

Title: **Tender Technical Evaluation Strategy for In line or offline valve components reconditioning – seat hard-facing weld overlay, or weld overlay on valve bodies and other components during planned outages and normal maintenance at Tutuka Power Station**

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CONTROLLED DISCLOSURE

1. INTRODUCTION

The footprint of a coal fired power plant consists of various types of industrial components which include a very large number of valves of various sizes, type of design and engineering complexity. Some historical plant failures which resulted in serious consequential damage to downstream components can be directly attributed to plant failures associated with valves. In some cases, the root cause of the aforementioned valve failures can be directly attributed to the incapacity of valve maintenance and repair service providers.

In addition to the aforementioned, the general downward trend in availability and reliability associated with the operational performance of valves at various Eskom power stations, have necessitated the requirement for a structured approach with respect to the control of maintenance and refurbishment work carried out on valves. One of these control measures is the introduction of an offsite process in order to gain an advanced appreciation of the capability and capacity of the proposed service providers involved with the maintenance, repair and refurbishment of power plant valves.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope covers all valves which are stripped open for refurbishment during planned outages and during normal maintenance at Tutuka Power Station. The service provider to ensure that reconditioned valve components will not require same reconditioning for 3 years intervals.

- Zero forced shut down for rework after the outage
- Zero trips as a result of outage poor workmanship

2.1.1 Purpose

The purpose of this tender technical evaluation strategy is to define the Mandatory Evaluation Criteria, Qualitative Evaluation Criteria and TET member responsibilities for tender technical evaluation. The technical evaluation strategy serves as basis for the tender technical evaluation process.

2.1.2 Applicability

This document shall apply to Tutuka Power Station.

2.1.3 Effective date

This document will be in effect from 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

- [1] ISO 3834: Quality requirements for welding
- [2] ISO 9001 Quality Management Systems.
- [3] 240-106628253 Standard for welding Requirements on Eskom plants
- [4] 240-84979413 Maintenance and Repair of High Temperature and High Pressure valves and Fittings standard

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- [5] 240-83539994 Standard for Non-Destructive Testing on Eskom plant
- [6] 240-142257054 – Technical evaluation standard for the capability Assessment of Service Providers for the Refurbishments of Valves and fittings in Eskom Power Plants
- [7] 240-105020315 – Standard for Low Pressure Valves
- [8] 240-84513751 – Material Specification and certification Guideline for Power Generation Plant
- [9] 240-86546783 – Procurement Standard for Material Certification Requirements Applicable to Metallic Products Used on Low and Medium pressure application
- [10] 240-168966153 Generation Tender Engineering Evaluation Procedure

2.2.2 Informative

N/A

2.3 DEFINITIONS

N/A

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
BFPT	Boiler Feedpump Turbine
CRH	Cold re-heat
HRH	Hot-reheat
HP	High pressure
ISO	International Standard Organisation
IP	Intellectual Property
IPT	Intermediate pressure turbine
IWT	International Welding Technologist
LP	Low Pressure
NDT	Non-Destructive Testing
NCR	Non-conformance report
OEM	Original Equipment Manufacturer
NRV	Assisted Non Return Valve
PER	Pressure Equipment Regulations
PPE	Personal Protective Equipment
QM	Quality Management
QCP	Quality control plan
QMS	Quality Management System
RH	Re-heater
SANAS	South African National Accreditation System
SANS	South African National Standards

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Abbreviation	Description
SWL	Safe working load
SOW	Scope Of Work
TET	Technical Evaluation Team

2.5 ROLES AND RESPONSIBILITIES

As per:

240-168966153 Generation Tender Engineering Evaluation Procedure

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

- [1] 240-53716746: Tender Technical Evaluation Report Template
- [2] 240-53716712: Tender Technical Evaluation Results Form Template
- [3] 240-53716726: Tender Technical Evaluation Scoring Form Template

3. TENDER TECHNICAL EVALUATION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

A Mandatory Requirement is needed to pass 100% before commencing to the Qualitative Evaluation. The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 70% on the Qualitative.

The tenderer which will meet the 70 % threshold will go through the second round of evaluation. This evaluation is for establishing if the contractor has the facility to refurbish the Tutuka Power Station High pressure, High Temperature Valves. This evaluation will be conducted using 240-142257054 - Technical evaluation standard for the capability assessment of service providers for the refurbishment of valves and fittings in Eskom Power Plants.

3.2 TET MEMBERS

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1		Turbine Engineer
TET 2		Boiler Engineer
TET 3		Valve Maintenance Manager
TET 4		Boiler Valves Technician
TET 5		Turbine Valves Technician
TET 6		Senior Valve Technician

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3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

Table 2: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	The service provider must be ISO 3834-2 certified.	Provide valid ISO 3834 certificate.	Certification required under ESKOM welding requirement for hard facing overlay.
2.	The service provider provides demonstrable evidence that the company is, within its own capacity, capable of executing hard facing overlay with sterlite 6 material	Provide a sample of the WPS owned by the company for Sterlite 6 to carbon steel material overlay.	To establish that the service provider holds the knowledge, expertise and intellectual property to perform Sterlite 6 overlay. This will also ensure that the bulk of the scope of work will not be sub-contracted.

