All goods must be delivered to Kriel Power Station Main Stores.
- Purchase orders will be issued to the *Contractor* with the required items and quantities.
- Deliveries will be made during the week within the following hours:
Monday to Thursday 07h00 -15h30 and Friday 07h00 until 11h00
- Road conditions and security gate access to be taken into consideration for delivery to the main stores within these hours.
- Supplier to be prepared to provide goods within an acceptable delivery period when urgently required.

3.2.2 GENERAL REQUIREMENTS OF THE WORKS:

The general requirements of the works include the supply and delivery of various Ash plant pipework components as per section 3.2.3

3.2.3 MECHANICAL SCOPE OF WORK

Item No	Component Description	Detailed Description	Stock Number	Unit	Qty
1	Ash Line Pipe	PIPE, METALLIC: NOMINAL PIPE SIZE DESIGNATION: NB 300 MM; MATERIAL: CARBON STEEL; LENGTH: 12 M; WALL THICKNESS: 8 MM; OPEN ENDED FOR SLIP ON FLANGES; PIPE MUST BE PAINTED ON OUTSIDE TO PREVENT RUST; FOR USE ON ASH LINES; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	664823	M	24 000
2	FLANGE PIPE:SLIP ON;326 MM;300 MM;MS;495	FLANGE, PIPE: TYPE: SLIP ON; BORE: 326 MM; PIPE SIZE: 300MM; MATERIAL: MS; STYLE: MACHINED; PCD: 495 MM; BOLT HOLES: 16; BOLT HOLE SIZE: 22 MM; FLANGE DIAMETER: 550 MM	39243	Each	1 500
3	FLANGE PIPE:WELD ON;300 MM;324 MM;MS;RF	FLANGE, PIPE: TYPE: WELD ON; BORE: 300 MM; PIPE SIZE: 324 MM; MATERIAL: MS; RATING: 1600 KPA; STYLE: RF; PCD: 410 MM; FLANGE DIAMETER: 460 MM; DRILLED TO TABLE BS4504 16/3	39244	Each	4 900

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4	Ash Sump Suction Pipe Section 1	PIPE: INSIDE DIAMETER: 305 MM LENGTH: 570 MM; MATERIAL: CAST IRON; ALL FLANGES ARE TO BE BS4504 MACHINED TO COMMON M/C, PCD 400MM, 12 HOLES THAT ARE 22MM DIAMETER REFER TO DRAWING 0.45/44446 SHEET 1 ALL MATERIAL TO BE DELIVERED WITH MATERIAL CERTIFICATES AND ALL RELEVANT DATA BOOK REQUIREMENTS INCLUDING QCP'S AND WPS	783151	Each	30
5	Ash Sump Suction Pipe Section 2	PIPE: INSIDE DIAMETER: 305 MM; LENGTH: 1200 MM; MATERIAL: CAST IRON; ALL FLANGES ARE TO BE BS4504 MACHINED TO COMMON M/C PCD 400 12 HOLES THAT ARE 22 MM IN DIAMETER REFER TO DRAWING 0.45/44446 SHEET 2 ALL MATERIAL TO BE DELIVERED WITH MATERIAL CERTIFICATES AND RELEVANT DATA BOOK REQUIREMENTS INCLUDING QCP AND WPS	783139	Each	30
6	Ash Sump Suction Pipe Section 3	Cast iron, ID 305 NB, length 1829 MM, all flanges are to be BS 4504, All flanges to be machined to common m/c, PCD 400, 12 holes 22 in diameter at 30n degrees, refer to drawing 0.45/55546 sheet 3	783150	Each	30
7	Ash Sump Suction Pipe Section 4	Cast iron, ID 305 NB, length 1783 MM, all flanges are to be BS 4504, All flanges to be machined to common m/c, PCD 400, 12 holes 22 in diameter at 30n degrees, refer to drawing 0.45/55546 sheet 4	0783483	Each	30
8	Ring Main Ash Pipe 12 m	PIPE: INSIDE DIAMETER: 300 MM; LENGTH: 12 M; MATERIAL: EN10025-2-5355JR; 8MM THICKNESS STEEL WORK TO BE IN ACCORDANCE TO SANS 1200H STEEL CORRISION PROTECTION TWO COATS RED OXIDE FLANGES TO E ACCORDING TO SABS 1123 ALL MATERIAL TO BE DELIVERED WITH MATERIAL CERTIFICATES AND ALL RELEVANT DATA BOOK REQUIREMENTS	783149	Each	600
9	Ring Main Ash Pipe 9 m	PIPE: INSIDE DIAMETER: 300 MM; LENGTH: 9M; MATERIAL: EN10025-2-5355JR; 8MM THICKNESS STEEL WORK TO BE IN ACCORDANCE TO SANS 1200H STEEL CORRISION PROTECTION TWO COATS RED OXIDE FLANGES TO BE ACCORDING TO SABS 1123 ALL MATERIAL TO BE DELIVERED WITH MATERIAL CERTIFICATES AND RELEVANT DATA BOOK REQUIREMENTS INCLUDING QCPS AND WPS.	783148	Each	600

3.2.4 DOCUMENTATION SUBMISSION AND RECORDING

Data books must be supplied with delivered components :

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Submit Complete and fully Signed off databooks for Per order delivered at Kriel Stores, this should link to the orders provided in section 1.1 above of this technical evaluation strategy , Each delivery should have an accompanying complete signed databook comprising of the following as minimum but not limited to:

- QCP / ITP
- WPS and PQR
- Material certificates
- Welding Procedure Specification accompanied by a valid WPQR/PQR
- NDT Reports
- Surface preparation and coating reports
- Certificate of conformity

Failure to submit the databook as part of the delivery to stores in Section 3.2.4 as per the prescribed minimum requirements materials will be rejected upon delivery at Kriel Stores .

3.3 STANDARDS, SPECIFICATIONS AND PROCEDURES

All material and equipment shall be new and of the standard and quality specified. The design and manufacture of equipment and the complete installation shall be carried out and tested in accordance with the latest issue or amendments of the following Standards and Regulations, as applicable:

Table 2: Relevant Standards and Codes

Document Number	Title
Eskom Standards	
240-30008949	Safety, Health and Environmental Specifications for Contractors
240-55944466	Supplier Contract Quality Requirement's Specification
QM 58	Supplier Contract Quality Requirements
General Standards	
ISO 9001	Quality Management Systems.
OSH Act 85 of 1993	Occupational Health and Safety Act and Regulations Act 85 of 1993.

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4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
████████████████████	Materials Management Manager
████████████████	System Engineer
████████████████████	Senior Advisor Maintenance
████████████████████	Senior Engineer Auxiliary Plant Engineering
████████████████	Materials Handling Maintenance Manager
████████████████	Auxiliary Plant Engineering Manager
████████████████████	Group Engineering Manager

5. REVISIONS

Date	Rev.	Compiler	Remarks
March 2026	1	████████████████ ████████████████	1 st Draft
September 2026	2	████████████████	2 nd Draft

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