Eskom	Works Instruction	Medupi Power Station

Title: **Medupi Power Station HP Valves Spares Scope of Work.**

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1. Introduction

Medupi Power Station's High Pressure (HP) and High Temperature (HT) valves are utilized in the Feedwater, Main Condensate, LP heating, HP heating systems. These valves are critical and have an impact on production and station water consumption which can result in Unplanned Capability Loss Factor (UCLF).

To reduce the probability of a high UCLF, a proper stock holding of spares is required to fix and prevent breakdowns that negatively influence the plants throughput.

2. Supporting Clauses

2.1 Scope

The SOW specifies the required spares, quantities of spares to be supplied by the Supplier/Original Equipment Manufacturer (OEM) and conditions for acceptance. The scope included here does not substitute procurement proceduresthat will be followed during the procurement process. **Valves to be supplied shall comply with the latest revision of Eskom Procedure "240-128557196-Procurement Standard of High Pressureand High Temperature Valves in Coal Fired Power Stations".**

2.1.1 Purpose

The purpose of this document is to formally request the Supplier to supply spares and ensure that all maintenance spares which are being procured by Medupi Power Station are correct.

2.1.2 Applicability

This document shall apply to Medupi Power Station Feedwater and HP heating Material's Management.

2.1.3 Effective date

The effective date of this document is the date of authorization.

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

2.2.2 Informative

2.3 Definitions

Definition	Explanation
Contractor	Service provider contracted for supplying and delivering CCI spares.

Definition	Explanation
Employer	Eskom Medupi Power Station

2.4 Abbreviations

Abbreviation	Explanation
BOM	Bill of material

2.5 Roles and Responsibilities

Responsibility and accountability as per RACI.

Responsible	Accountable	Consult	Inform
Contract manager.	Contract manager	Buyer.	Maintenance, Feedwater and Centerline Auxiliaries System Engineer.
Assurance that all actions listed in this SOW are undertaken (follow up, advice, consultation)	Implementation of this SOW, random reviews, and audits for adherence, provide assurance that any deviations will be corrected.	Provide support, advice and communication with outside stakeholders where needed.	Planning and advice.

2.6 Process for Monitoring

This document will be a once-off document to state the scope of work for a spares supply and delivery contract.

2.7 Related/Supporting Documents

N/A

3. Feedwater and HP Heating Spares Scope of Work

3.1 Supply and Delivery

The contractor shall be responsible to supply and deliver spares Medupi's Feedwater and HP Heating. A list of the items is shown below.

It is important to note that the quantities are an estimate and can vary depending on breakdown and Medupi stockholding requirements for a 5-year period.

It should further be noted that because these are only estimated quantities based on the current experience and information, Medupi is under no obligation to procure the total estimated quantities and task order for specific spares will only be placed as and when they are required.

The items on the list are consisting of high moving stock and critical spares which include spares in the following areas:

a) Feedwater

b) HP Heating

The suppliers to provide quotes for deliveries of the following:

- Less than 1 ton.
- Between 1 and 8 ton.
- More than 8 ton.

The following are the Supplier's requirements:

a) The Supplier will ensure that the correct spare is supplied and will replace or be liable for damage at his/her cost if the incorrect or defective spare/s is supplied.

b) The Employer's (i.e., Eskom Holdings SOC) acceptance of delivered spare/s does not absolvethe Supplier of the liability to supply the correct and/or defect free spare.

c) The Supplier may, at the Employer's discretion, be given access to the plant to verify the information of the installed spare.

d) The spare must be to the exact same specification as installed in the plant and specified on this works information. Notwithstanding the stipulated condition that the Supplier is responsible for verifying the correctness of the spare's information provided by the Employer in relation to the existing installed spare. This may include the Supplier consulting the original supplier of the spare to ensure correctness of information provided by the Employer.

e) The Employer may at his/her discretion make the Employer's Engineer or employees or others available to the Supplier for the purpose of soliciting additional information or verifying information as the need arises.

f) The Supplier will supply any additional information such as brochure, general arrangement drawing, certificates, detailed specification, etc.

