



Scope of Works

Eskom Rotek Industries

Title: **Scope of works for the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station**

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1. INTRODUCTION

Eskom Rotek Industries, a wholly subsidiary of Eskom Holdings is contracted to Eskom Kusile to complete works on Unit 4, 5 and 6 Dust Handling Plant and Silo 4, 5 and 6 as per scope of works **366-369424 & 366-299036**.

The construction of Unit 4 Dust Handling Plant has been completed with the Unit running and commissioning activities underway. The scope has been extended and access has been given to commence with the construction of Unit 6 Dust Handling Plant. The first phase of the installation comprises of the installation of the control panels. This scope depicts the requirements of the supply of the items.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of works includes the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station.

2.1.1 Purpose

The purpose of this document is to provide the requirements for the Scope of works for the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station.

2.1.2 Applicability

This document shall apply to Kusile Power Station Dust Handling Plant **Unit 6 Dust Handling Plant**.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

The applicable reference documents are listed below. These documents (latest revision) form part of this specification to the extent as specified in this specification. In the event of a conflict between the text of this specification and the applicable parts of the Eskom documents listed below, the text of this specification takes precedence. However, this specification does not supersede applicable laws and regulations (including the SANS standards), unless a specific exemption has been obtained from the relevant authorities.

- [1] 240-53665024: Engineering Quality Manual.
- [2] ISO 9001: Quality Management Systems.
- [3] Kusile Power Station Quality Specification.
- [4] 240-83539994 Eskom Kusile NDT requirements.
- [5] 240-105658000 Supplier Quality Management Specification.
- [6] SSZ 45-17 Medupi Corrosion Protection Specification.
- [7] IP65.

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2.3 DEFINITIONS

| Definition | Description |
|---------------------|--|
| Pneumatic Conveying | Ash conveying system using process air. |
| Aeration Air | The heated air used to agitate the ash in the hoppers. |
| Instrument Air | Compressed air used to drive instruments. |

2.3.1 Disclosure Classification

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

2.4 ABBREVIATIONS

| Abbreviation | Description |
|--------------|---|
| DHP | Dust Handling Plant |
| U 6 | Unit 6 |
| CM | Configuration Management |
| SANAS | South African National Accreditation System |
| SANS | South African National Standards |
| QMS | Quality Management System |
| C&I | Control and Instrumentation |
| NDT | Non Destructive Testing |

2.5 ROLES AND RESPONSIBILITIES

2.5.1 Eskom Rotek Industries

- As principal contractor, verify that the bill of material submitted by the supplier is accurate.
- As principal contractor, verify that the supplier has capacity to execute the works.
- As principal contractor, to ensure that the supplier is aware of all applicable standards governing the works.
- As principal contractor, ensure that both technical and financial evaluations are done when evaluating bids.

2.5.2 Eskom Rotek Industries – Quality Controller

- Ensure that works are carried out to specifications.
- Ensure that all relevant returnables (Data Books) are reviewed and approved by both ERI and KET.
- Ensure that ERI inspections hold points are honoured.

2.5.3 Supplier

- Ensure that the works data books are submitted for approval prior to works commencement.

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- Ensure that the works data book are kept up to date as the works progresses.
- Ensure that calibration certificates for pressure gauges and switches are produced.
- Ensure that panels are conforming to IP65.
- Ensure that they produce the relevant material certificates.
- Ensure that they conduct Factory Acceptance Tests prior to release of items to site.

2.6 PROCESS FOR MONITORING

- Refer to **240-105658000 Supplier Quality Management Specification**.

2.7 RELATED/SUPPORTING DOCUMENTS

N/A.

3. SPECIFICATION

3.1 GENERAL

3.1.1 Fabrication of Pneumatic Control Panels

Scope of works for the Supply and delivery of Unit 6 Dust Handling Plant Pneumatic Control Panels at Kusile Power Station.

