Eskom	Scope	Generation

Title: **Provision of Sandblasting Equipment and Consumables for Surface Preparation Services Scope of work**

Unique Identifier:	**559-286794974**
Alternative Reference Number:	**N/A**
Area of Applicability:	**Engineering**
Documentation Type:	**Instruction**
Revision:	**1**
Total Pages:	**12**
Next Review Date:	**N/A**
Disclosure Classification:	**CONTROLLED DISCLOSURE**

Compiled by	**Functional Responsibility**	**Authorised by**
[redacted]	[redacted]	[redacted]
System Engineer	**Kriel Boiler Plant Engineering Manager**	**Kriel Engineering Manager**
Date: 02 April 2025	Date: 02/04/2025	Date: 14/08/2025

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TABLES

1. INTRODUCTION

The supply of labour in the form of qualified sandblasting technicians (Artisans) and semi-skilled surface preparation personnel to perform sandblasting work at Kriel Power Station will go out to the open market. The tender documents will be published on the tender bulletin after the scope and technical evaluation criteria are approved. The scope of work includes but not limited to the Boiler internal and external components, High Pressure pipework, Hot Reheat pipework, Cold Reheat pipework and all applicable piping in the Turbine and Outside plants for a period of 5 years at Kriel Power Station.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of the document defines the works instructions which the service providers are to use as a minimum guideline for the supply of labour and equipment for sandblasting work at Kriel Power Station.

2.1.1 Works Information

Sandblasting strips a surface of dirt, rust, old paint and grease and prepares it for refinishing, repair and inspections using pneumatic, electrical, or mechanical equipment. This activity relies on manual labour, and it is physically demanding. The working environment is often dusty and loud, and the sandblaster is frequently exposed to potentially dangerous situations, toxic chemicals, and risk electrocution. The minimum PPE required to work in this environment include:

- Hard hat
- Safety-toe work boots and
- Hearing Protection

The scope of work includes the supply of labor and equipment for conducting Sandblasting related activities at Kriel Power Station from Unit 1-6 and Outside plant. Work will mainly be performed inside the units (Boiler and Turbine side), but the contractor may also be required to work in other areas as in when required by Eskom.

Activities include, but are not limited to sandblasting and therefore surface preparation on the following plant areas – Mechanical Plants:

2.1.1.1 Mechanical (Boiler, Turbine and Auxiliary) Plant Areas

- Sandblasting on Economiser - inlet Tubes
- Sandblasting on Economiser Dummy Header
- Sandblasting on Economiser
- Sandblasting on Economiser - outlet Tubes
- Sandblasting on Division wall Tubes
- Sandblasting on Evaporator -screw wall-Tubes
- Sandblasting on Evaporator -screw wall-5ml corners

- Sandblasting on Evaporator - screw wall water cannon ports
- Sandblasting on Evaporator -screw wall water cannon ports
- Sandblasting on Evaporator - screw wall Burner mouths
- Sandblasting on the Evaporator screw wall - inspection ports
- Sandblasting on Evaporator vertical wall-Tubes
- Sandblasting on Evaporator vertical wall-sooth blowers
- Sandblasting on Evaporator vertical wall-access doors
- Sandblasting on Evaporator vertical wall-Header penetration
- Sandblasting on Evaporator vertical wall- Header penetration
- Sandblasting on Superheater 1 - Tubes (outlet pen)
- Sandblasting on Superheater 2 -Hanger Tubes
- Sandblasting on Superheater 2 -Tubes
- Sandblasting on Superheater 3 - Tubes Visual
- Sandblasting on Reheater 1 Tubes
- Sandblasting on Reheater 2 Connecting Tubes -Visual
- Sandblasting on Reheater 2 Tubes Visual
- Sandblasting on Division wall inlet Tubes -F and R-External
- Sandblasting on Division wall -inlet Tubes- F and R Internal
- Sandblasting on Division wall- Tubes
- Sandblasting on Evaporator -Slope crossover External
- Sandblasting on Evaporator - Tie Straps lower attachment
- Sandblasting on Evaporator - screw wall burner mouth
- Sandblasting on Evaporation screw wall inspection port
- Sandblasting on Evaporator screw wall pyrometer ports
- Sandblasting on Evaporator Screw wall-access ports
- Sandblasting on Evaporator -Tie straps upper attachment
- Sandblasting on Evaporator vertical wall Access doors
- Sandblasting on Evaporator vertical wall sooth blowers
- Sandblasting on Evaporator - nose Tubes Attachments Lugs #
- Sandblasting on Evaporator- nose block - inlet connecting Tubes
- Sandblasting on Vertical wall 47 m Buckstays
- Sandblasting on Evaporator - Slope crossover internal
- Sandblasting on Evaporator screw wall outlet elbows
- Sandblasting on Evaporator - vertical wall inlet elbows

