 Eskom	Specification	Medupi Power Station
---	---------------	----------------------

Title: **Medupi Power Station Scope of work for the supply of Transducers**

Document Identifier: **240-**

Alternative Reference Number: 241-202279

Area of Applicability: **Medupi Power Station**

Functional Area: **Materials Management**

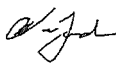
Revision: **1**

Total Pages: **9**

Next Review Date: **N/A**

Disclosure Classification: **Controlled Disclosure**

Compiled by



Annette van Tonder
Materials Replenishment
Planner

Date: 2022.03.25

Functional Responsibility:

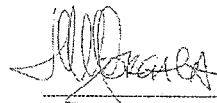


Senesh Pillay
Materials Management
Manager

Date:

2022/03/29

Authorized by:



Mosekame Mokgala
Middle Manager
Procurement & Supply
Chain

Date: 29/3/2022

Content	Page
1. Introduction.....	3
2. Supporting Clauses	3
2.1 Scope.....	3
2.1.1 Purpose.....	3
2.1.2 Applicability	3
2.1.3 Effective date.....	3
2.2 Normative/Informative References	3
2.2.1 Normative.....	3
2.2.2 Informative.....	3
2.3 Definitions	4
2.4 Abbreviations	4
2.5 Roles and Responsibilities	4
2.6 Process for Monitoring.....	4
2.7 Related/Supporting Documents.....	4
3. Scope of Work.....	4
3.1 Supply of Spares	4
4. Acceptance.....	9
5. Revisions.....	9
6. Development Team	9

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd.
Reg No 2002/015527/30.

1. Introduction

The reliability and availability of the Transducers in general, is a concern for Medupi Power station due to unplanned downtime, and it has contributed too many production risks on the Units. Initiatives to improve the reliability and availability of the Transducers amongst others includes, placing spares supply contracts for continuous involvement on the plant on a daily basis.

This document will describe the scope of work required for this contract.

2. Supporting Clauses

2.1 Scope

This document will cover the requirements for the Supply of a specific spare for the Medupi Plant Transducers.

2.1.1 Purpose

The purpose of this document is to provide the SOW for the Spares Supply Contract.

2.1.2 Applicability

This document shall apply to requirements for the Supply of a specific spare for the Medupi Plant Transducers.

2.1.3 Effective date

The document will be effective from the date of authorisation.

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) ESKOM SHEQ Policy 32-727
- 2) Life Saving-Rules – 240-62196227 Medupi Power Station - SHE File Evaluation Checklist - 240-97661287

2.2.2 Informative

N/A

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd, Reg No 2002/015527/30.

2.3 Definitions

Definition	Explanation
Contractor	Service provider contracted for the supply of spares and various services on the machines
Employer	Eskom Medupi Power Station

2.4 Abbreviations

Abbreviation	Explanation
SHE	Safety Health and Environmental
SHEQ	Safety Health Environmental and Quality

2.5 Roles and Responsibilities

Maintenance – Materials Management is responsible and accountable for ensuring that the Service is provided as per the SOW. Maintenance – Materials Management will also be managing the contract.

Engineering will be involved in documentation review and will be part of the quality control.

The commercial will be part of the contract placement process and communication with the contractor until contract award.

2.6 Process for Monitoring

N/A

2.7 Related/Supporting Documents

N/A

3. Scope of Work

The reliability and availability of the Transducers, in general, is a concern for Medupi Power station due to unplanned downtime, and it has contributed too many production risks on the Units. Initiatives to improve the reliability and availability of the Transducers, amongst others includes, placing spares supply contracts for continuous involvement on the plant on a daily basis.

3.1 Supply of Spares

The scope of this contract also includes the supply of spares as follow:

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd.
Reg No 2002/015527/30.