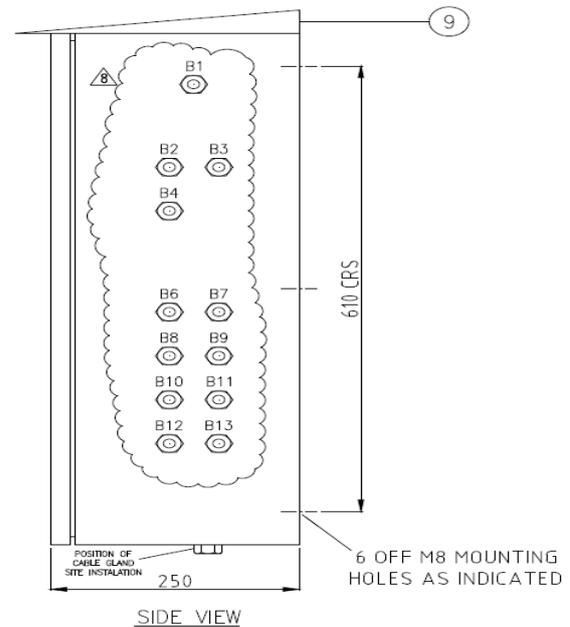
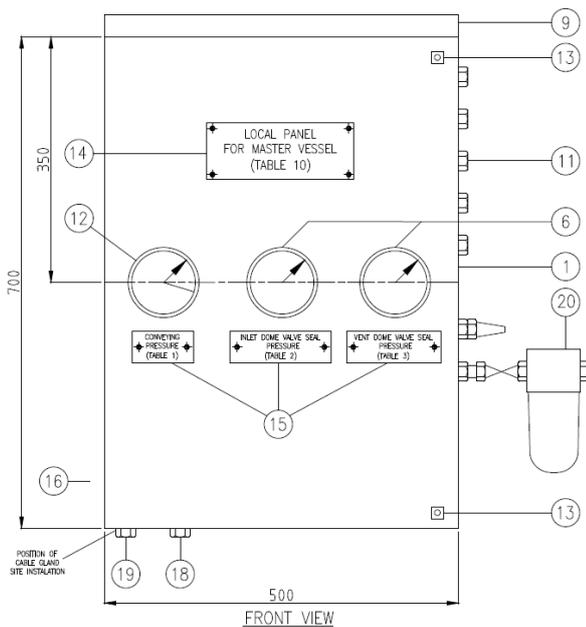
| # | DESCRIPTION OF ITEMS | QUANTITY |
|----|--|----------|
| 1. | Bank 1 – 4 Master Panels MP200-000-70-000-001. | 20 |
| 2. | Bank 1 – 4 Slave Panels MP200-000-70-000-002. | 4 |
| 3. | Bank 1 & 4 Outlet Panels MP200-000-70-000-003. | 2 |
| 4. | Bank 2 & 3 Outlet Panels MP200-000-70-000-004. | 2 |
| 5. | ½ Inch Pneumatic Panel Filter | 28 |

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3.1.1.1 Master Panels x 4 Number

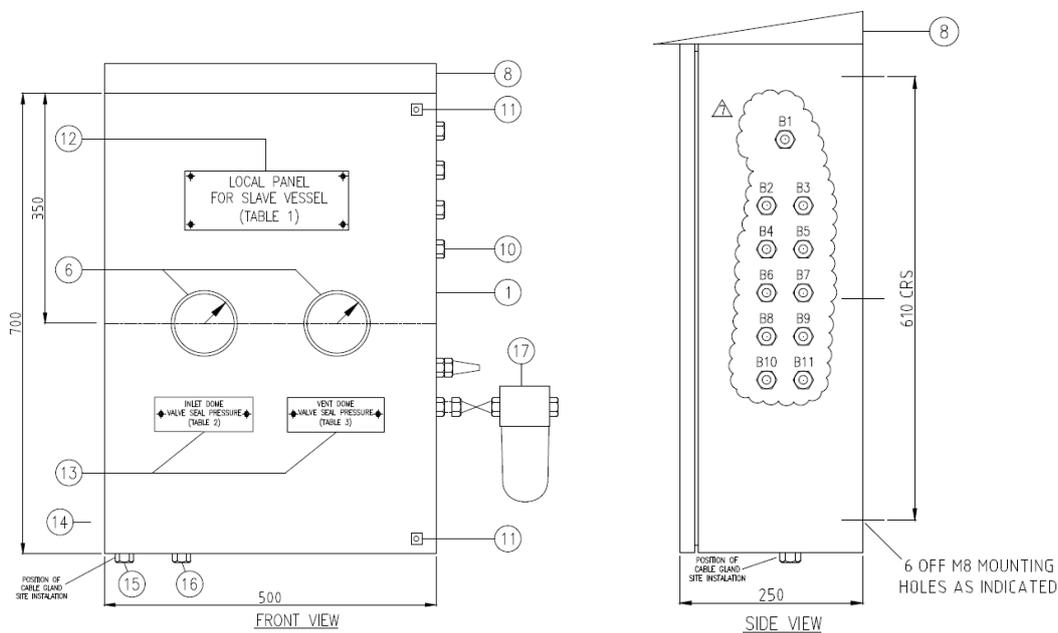
| ITEM | QTY | DESCRIPTION | SIZE | MATERIAL | CERT. | MASS |
|------|-----|-----------------------|---|---------------------|-------|------|
| 1 | 1 | PANEL | 700X500X250 IP65 | 304 SS ; 2mm | | |
| 2 | - | TRUNKING | 40 x 60 x L (IBOCO) | PVC. | | |
| 3 | 2 | PRESSURE SWITCH | FESTO. PEV-W-S-LED-GH | - | | |
| 4 | 3 | SOLENOID VALVE | 5/2 1/4" 24VDC SINGLE SOLENOID, LED IN COIL | - | | |
| 5 | 1 | MANIFOLD BASE | FOR 3 OFF SOLENOID VALVES. | - | | |
| 6 | 2 | PRESSURE GAUGE | WIKA, 100mm, 0-12 BAR | GLYCERINE FILLED | | |
| 7 | 1 | TERMINAL STRIP | 50 TERMINALS | - | | |
| 8 | 1 | PRESSURE TRANSMITTER | ENDRESS HAUSER CEREBAR M, 4 - 20 mA | STAINLESS STEEL | | |
| 9 | 1 | CANOPY | - | - | | |
| 10 | 1 | REMOVABLE GLAND PLATE | - | 304 SS ; 2MM | | |
| 11 | 12 | FITTINGS | 1/2" TO 12mm BULK HEAD FITTINGS | NICKEL PLATED | | |
| 12 | 1 | PRESSURE GAUGE | WIKA, 100mm, 0-12 BAR RED LINED AT 9 BAR | GLYCERINE FILLED | | |
| 13 | 2 | DOOR LOCKS | LOCKABLE 6mm KEY (WITH KEY) | 304 SS | | |
| 14 | 1 | LABEL (LARGE) | FONT HEIGHT OF 15mm | | | |
| 15 | 3 | LABEL (SMALL) | FONT HEIGHT OF 8mm | | | |
| 16 | 1 | EARTH STUD | M10 | | | |
| 17 | 1 | EARTH BAR | 5 TERMINALS | NICKEL / COPPER | | |
| 18 | 1 | VENT | | BRASS | | |
| 19 | 1 | CABLE GLAND | COMPRESSION TYPE | NICKLE PLATED BRASS | | |
| 20 | 1 | FILTER | 1/2" | | | |