- Sandblasting on Vertical wall corner Buckstays
- Sandblasting on Superheater 2 Platen Tubes
- Sandblasting on Superheater 3 Tube Solo #
- Sandblasting on Reheater 2 Tube Solo #
- Sandblasting on Superheater 2 - Tube Solo #
- Sandblasting on Superheater 1- Tube Solo #
- Sandblasting on Reheater 1 Tube Solo #
- Sandblasting on connecting pipe between SH2 and SH3#
- Sandblasting on Evaporator 45m level distribution Header
- Sandblasting on Evaporator inlet Header - connecting pipes
- Sandblasting on Evaporator inlet Ring Header
- Sandblasting on Evaporator- OH CP
- Sandblasting on Separating Vessel
- Sandblasting on SH1 Inlet Header
- Sandblasting on SH1 - Out Header
- Sandblasting on SH2 - Inlet Header
- Sandblasting on RHS 1 Inlet Header
- Sandblasting on Blow down Vessel
- Sandblasting on Division wall - Outlet Header
- Sandblasting on Division wall -mixing Header
- Sandblasting on Division wall - Downcomers
- Sandblasting on Evaporator Secondary Distribution Headers
- Sandblasting on Evaporator -Inlet Reheat
- Sandblasting on Distributor Header Drain line
- Sandblasting on 3 x suction -Strainers
- Sandblasting on 2x Main - Stainers
- Sandblasting on 30m x 300mm Ash hoppers frame
- Sandblasting Circ Pump x 1

- Headers and header interconnecting pipework
- Main Steam Pipework (MS)
- Hot Reheat Pipework (HR)
- Cold Reheat
- Turbine Loop Pipework (TL)
- Valves (where applicable)

2.1.1.2 Electrical (Boiler, Turbine and Auxiliary) Plant Areas

Contractors will mainly be required to perform the required tasks during outages but may be required to perform tasks specified by the contract manager in preparation of outages (before outages) or some tasks might be required to be performed after outages. The contract manager will give notice of when such tasks need to be executed.

The contractor will be responsible for the provision of its own tools and equipment to all employees. Tools to be supplied should be, as a minimum generally required performing basic surface preparation/blasting for inspections and simply cleanliness through sandblasting methodology.

2.1.2 Purpose

The purpose of this tender technical scope is to define the minimum works instructions for the potential service provider(s)' guideline. TET members responsibilities and identify acceptable/unacceptable risks for tender technical scope.

3. SUPPORTING CLAUSES

3.1 SCOPE

3.1.1 Applicability

This document shall apply to Kriel Power station.

3.2 NORMATIVE/INFORMATIVE REFERENCES

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

3.2.1 Normative

[1] 240-168966153: Tender Technical Evaluation Procedure

[2] 240-168966153: Generation Tender Technical Evaluation Procedure

[3] Occupational Health and Safety Act 85 of 1993 (OHS-Act)

[4] 240-83539994: Standard for Non-destructive testing (NDT) on Eskom Plant

[5] Pressure Equipment Regulations (PER)

[6] BS 1113: Design and manufacture of water-tube steam generating plant (including Superheater, Reheaters and steel tube economizers)

[7] EN 12952 (All parts) Water-tube boilers and auxiliary installations

[8] EN 13480 (All parts) Piping

3.2.2 Informative

[9] 240-72273656 Power generation asset critical classification standard

[10] QM 58 Supplier Contract Quality Requirements Specification

[11] ISO9001: Quality Management System

[12] 240-83539806: Manual Ultrasonic Wall Thickness Testing on Eskom Power Plants Standard

[13] 240-137812634: Liquid Penetrant Inspection (PT) on Eskom Plants (excluding Koeberg) Standard

[14] 240-134999797: Standard for Implementing and Managing TUBE-SOLO NDT on Eskom Coal Fired Plant

[15] 240-124465578: Standard for Portable Hardness Testing

[16] 240-87660096: Non-Destructive Testing Inspection Qualification Standard

3.3 DEFINITIONS

Non-destructive testing (NDT) also known as non-destructive examination (NDE) is the testing/examination of materials and components by various inspection methods without changing or destroying their usefulness.

An **NDT system** is the interaction between an inspection method's NDT procedure, personnel and equipment to influence the quality of the NDT product (inspection outcome).

Definition	Description
Pipework	Pipes and fittings are used for the conveyance of steam, water, gases or other fluids.
Valve	A device for shutting off or controlling the flow of a fluid through a pipe or duct.

3.3.1 Classification

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.

3.4 ABBREVIATIONS

Abbreviation	Description
NDE	Non-Destructive Evaluation
NDT	Non-Destructive Testing

3.5 ROLES AND RESPONSIBILITIES

As per 240-168966153 Generation Tender Technical Evaluation Procedure

3.6 PROCESS FOR MONITORING

N/A

3.7 RELATED/SUPPORTING DOCUMENTS

N/A

3.8 TET MEMBERS

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1	[redacted]	Boiler Engineer
TET 2	[redacted]	Boiler Engineer
TET 3	[redacted]	Boiler Engineer

3.9 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.9.1 Risks

Table 2: Acceptable Technical Risks

Risk	Description
1.	None
2.	

Table 3: Unacceptable Technical Risks

Risk	Description
1.	Lack of equipment to execute scope
2.	Procedures not meeting the minimum relevant applicable code requirements
3.	Personnel not certified to carry out sandblasting

3.9.2 Exceptions / Conditions

Table 4: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	None

Table 5: Unacceptable Technical Exceptions / Conditions

Risk	Description

1.	If supplier cannot guarantee that leased out equipment can be secured within 2 weeks if contract is awarded.

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
[redacted]	Kriel Engineering Manager
[redacted]	Boiler Engineering Manager
[redacted]	Boiler System engineer
[redacted]	Boiler System engineer
[redacted]	Boiler System Engineer

5. REVISIONS

Date	Rev.	Compiler	Remarks
February 2025	1	[redacted]	New document created

6. DEVELOPMENT TEAM

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

- [redacted] Engineer, Kriel Boiler Engineering
- [redacted] Engineer, Kriel Boiler Engineering
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7. ACKNOWLEDGEMENTS

- None