1. Description of Items:

Material Number	Short description	Text	Lab code
240204	TRANSDUCER:MICROPHONE;I/P 4-20 MA	TRANSDUCER:MICROPHONE;I/P 4-20 MA TRANSDUCER: TYPE: MICROPHONE; INPUT: 4-20 MA; OUTPUT: 4-20 MA; POWER SOURCE: 24 VDC; SUPPL P/N: EA81-001-000; SIZE 45MM DIA X 70MM LG; WITH SS; FOR THE BOILER TUBE LEAK DETECTION SYSTEM; PROCON T96	BBG
574051	TRANSDUCER:7ML1106-2BA20-0A;I/P 0.3-8 M	TRANSDUCER:ULTRASONIC LEVEL;I/P 0.3-8 M TRANSDUCER: TYPE: ULTRASONIC LEVEL; INPUT: 0.3-8 M; OUTPUT: 44 KHZ 10 DEG ULTRASONIC BEAM; APPLICATION: SSC WATER LEVEL MEASUREMENT; MANUF P/N: 7ML1106-2BA20-0A; ECHOMAX XRS-5; CONNECTION: 25MM BSPT; CABLE LENGHT: 10M; STANDARED CSM RUBBER FACE; TO BE USED WITH MULITRANGER 100	BAR
579799	TRANSDUCER:DVC-DC;ELECTRO;I/P 30 VDC	TRANSDUCER:ELECTRO;I/P 30 VDC TRANSDUCER: TYPE: ELECTRO; INPUT: 30 VDC; OUTPUT: 4-20 MA; MANUF P/N: DVC-DC; FROM AC/DC CONVERTER	DCS
579800	TRANSDUCER:DVC-AC;ELECTRO;I/P 0-300 VAC	TRANSDUCER:ELECTRO;I/P 0-300 VAC TRANSDUCER: TYPE: ELECTRO; INPUT: 0-300 VAC; OUTPUT: 4-20 MA; MANUF P/N: DVC-AC; FOR AC/DC CONVERTER	DCS
580210	TRANSDUCER:DIFF PRESSURE/LEVEL;24 VDC	TRANSDUCER:DIFF PRESSURE/LEVEL;24 VDC TRANSDUCER: TYPE: DIFF PRESSURE/LEVEL; INPUT: -50 TO 50 KPA; OUTPUT: 4-20 MA; POWER SOURCE: 24 VDC; MANUF P/N: PMD75-ABJ7FB1-DAAA1; LOOP POWERED	CDS
580211	TRANSDUCER:DIFF PRESSURE/FLOW;24 VDC	TRANSDUCER:DIFF PRESSURE/FLOW;24 VDC TRANSDUCER: TYPE: DIFF PRESSURE/FLOW; INPUT: -50 TO 50 KPA; OUTPUT: 4-20 MA; POWER SOURCE: 24 VDC; MANUF P/N: PMD75-ABJ7HB1-DAAA1; REFERENCE NO: E8073B0109D; LOOP POWERED	CDS
580272	TRANSDUCER:337-2718;CURRENT;O/P 0-20 MA	TRANSDUCER:CURRENT;I/P 0-11A AC/DC TRANSDUCER: TYPE: CURRENT; INPUT: 0-11A AC/DC; OUTPUT: 0-20 MA; POWER SOURCE: 20-30 VDC; MANUF P/N: 337-2718	DEG
616832	TRANSDUCER:MICRO PULSE;I/P 10-30 VDC	TRANSDUCER:MICRO PULSE;I/P 10-30 VDC TRANSDUCER: TYPE: MICRO PULSE; INPUT: 10-30 VDC; OUTPUT: 0-20/4-20 MA; POWER SOURCE: 24 VAC; APPLICATION: STEAM PIPING SYSTEM; SERIES ROD; NOMINAL STROKE 60MM; CONNECTION: 5M CABLE; PUR	PPS

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd, Reg No 2002/015527/30.