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3.1.1.2 Bank 1 – 4 Slave Panels x 20 Number

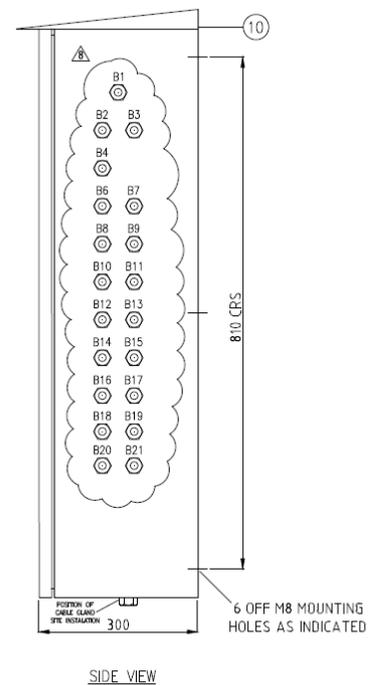
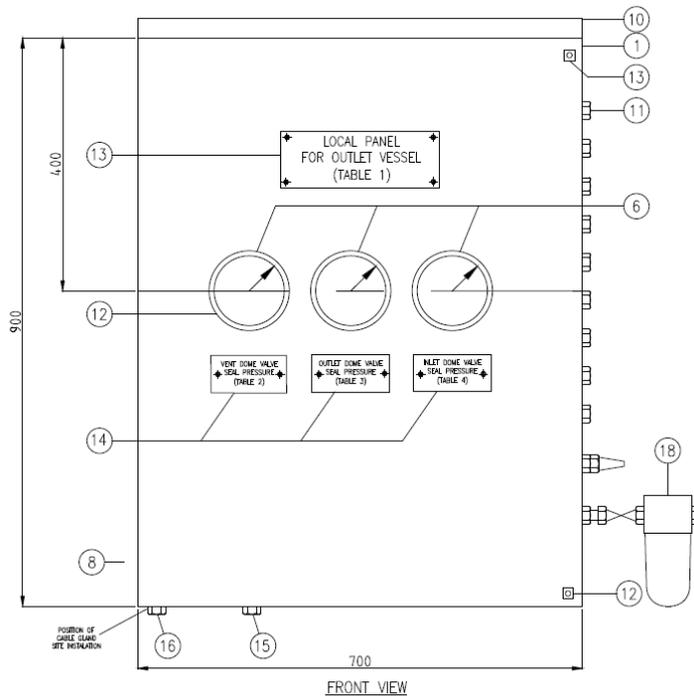
| ITEM | QTY | DESCRIPTION | SIZE | MATERIAL | CERT. | MASS |
|------|-----|-----------------------|---|---------------------|-------|------|
| 1 | 1 | PANEL | 700X500X250; IP65 | 304 SS; 1.6mm | | |
| 2 | - | TRUNKING | 40 x 60 x L (IBOCO) | PVC. | | |
| 3 | 2 | PRESSURE SWITCH | FESTO. PEV-W-S-LED-GH | - | | |
| 4 | 3 | SOLENOID VALVE | 5/2 1/4" 24VDC SINGLE SOLENOID, LED IN COIL | - | | |
| 5 | 1 | MANIFOLD BASE | FOR 3 OFF SOLENOID VALVES. | - | | |
| 6 | 2 | PRESSURE GAUGE | WIKA, 100mm, 0-12 BAR | GLYCERINE FILLED | | |
| 7 | 1 | TERMINAL STRIP | 40 TERMINALS | - | | |
| 8 | 1 | CANOPY | - | - | | |
| 9 | 1 | REMOVABLE GLAND PLATE | 500X200 | 304 SS ; 2MM | | |
| 10 | 11 | FITTINGS | 1/2" TO 12mm BULK HEAD FITTINGS | NICKEL PLATED | | |
| 11 | 2 | DOOR LOCKS | LOCKABLE 6mm KEY (WITH KEY) | 304 SS | | |
| 12 | 1 | LABEL (LARGE) | FONT HEIGHT OF 15mm | | | |
| 13 | 2 | LABEL (SMALL) | FONT HEIGHT OF 8mm | | | |
| 14 | 1 | EARTH STUD | M10 | BRASS / COPPER | | |
| 15 | 1 | CABLE GLAND | COMPRESSION TYPE | NICKEL PLATED BRASS | | |
| 16 | 1 | VENT | | BRASS | | |
| 17 | 1 | FILTER | 1/2" | | | |