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3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 3: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	Valve Reconditioning Method statement and QCP			50	
	1.1	Supply officially issued SOW and method statement for reconditioning on Wedge Valves , this to include a completed QCP and ITP.	<p><u>Returnable:</u> Supply Data Book used for wedge Valve body and wedge re-stelliting/refurbishment. Need to be supported with Method Statement and completed/signed QCP/ITP.</p> <ul style="list-style-type: none"> 100% (5): Provided a signed copy of SOW AND technically sound method statement AND fully signed QCP/ITP 80% (4): Provided a signed copy of SOW AND/OR technically sound method statement AND/OR fully signed QCP/ITP 40% (2) : Provided a signed copy of SOW OR technically sound method statement OR fully signed QCP/ITP <p>0% (0): Non responsive</p>		25

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	1.2	Supply officially issued SOW and method statement for reconditioning on Non-Return Valves , this to include a completed QCP and ITP.	<p><u>Returnable:</u> Supply Data Book used for Non-Return Valve body and flap re-stelliting/refurbishment. Need to be supported with Method Statement and completed/signed QCP/ITP.</p> <ul style="list-style-type: none"> • 100% (5): Provided a signed copy of SOW AND technically sound method statement AND fully signed QCP/ITP • 80% (4): Provided a signed copy of SOW AND/OR technically sound method statement AND/OR fully signed QCP/ITP • 40% (2) : Provided a signed copy of SOW OR technically sound method statement OR fully signed QCP/ITP <p>0% (0): Non responsive</p>		25
	1.3	Supply officially issued SOW and method statement for reconditioning on Parallel Slide Valves , this to include a completed QCP and ITP.	<p><u>Returnable:</u> Supply Data Book used for parallel slide Valve body and disc re-stelliting/refurbishment. Need to be supported with Method Statement and completed/signed QCP/ITP.</p> <ul style="list-style-type: none"> • 100% (5): Provided a signed copy of SOW AND technically sound 		25

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Tender Technical Evaluation Strategy for In line or offline valve components reconditioning – seat hard-facing weld overlay, or weld overlay on valve bodies and other components during planned outages and normal maintenance at Tutuka Power Station

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			<p>method statement AND fully signed QCP/ITP</p> <ul style="list-style-type: none"> 80% (4): Provided a signed copy of SOW AND/OR technically sound method statement AND/OR fully signed QCP/ITP 40% (2) : Provided a signed copy of SOW OR technically sound method statement OR fully signed QCP/ITP <p>0% (0): Non responsive</p>		
	1.4	Supply officially issued SOW and method statement for reconditioning on Regulating valves , this to include a completed QCP and ITP.	<p><u>Returnable:</u> Supply Data Book used for Regulating Valve body and plug re-stelliting/refurbishment. Need to be supported with Method Statement and completed/signed QCP/ITP.</p> <ul style="list-style-type: none"> 100% (5): Provided a signed copy of SOW AND technically sound method statement AND fully signed QCP/ITP 80% (4): Provided a signed copy of SOW AND/OR technically sound method statement AND/OR fully signed QCP/ITP 40% (2) : Provided a signed copy of SOW OR technically sound 		25

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			method statement OR fully signed QCP/ITP 0% (0): Non responsive		
2.	Company Information			40	
	2.1	<p>List of Personnel with Qualifications and experience (CVs and certificates of qualifications).</p> <p>Minimum requirements</p> <ul style="list-style-type: none"> • Welding engineer/technician/technical manager – national diploma – 3 years relevant experience • Quality control inspector – Grade 12 with QC qualifications – 5 years relevant experience • Qualified fitter – Trade test and N2 certificate or equivalent – 3 years relevant experience <p>Qualified welder – Trade test and N2 certificate or equivalent – 3 years relevant experience</p>	<p>List of Personnel with qualifications and experience:</p> <ul style="list-style-type: none"> • 100% (5): Provided a list with minimum number of employees required AND all listed employees have the required qualifications AND all listed employees have the required experience • 80% (4): Provided a list with minimum number of employees required AND/OR all listed employees have the required qualifications AND/OR all listed employees have the required experience • 40% (2) : Provided a list with minimum number of employees required OR all listed employees have the required qualifications OR all listed employees have the required experience 		25