Material Number	Short description	Text	Lab code
646765	TRANSDUCER:PM8000 19" RACK; 12 ANALOGUES	TRANSDUCER:PM8000 19" RACK; 12 ANALOGUES TRANSDUCER: TYPE: PM8000 19" RACK; 12 ANALOGUES; INPUT: 1 A; OUTPUT: ANALOG AND DIGITAL; POWER SOURCE: 90/415 VAC; 120/300 VDC; SPECIFICATION: ESKOM 240-51999977; DRAWING NO: D-DT-9121 REV 0; TRANSDUCER RACK CONSISTING OF 2X SCHNEIDER PM8000 SERIES TRANSDUCERS (2X METSEPM8243, 6X METSEPM89M0024) AND 2X SCHNEIDER PM8000 SERIES REMOTE DISPLAYS (2X METSEPM89RD96); MOUNTED IN 19" RACK; TERMINALS MOUNTED ON REAR OF THE RACK; COMMUNICATION PORTS: 1X RS485 PORT, 2X 10/100 BASE-T-ETHERNET (RJ45) PORTS PER TRANSDUCER; 6 PROGRAMMABLE ANALOGUE OUTPUTS (4-20MA) PER TRANSDUCER, MODBUS, DNP3, IEC 61850; CALIBRATED WITH CALIBRATION CERTIFICATES PROVIDED WITH THE TRANSDUCERS	MET
648170	TRANSDUCER:PNR VMD 160-4-CT-5;VELOCITY	TRANSDUCER:VELOCITY;I/P 4 MV;12 VDC TRANSDUCER: TYPE: VELOCITY; INPUT: 4 MV; OUTPUT: 0.5-8 MA; POWER SOURCE: 12 VDC; MANUF P/N: PNR VMD 160-4-CT-5; MODEL NO: CV 160; SENSITIVITY 4MV/MM/SEC; VELOCITY RANGE 1200 MM/S PEAK; FREQUENCY RESPONSE 5HZ TO 4 KHZ; CURRENANT RANGE 0.5 TO 8 MA; TEMPERATURE RANGE -25 TO 140 DEG C; BIAS VOLTAGE 12 VDC; CASE MATERIAL SS; SEALING IP67; ADAPTOR 1/4 INCH TO 28 UNF; CT CONNECTOR TOP	BFI
663381	TRANSDUCER:7GK6113-2AN27-0B;I/P 1 A	TRANSDUCER:ACTIVE MEASURING;I/P 1 A TRANSDUCER: TYPE: ACTIVE MEASURING; INPUT: 1 A; OUTPUT: 4-20 MA DC; POWER SOURCE: 230 V; APPLICATION: EMERGENCY ASH STACKER/BOOM CONVEYOR; MANUF P/N: 7GK6113-2AN27-0B; MODEL NO: SIMEAS-T; 50HZ; AUXILIARY POWER 45AC TO 65HZ; 230V; FOR ASH PLANT	VSD
700922	TRANSDUCER:ROTATIONAL SPEED MEASURING	TRANSDUCER:ROTATIONAL SPEED MEASURING TRANSDUCER: TYPE: ROTATIONAL SPEED MEASURING; INPUT: 0-1600 RPM; OUTPUT: 4-20 MA; POWER SOURCE: 18-40 VAC; APPLICATION: VORECON SPEED CONTROL; OEM P/N: D 421.52 U1 M; SPEED MEASURING TRANSDUCER WITH INCORPORATED DISPLAY; FOR USE ON VORECON SECONDARY SPEED MEASUREMENT LAC11/12/13 CS001	FWS
700953	TRANSDUCER:ROTATIONAL SPEED MEASURING	TRANSDUCER:ROTATIONAL SPEED MEASURING TRANSDUCER: TYPE: ROTATIONAL SPEED MEASURING; INPUT: 0-6200 RPM; OUTPUT: 4-20 MA; POWER SOURCE: 18-40 VAC; SPECIFICATION: VORECON SPEED CONTROL; OEM P/N: D 224.1 S2 U1 M; SPEED MEASURING TRANSDUCER WITH DETECTION OF ROTATION AND INCORPORATED DISPLAY; FOR USE ON VORECON OUTPUT SPEED MEASUREMENT LAC11/12/13 CS002	FWS
701223	TRANSDUCER:PROXIMITY;O/P 50 OHM;24 VDC	TRANSDUCER:PROXIMITY;O/P 50 OHM;24 VDC TRANSDUCER: TYPE: PROXIMITY; INPUT: 3300 XL 8MM PROXIMITY PROBE; OUTPUT: 50 OHM; POWER SOURCE: 24 VDC; APPLICATION: VORECON SHAFT VIBRATION MEASUREMENT; OEM P/N: 178761-01; REFERENCE NO: 205.00021100; PROXPAC XL; 330880-28-XX-YY-01-02 FOR USE ON VORECON SHAFT VIBRATION MEASUREMENT LAC11/12/13 CY007/8 REF NO: 205.00021100	FWS

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd.
Reg No 2002/015527/30.

2. **Contract Period:** 5 Years (60 months)

3. **Employer anticipates Quantity of:**

The estimated quantities the *Employer* anticipates will be required for the duration of this contract. This value will be used with other estimates to determine the overall contract value. It should be noted that this is just an estimate and it does not mean that the *Employer* will definitely consume the spares in the duration of the contract. These quantities are therefore not fixed and the *Contractor* will only supply spares when instructed by a task order, from the *Employer*, to do so.

