Eskom	**Scope of Work**	**Kusile Power Station**

Title: **Supply and Delivery of Heavy Assets at Kusile Power Station**

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Compiled by	**Supported by**
Zintle Moloto	**Zanele Kubheka**
Project Coordinator	**Projects Manager**
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Content **Page**

1. Introduction

A suitably qualified *Contractor* is required to install the Three Tier Fence at the Coal Stock Yard Offices.

2. Supporting Clause

2.1 Scope

2.1.1 Purpose

The purpose of this document is to define the scope of Works for Installation of the Three Tier Fence at the Coal Stock Yard.

2.1.2 Applicability

This document applies to Kusile Power Station only.

2.1.3 Effective date

This document will be effective from the date of its authorisation.

2.2 Normative/Informative References

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

2.2.1 Normative

[1] ISO 9001 Quality Management Systems.
[2] National Environmental Management Act (NEMA) 107 of 1998
[3] Construction Regulations, 2014
[4] 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy
[5] Occupational Health and Safety Act No. 85 of 1993,
[6] Construction Regulations, 2014
[7] 240-57127953: Execution of Site Preparation and Earthworks Standard
[8] SABS 1200 series, Standardized specification for civil engineering construction

2.2.2 Informative

[9] 32-421 - Eskom Life Saving Rules

[10] 36-681 - Eskom Plant Safety Regulations

2.2 Definitions

Definition	Description
Contractor	Service provider contracted to provide a specific service to Eskom, Kusile Power Station.
Employer	Eskom, Eskom Kusile Power Station, or representative
Project Manager	Party responsible for managing the contract on behalf of the Employer for the execution of the works
Controlled Disclosure	Controlled disclosure to external parties (either enforced by law, or discretionary).

2.3 Abbreviations

Abbreviation	Explanation
ITP	Inspection, Testing Plan
MS	Method Statement
LCP	Local Control Panel
QCP	Quality Control Procedure
SOW	Scope of Work
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
WPS	Welding Procedure Specification

2.4 Roles and Responsibilities

2.2.3 Contractor

Completes the *Works* as outlined in this document and service agreement

2.2.4 Employer

The Employer shall ensure the following:

a. Provide Engineering support and information relevant to the scope of work.
b. Provide design drawings for the assembling and/or construction of the local control panels

2.2.5 Safety, Health, Environmental and Quality Requirements

2.2.5.1 Safety& Health Requirements

a. The *Contractor* shall comply with the Occupational Health and Safety Act no 85 of 1993 and its regulations as well as Eskom's SHE policy, procedures, standards, guidelines, specifications, and site regulations.

b. Risk assessments shall be conducted prior to undertaking *Works* to identify any hazards and risks associated with the *Works*.

c. A permit to work shall be obtained prior to the execution of the *Works.*

d. Personnel undertaking *Works* shall be equipped with the necessary safety /protective equipment

2.2.5.2 Environmental Requirements

The *Contractor* shall comply with all applicable environmental laws and regulations, guidelines, and procedures during the execution of the *Works*.

2.2.5.3 Quality Requirements

The *Contractor* shall ensure that Quality Assurance is performed at all stages/phases of the works. The *Contractor* shall submit the following documents to the *Employer*, for acceptance, prior to the execution of works:

a. Method statement (describing how work will be executed)

2.5 Process for Monitoring

Not applicable

2.6 Related/Supporting Documents

[1] ISO 9001 Quality Management Systems.

[2] National Environmental Management Act (NEMA) 107 of 1998

3. Scope of Works

3.1 Scope of Works

The *Works* include the Supply and Delivery of Performance & Testing Equipment at Kusile Power Station. The Assets list consists of the following:

Plant Performance & Testing Require Instruments		
Item No.	Description	Quantity

1	Water cooled probes (7,2m):Standard Pitot tube with 99% K Factor, stainless steel concentric tubes (inner tube and outer tube) with fins between them to divide the flow. Must allow circulation inside the pipe The inner tube, with an ID of 50 mm and an OD of 400 mm, Must have pin guide	6
2	Supply of IR Camera , FLIR850 Imager,	2
3	Horiba PG 350E, Multi gas analsyerses , full unit with heating and drying system	2
4	Endoscope: Model DS300 FHD:DS300 Dual Camera; Screen Spec 4.3″ Super LCD Screen. Waterproof: IP67; Rating for the Probe; Camera Diameter 0.22 In 0.31 In; LED 6 x LED 7 x LED; Best Focal Range 1.96-3.93 in Main cam: 1.2-3.9 In Side cam: 0.8-2.4 In; Video Spec 1080p/25tps; Photo Resoluton 2 MP 2 x 2 MP; Cable Length 16.5 ft; Charging Voltage and current DC 5V/2A LED Indicator Status Red; LED Indicator flash: Charging status Red LED Indicator stay on: Charging finished	1
5	Testo 340 flue gas measuring devices	8
6	Supply of testo 400 Gas analysers	8
7	Supply of stockpile testing equipments probes	6
8	Supply of stockpile testing equipments thermocouples	8
8	Supply of portble ragged dew point meter	3
9	MRU, Optima 7 Analyser, Supply 5V/0.5-1.2A, TUEV by RgG. 280 ENS50370-2(O2, CO,NO,SO2)	4
10	S-Type Pitot Tubes (2.5):Standard Pitot tube with 89% K Factor, stainless steel structural made, with pin guide and thermocouple. Ability to measure total pressure. concentric tubes (inner tube and outer tube) with fins between them to divide the flow. Must allow circulation inside the pipe The inner tube, with an ID of 50 mm and an OD of 200 mm	6
11	S-Type Pitot Tubes (4.5):Standard Pitot tube with 89% K Factor, stainless steel structural made, with pin guide and thermocouple. Ability to measure total pressure. concentric tubes (inner tube and outer tube) with fins between them to divide the flow. Must allow circulation inside the pipe The inner tube, with an ID of 50 mm and an OD of 200 mm	6
11	Oscillation Flow Meter: Measuring ranges: 0 -1000 kg/s; Pmax 30 bar, Tmax 500 degress celcius. Material, stainless steel; accuracy-/+ of reading; Long term stability: Options: Flow computer abalogue and pulse output. To masure air and flue gas in the venturi	2
12	Accelerometer CSI Cables for vibrations monitoring	4
13	Temperature Gun: With a rugged, easy-to-use,ergonomic design, the Fluke 575-2 THAT stand up to tough industrial, electrical, and mechanical environments; Measure -30 °C to 900°C; (-22 °F to 1652 °F) 60:1 distance to spot ratio with dual laser sighting for fast, accurate targeting; Multi-language interface; (user select); Current Temperature plus MAX ,MIN, DIF, AVG temperature Displays; Compatible with standard, mini-connector K-type thermocouples; Adjustable emissivity and predefined emissivity table; Infrared and thermocouple; temperature on backlit display; Last reading Hold (20 seconds). High and low temperature; Alarm; Data storage and review (99 data sets); Tripod mount; 12 or 24 hour clock; USB 2.0 computer interface, Cable; FlukeViewR Forms; Documenting Software	8
14	Portable Projector	2
14	Whiteboard 2.4m x 1.2m	3