g) The Supplier provides the Employer with additional spares information and verifies information required in the attached data capturing forms (DCF) at least three months after conclusion of

the contract or (where lead time is less than three months) a week before delivery of respective spare.

h) The Supplier shall supply preservation and storage procedure/s, where applicable.

i) The Spares Procurement Limit over the agreed contract period, indicated by the Employer in the attached table as one of the subheadings, is the estimated number the Employer may require the Supplier to supply over the contract period. However, the Supplier may only supply the quantity as specified by the Employer in the individual order instruction and does not imply that the Supplier is entitled to supply the total number indicated in the Spares Procurement Limit over the agreed contract period.

j) Where Eskom has entered into National Framework agreements with Suppliers, after this agreement came into existence, the Employer will not be obliged to purchase those items on this agreement, as this is an 'as-and-when-required' type agreement and quantity of items to be supplied are not fixed.

k) Where the spare requires testing, the Supplier will inform the Employer to invite or make available the Employer's System Engineer to witness the tests.

l) Should the Employer be dissatisfied with all or certain aspects relating to specific spare tests (including but not limited to suspected inferior quality or non-compliance) the Supplier will make good, rectify the faults or supply a new spare at his/her cost.

m) A complete price breakdown must be supplied with the quotation and must include the cost of transport to Medupi Power Station. However, the Employer reserves the right to use the Employer's own transport.

n) Spares will be opened for inspection, counting and quality control check at the Employer's stores.

o) The Employer may make clarification sessions available to either prospective Supplier/s in order to further assist the prospective Supplier's to meet the requirements of the work to be performed by the Supplier.

p) The Supplier will supply the lead time of all required items in the tender for contract.

q) The Supplier must ensure that all parts supplied must be individually packed in such a way as to protect the parts during transport and storage. The packaging must also include the necessary labels to identify the items.

3.2 Acceptance of Spares

3.2.1 Spares Identification

i. Table 1, in section 3.3, lists all the spares to be procured under this SOW. This list corresponds to the provided electronic copy of the DCF's that contain more information about the required spares. Each spare is identifiable by means of a KKS number (as is used in the Power Station), part description, OEM and/or OEM part number, where available.

3.2.2 Replacement Parts Upgraded/Modified

i. Where equipment or spares, including the whole assembly, have been upgraded / modified the Supplier shall indicate this to the Employer as part of the tender. The Employer shall be made aware immediately where the upgrade/modification to the component is only identified after the tender being issued. The detailed compatibility to the existing component shall be indicated.

ii. If the components to be supplied will be obsolete, or envisaged to be obsolete, in the 5 years after tender being issued, the Supplier shall indicate this to the Employer and indicateviable alternatives thereof.

3.2.3 Packaging

i. All supplied spares shall be packaged in such a manner that they will be transported and stored without damage. This includes preventing damage due to moisture ingress, dust, and foreign objects.

ii. Different spare types shall be packaged separately such that each spare type can be stored separately. Packaging shall be such that the spare can be identified without opening the packaging. Packaging shall be of material that will not be damaged, to an extent possible, by harsh weather conditions during transportation. If that is not possible, then the packaging shall be protected against such conditions.

iii. Where possible, packaging to be such that procured spares can be positively identified through the packaging. Where this is not possible, the packaging to be such that it allows opening and closing of packaging and still maintain the packaging integrity thereafter.

iv. Delivery packaging to have the following details:

a) Order number

b) Physical address of Medupi Power Station and the Supplier

c) Contact details of the Supplier

d) Delivery notes number

3.2.4 Acceptance of spares

a) No incorrect, damaged, or faulty spares will be accepted.

b) All the spares will be inspected before payment could be processed.

c) Data capturing forms information must be supplied and must meet an acceptable level.

d) Where applicable; test certificates, material certificate, manuals, data sheet and signature shall be provided as required.

e) The Supplier must provide references of the companies that they have supplied similar spares to, and include the respective supply order/contract value, the contact’s name, physical address and telephone number.