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			0% (0): Non responsive		
	2.2	<p>Provide proof that the supplier is in possession of Welding Equipment by means of:</p> <ul style="list-style-type: none"> • Photograph of equipment • Serial number of equipment <p>Certificate (purchase receipt/safety inspection/calibration certificate)</p>	<p>List of equipment with photographs, serial number and certifications:</p> <ul style="list-style-type: none"> • 100% (5): Provided a photograph of equipment AND the serial number of the equipment AND a certificate of the equipment referencing the serial number. • 80% (4): Provided a photograph of equipment AND/OR the serial number of the equipment AND/OR a certificate of the equipment referencing the serial number. • 40% (2) : Provided a photograph of equipment OR the serial number of the equipment OR a certificate of the equipment referencing the serial number. <p>0% (0): Non responsive</p>		25

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	2.3	<p>Provide proof that the supplier is in possession of Machining Equipment by means of:</p> <ul style="list-style-type: none"> • Photograph of equipment • Serial number of equipment <p>Certificate (purchase receipt/safety inspection/calibration certificate)</p>	<p>List of equipment with photographs, serial number and certifications:</p> <ul style="list-style-type: none"> • 100% (5): Provided a photograph of equipment AND the serial number of the equipment AND a certificate of the equipment referencing the serial number. • 80% (4): Provided a photograph of equipment AND/OR the serial number of the equipment AND/OR a certificate of the equipment referencing the serial number. • 40% (2) : Provided a photograph of equipment OR the serial number of the equipment OR a certificate of the equipment referencing the serial number. <p>0% (0): Non responsive</p>		25
	2.4	<p>Provide proof that the supplier is in possession of Pressure Testing Equipment by means of:</p> <ul style="list-style-type: none"> • Photograph of equipment 	<p>List of equipment with photographs, serial number and certifications:</p>		25

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		<ul style="list-style-type: none"> Serial number of equipment Certificate (purchase receipt/safety inspection/calibration certificate) 	<ul style="list-style-type: none"> 100% (5): Provided a photograph of equipment AND the serial number of the equipment AND a certificate of the equipment referencing the serial number. 80% (4): Provided a photograph of equipment AND/OR the serial number of the equipment AND/OR a certificate of the equipment referencing the serial number. 40% (2) : Provided a photograph of equipment OR the serial number of the equipment OR a certificate of the equipment referencing the serial number. <p>0% (0): Non responsive</p>		
3.	Company History			10	
	3.1	Provide company organogram clearly outlining the structure of accountability as follows: <ul style="list-style-type: none"> Management accountability Engineering/Technical accountability Quality control accountability 	Provide the company organogram with names: 100% (5): Provided organogram containing all elements of accountability		10

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		Operations accountability	40% (2): Provided organogram containing some elements of accountability 0%(0): Non responsive		
	3.2	Provide demonstratable evidence that the company has operated in the refurbishment valves for an uninterrupted period of at least 3 years.	Returnable: The Service Provider to provide proof of verifiable reference list of previous High Temperature and High-Pressure valve offsite repairs/reconditioning orders/contracts completed either within Eskom and/or in the Industry (using steam at pressure above 4 MPa and temperatures exceeding 350°C) in the last 3 years. Provide contact person and contact numbers for each: • 100% (5) List with 5 or more orders for valve reconditioning/refurbishment in the last 3 years. • 80% (4) List with 4 valve reconditioning/refurbishment in the last 3 years. • 40% (2) List with 2 valve reconditioning/refurbishment in the last 3 years. • 0% (0): No list		90
				TOTAL: 100	

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3.5 TET MEMBER RESPONSIBILITIES

Table 4: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6
1	X	X	X	X	X	X
2	X	X	X	X	X	X
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6
1.1	X	X	X	X	X	X
1.2	X	X	X	X	X	X
1.3	X	X	X	X	X	X
1.4	X	X	X	X	X	X
2.1	X	X	X	X	X	X
2.2	X	X	X	X	X	X
2.3	X	X	X	X	X	X
2.4	X	X	X	X	X	X
3.1	X	X	X	X	X	X
3.2	X	X	X	X	X	X

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3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 5: Acceptable Technical Risks

Risk	Description
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Table 6: Unacceptable Technical Risks

Risk	Description
1.	The company not ISO 3834 certified
2.	Scope sub contracted to a third party service provider outside company premises
3.	
4.	
5.	
6.	
7.	

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3.6.2 Exceptions / Conditions

Table 7: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	
1.	
2.	
3.	
4.	
5.	
6.	

Table 8: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	
2.	
3.	
4.	
5.	
6.	
7.	

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4. ACCEPTANCE

This document has been seen and accepted by:

Name	Designation
	Turbine Engineer
	Boiler Engineer
	Boiler Engineer
	Boiler valve Technician
	Turbine valve Technician

5. REVISIONS

Date	Rev.	Compiler	Remarks
April 2025	1		New Document

ACKNOWLEDGEMENTS

N/A