Material Number	Short description	Unit of measure	Estimated Quantities	Lab code
240204	TRANSDUCER:MICROPHONE;I/P 4-20 MA	EA	60	BBG
574051	TRANSDUCER:7ML1106-2BA20-0A;I/P 0.3-8 M	EA	30	BAR
579799	TRANSDUCER:DVC-DC;ELECTRO;I/P 30 VDC	EA	12	DCS
579800	TRANSDUCER:DVC-AC;ELECTRO;I/P 0-300 VAC	EA	12	DCS
580210	TRANSDUCER:DIFF PRESSURE/LEVEL;24 VDC	EA	108	CDS
580211	TRANSDUCER:DIFF PRESSURE/FLOW;24 VDC	EA	12	CDS
580272	TRANSDUCER:337-2718;CURRENT;O/P 0-20 MA	EA	6	DEG
616832	TRANSDUCER:MICRO PULSE;I/P 10-30 VDC	EA	24	PPS
646765	TRANSDUCER:PM8000 19" RACK; 12 ANALOGUES	EA	60	MET
648170	TRANSDUCER:PNR VMD 160-4-CT-5;VELOCITY	EA	66	BFI
663381	TRANSDUCER:7GK6113-2AN27-0B;I/P 1 A	EA	6	VSD
700922	TRANSDUCER:ROTATIONAL SPEED MEASURING	EA	36	FWS
700953	TRANSDUCER:ROTATIONAL SPEED MEASURING	EA	36	FWS
701223	TRANSDUCER:PROXIMITY;O/P 50 OHM;24 VDC	EA	12	FWS

4. The spares and components will be supplied to the "goods received" section of the Medupi main store where they will be received by the material management section. The spares will be delivered with all of the required data books and certificates, where required.

Medupi Stores Working Times:

Monday – Thursdays: 07h00 – 16h00

Fridays: 07H00 – 12h00

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd,
Reg No 2002/015527/30.

5. Only once the spares have passed the Quality control checks and are booked into the system can payment be effected.
6. The Spare has to be the same in all respects when compared to the original equipment, supplied to Eskom by OEM under contract. This includes all aspects such as design, materials and material specifications, manufacturing, including manufacturing processes and acceptance testing. Where spares offered deviate from the original in any respect, it should be indicated to the *Employer*.
7. It is the *Contractor's* responsibility to ensure that correct spares are delivered. If the incorrect spares are delivered, the spares will have to be replaced with the correct spares at the *Contractor* cost. This includes transport and delivery.
8. The Delivery and Transport Costs (including off-loading items) must be included in the quotation.

The following packaging requirements should be adhered to:

- a) The Goods are to be packaged in such a manner that they can be transported and stored for an extended period of time without resulting in damage to the goods.
- b) This includes damage due to moisture ingress, corrosion, vibration from the power station etc.
- c) Where lifting gear is utilised to move the goods, the packaging should allow the lifting operation and ensure that the goods are not damaged in any way during the process.
- d) It will also not be necessary to open packaging for any lifting or transport operation.
- e) Where eyebolts are fitted to move the goods, these eyebolts should be fitted in such a way that they can be easily removed and replaced with the Purchaser's eyebolts, ensuring that the packaging stays intact.
- f) The different spares types are to be packaged separately in such a way that each type can be stored separately.
- g) Packaging and labelling of spares should ensure that the spare can be identified without opening the packaging.
- h) Where possible the packaging should ensure that parts can be positively identified through the packaging. Where this is not possible, the packaging should allow opening and closing of the packaging and still maintain the packaging integrity afterwards.
- i) Delivery packaging to have the following detail on it as a minimum (removable adhesive sticker if possible):
 - Order number,
 - A short description of the component
 - The stock number
 - Manufacturing date, where possible

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd, Reg No 2002/015527/30.

4. Acceptance

This document has been seen and accepted by

Name	Designation
Mbavhalelo Mukwevho	System Engineer
Ntando Mbatha	System Engineer
Prince Lepota	System Engineer
Khathu Mudzielwana	System Engineer
George Mbangula	System Engineer
Gerhard Lombaard	System Engineer
Bernard Matanda	System Engineer
Johannes Bruwer	System Engineer
Emanuel Netshivhulana	System Engineer
Titus Ndlovu	System Engineer

5. Revisions

Date	Rev.	Compiler	Remarks
January 2024	1	A van Tonder	First revision

6. Development Team

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

Name	Designation
Pamela Pretorius	Manager Maintenance

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd, Reg No 2002/015527/30.