3.2.5 Information to be provided.

The Supplier is provided with electronic Data Capture Form (DCF) for each spare required. The Supplier is required to ensure that the correct information is captured on the DCF's. The DCF's are required by the Purchaser's Material Management System to be able to book the item in the store and the information should also be sufficient to procure the correct spares in future. Most of the DCF's have been populated by the Purchaser where information was available. This information may not be correct and needs to be reviewed and verified/corrected as part of the Services.

The DCF's are provided in Microsoft Word format. The Supplier needs to ensure the 'Track Changes' function is selected 'on' so that any changes to the existing information as well as inserted information can easily be identified and tracked. The following information needs to be to be providedas detailed as possible on the DCF's.

a) Verify the existing information that is already populated on the DCF's and make changes where required. Ensure the 'track changes' function is on.

b) Populate/verify all fields highlighted in 'yellow' on the DCF's, in the electronic format provided.

c) Supply additional information in the field "Free Format Text" or "Purchase order text" on the DCF's. This includes:

- The standards or specification that the product has to conform to.
- Add any spares information which has been omitted, which is deemed relevant for spares identification, packaging and protection requirements during transportation and storage.
- The Quality Control requirements for manufacturing and testing of the product to ensure that the spares conform to the correct specifications or standards, including certificates and test results, that is required with delivery of the goods.

d) Supply any other additional information that has not been specified on the DCF's but necessary for storage, preservation, installation, and utilization of spares where applicable.Such information includes brochures, technical data, etc.

e) These DCF's with the added information needs to be made available electronically to the employer.

f) Supply any other additional information that has not been specified on the DCF's but necessary for storage, preservation, installation, and utilization of spares where applicable.Such information includes brochures, technical data, etc.

3.3 Spare Contract Bill of Material

Table 1: Estimated 5-year BOM.

KKS	Description	Material/ Additional Info	Stock Number	Total Installed (6 units)	5Y Contract MIN	5y Contract MAX
LAB31 AA401 LAB32 AA401 LAB33 AA401 LAB31 AA402 LAB32 AA402 LAB33 AA402 LAB40 AA401 LAB40 AA402 LAB71 AA401 LAB72 AA401 LAB71 AA402 LAB72 AA402	Forged Steel Globe Valve	VALVE, GLOBE: VALVE SIZE: 20 MM; DESIGN PRESSURE: PN640; DESIGN TEMPERATURE: 295 DEG C; FACE TO FACE LENGTH: 137 MM; OPERATED: MANUAL; CONNECTION: BUTT WELD; BODY MATERIAL: 13CRMO4-5; TRIM: SEAT STELLITED; SOFTGOODS: STEM PACKING GRAPHITE; APPLICATION: HP HEATER VENT VALVES; TYPE: FLOW; SYSTEM. DESIGN PRESSURE:335 BAR	618822	76	12	140

KKS	Description	Material/ Additional Info	Stock Number	Total Installed (6 units)	5Y Contract MIN	5y Contract MAX
LAB31 AA404 LAB32 AA404 LAB33 AA404 LAB31 AA411 LAB32 A411 LAB33 AA411 LAB31 AA412 LAB32 A412 LAB33 AA412 LAB50 AA402 LAB51 AA402 LAB52 AA402 LAB51 AA405 LAB52 AA405 LAB51 AA406 LAB52 AA406 LAB51 AA407 LAB52 AA407 LAB51 AA408 LAB52 AA408 LAB51 AA409	Forged Steel Throttle Valve	VALVE, GLOBE: VALVE SIZE: DN 40; DESIGN PRESSURE: PN640; DESIGN TEMPERATURE: 295 DEG C; FACE TO FACE LENGTH: 192 MM; OPERATED: MANUAL; CONNECTION: BUTT WELD; BODY MATERIAL: 13CRMO4-5; TRIM: SEAT STELLITED; SOFTGOODS: PACKING GRAPHITE; APPLICATION: HP VALVES; SYSTEM DESIGN PRESSURE: 335 BAR	656083	180	30	360