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3.1.1.3 Bank 1 & 4 Outlet Panel Type 1 x 2 Number

| ITEM | QTY | DESCRIPTION | SIZE | MATERIAL | CERT. | MASS |
|------|-----|-----------------------|---|---------------------|-------|------|
| 1 | 1 | PANEL | 700X500X250 IP65 | 304 SS ; 2MM | | |
| 2 | - | TRUNKING | 40 x 80 x L (IBOCO) | PVC. | | |
| 3 | 3 | PRESSURE SWITCH | FESTO. PEV-W-S-LED-GH | - | | |
| 4 | 7 | SOLENOID VALVE | 5/2 1/4" 24VDC SINGLE SOLENOID, LED IN COIL | - | | |
| 5 | 1 | MANIFOLD BASE | FOR 7 OFF SOLENOID VALVES. | - | | |
| 6 | 3 | PRESSURE GAUGE | WIKA, 100mm, 0-12 BAR | GLYCERINE FILLED | | |
| 7 | 1 | TERMINAL STRIP | 80 TERMINALS | - | | |
| 8 | 1 | EARTH STUD | | COPPER/BRASS | | |
| 9 | 1 | REMOVABLE GLAND PLATE | 590X180 | 304 SS ; 2MM | | |
| 10 | 1 | CANDPY | - | - | | |
| 11 | 20 | FITTINGS | 1/2" TD 12 mm FESTO BULK HEAD FITTINGS | NICKEL PLATED | | |
| 12 | 2 | DOOR LOCKS | LOCKABLE 6mm KEY (WITH KEY) | 304 SS | | |
| 13 | 1 | LABEL (LARGE) | FONT HEIGHT OF 15mm | | | |
| 14 | 3 | LABEL (SMALL) | FONT HEIGHT OF 8mm | | | |
| 15 | 1 | VENT | | BRASS | | |
| 16 | 1 | CABLE GLAND | COMPRESSION TYPE | NICKEL PLATED BRASS | | |
| 17 | 1 | EARTH BAR | 5 TERMINALS | NICKEL / COPPER | | |
| 18 | 1 | FILTER | 1/2 " | | | |
| 19 | 1 | SOLENOID VALVE | 5/2 1/4" 24VDC DOUBLE SOLENOID, LED IN COIL | - | | |
| 20 | 2 | TRUNKING | 80 x 80 x L (IBOCO) | PVC | | |



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3.1.2 ELECTRICAL WORKS

Wiring Diagrams on PO placement.

3.1.3 MECHANICAL WORKS

See drawings.

3.2 REQUIRED INFORMATION

- Eskom Rotek Industries to ensure that the supplier has the relevant Eskom Specification governing NDT Testing.

3.3 TESTING AND CONFORMANCE

- All applicable National and Eskom Standards.

4. AUTHORIZATION

This document has been seen and accepted by:

- Khomotso Mothata.
- Tshidiso Lekalakala
- Dewald Denton.

5. REVISIONS

| Date | Rev. | Compiler | Remarks |
|-------------|------|---------------------|-------------|
| 17 May 2022 | 0 | Tshidiso Lekalakala | First Draft |
| | | | |

6. ACKNOWLEDGEMENTS

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- T Lekalakala.
- Dewald Denton.

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