15	Testo 340 filters - spare dirt filters (10 0FF) - for condensate trap in the gas sampling hose and measurig range extension.	5
16	Emmerson 2140 Quad 4 Channel , Safety rated integrated magnet Triaxial Accelerometer, Provision of CSI software and hardware for a vibration analysis station, including high-precision sensors, data acquisition unit, and integrated database systems for real-time monitoring and diagnostics. THIS INCLUDES IPHONE.	1
17	HS170 Serial Preium serries Accelerometers (100mY/g, Top exit, 2 Pin MS Connector, 1/4-28" UNF Male Mount)	4
17	8.5m S-type Probes with calibration certificate	5
18	CSI Data Collector Cable,Accelerometer connector Pin 2 MS Socket wit protective rubber boot, data collector snnector M12 5 Pole Plu, cable type Colley Cable,Data CollectorCSI2130 & CSI2140	6
19	Emmerson 2140 NECK STRAP ASSEMBLY	4
20	Nova Pro 300 Strobe Light	2
20	Oil Sampling Pump(Wear Check)	2
21	Mallet hammer	2
22	Ultrasound Contact	1
23	Tachometer	2
23	Motion Amplification	1
24	Mini Mass Sampling valve	4
25	Viscosmeter UV200 (viscocity & tan)	1
26	Automated PF Sampler: Whole pack	2
26	Data Logger	4
27	H2 Sniffer	5
28	Incline Manometer	4
29	Thermocouple	10
29	Flowmeters	2
30	Fluke	2
31	Brass tools	4

2.3.1 Access Into the old and new offices

The *Contractor* will be required to provide the necessary equipment and tools to access the Coal Stock Yard. Access systems/equipment shall provide a safe means of entry into the Coal Stock Yard

3.2 Inspection of Works

The *Contractor* and Employer's representative shall carry out the final quality inspections of the completed works.

3.6 Existing Services

The *Contractor* shall make himself acquainted with the position of all existing services prior commencement of works. The *Contractor* will be held responsible for any damage

to known services caused by or arising out of his operations and any damage shall be made good at his own expense.

3.5 Equipment, Materials Required for the Works

The *Contractor* shall provide all equipment, materials, equipment, plant tools and resources required to complete the works.

3.6 Work Schedule

The *Contractor* shall acquaint themselves with the work involved and verify all scope, materials etc. necessary to undertake the *Works*, for proper programming and co-ordination.

3.7 Codes & Standards

N/A

3.8 General

The following is required from the *Contractor*:

a. Submits a comprehensive Method Statement, QCP/ITP of the entire *works* to the *Employer* for acceptance prior to the start of the *works.* The Contractor in his work method statement shall include the following as a minimum:
    - The scope of works to be undertaken.
    - Comprehensive description of work activities/construction methodology and sequence of construction activities.
    - Health, safety, and quality control measures for the activities.
    - All plant, equipment and machinery required to complete the work activities.
    - Risk assessment associated with the Works
    - Plan/s for confining, collecting, and disposing of waste materials as a result of any cleaning, removal operations, where applicable.
b. Submit a project specific safety file to the *Employer* for acceptance, prior to the start of the works.
c. Submit a detailed schedule for the *works* to the *Employer* for acceptance after contract award. The schedule shall highlight all project related activities and durations
d. Manage his access to the working areas and the site to ensure none of the existing plant that is not in the scope is damaged.
e. Manage his activities on site to ensure that no interference takes place between his work and that of others.

3.9 Handover

The *Contractor* shall be responsible for handover of all *Works* associated with the

contract as per this scope of *Works*. The handover submissions shall include but not limited to the following:

a) Construction method statement and QCP/ITP

b) Commissioning check sheets

4 Acceptance

This document has been seen and accepted by:

Name	Designation
Zanele Kubheka	Projects Manager
Zintle Moloto	Projects Coordinator

5 Revisions

Date	Rev.	Compiler	Remarks
September 2024	0	Z Moloto	First issue

6 Development Team

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

- Zintle Moloto

7 Acknowledgements

Not applicable