KKS	Description	Material/ Additional Info	Stock Number	Total Installed (6 units)	5Y Contract MIN	5y Contract MAX
LAB41 AA401 LAB42AA101	Forged Steel Gate Valve	VALVE, GATE: VALVE SIZE: DN20; TYPE: FORGED STL; DESIGN PRESSURE: PN640; DESIGN TEMPERATURE: 294 DEG C; CONNECTION: BUTT WELD; FACE TO FACE LENGTH: 137 MM; BODY MATERIAL: 13CRM04- 5; TRIM: SEAT STELLITED; OPERATED: MANUAL; SYSTEM DESIGN PRESSURE: 335 BAR	671081	12	2	24

LAB71 AA403 LAB72AA403 LAB71AA405 LAB72AA405	Parallel Slide Gate Valve	VALVE, GATE: VALVE SIZE: DN 40; TYPE: GATE; DESIGN PRESSURE: PN 640; DESIGN TEMPERATURE: 207 DEG C; CONNECTION: BUTT WELD; FACE TO FACE LENGTH: 192; BODY MATERIAL: 15NICUMONB5; TRIM: BONNET 15NICUMONB5; OPERATED: MANUAL; SUPPL P/N: 20131033; HP VALVES: FORGED STEEL GATE VALVE USED FOR LAB3AA403; LAB32AA403; LAB33AA403; LAB50AA401; LAB51AA403; LAB51AA401; LAB51AA501; LAB52AA403; LAB52AA401; LAB52AA501; DN40; SYSTEM DESIGN PRESSURE: 335 BAR	656149	24	4	44

KKS	Description	Material/ Additional Info	Stock Number	Total Installed (6 units)	5Y Contract MIN	5y Contract MAX
LAB40AA317 LAB40AA318 LAB51AA301 LAB51AA302 LAB51AA303 LAB51AA304 LAB51AA305 LAB51AA306 LAB52AA301 LAB52AA302 LAB52AA303 LAB52AA304 LAB52AA305 LAB52AA306 LAB61AA301 LAB61AA302 LAB62AA301 LAB62AA302 LAB71AA301 LAB71AA302 LAB72AA301 LAB72AA302 LAB73AA301 LAB73AA302 LAB73AA303 LAB73AA304	Forged Steel Globe Valve	VALVE, GLOBE: VALVE SIZE: DN 15; DESIGN PRESSURE: PN640; DESIGN TEMPERATURE: 295 DEG C; FACE TO FACE LENGTH: 132 MM; OPERATED: MANUAL; CONNECTION: BW; BODY MATERIAL: 13CRM04-5; TRIM: SEAT STELLITED GR6; SOFTGOODS: STEM PACKING GRAPHITE; APPLICATION: HP SYSTEM; SYSTEM DESIGN PRESSURE: 335 BAR	656072	288	48	576

KKS	Description	Material/ Additional Info	Stock Number	Total Installed (6 units)	5Y Contract MIN	5y Contract MAX
LAB31AA403 LAB32AA403 LAB33AA403 LAB50AA401 LAB51AA401 LAB52AA401 LAB51 AA403 LAB52AA403	Forged Steel Gate Valve	VALVE, GATE: VALVE SIZE: DN40; TYPE: PARALLEL SLIDE; DESIGN PRESSURE: PN400; DESIGN TEMPERATURE: 295 DEG C; CONNECTION: BUTT WELD; FACE TO FACE LENGTH: 203 MM; BODY MATERIAL: 15NICUMONB5; TRIM: SEAT STELLITED; OPERATED: MANUAL; APPLICATION: HP VALVES; REFERENCE NO: 20131033; BONNET. 15NICUMONB5; DISC AND SEAT RING 13CR + HF; SYSTEM DESIGN PRESSURE: 335 BAR	676962	48	8	96

4. Acceptance

This document has been seen and accepted by

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5. Revisions

Date	Rev.	Compiler	Remarks
Oct 2019	0	TF Mokoena	Review SOW
Mar 2022	1	EU Netshivhulana	First Revision
Nov 2024	2	D Matjipa	Second Revision

6. Development Team

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

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7. Acknowledgements

N/A