Eskom	Technical Evaluation Strategy	Engineering

Title: **Provision of High Pressure Parts welding of the turbine and boiler auxiliary plants and flow accelerated corrosion replacements during outages at Kriel Power Station for a period of four (4) years.**

Unique Identifier:	
Alternative Reference Number:	**HP Welding**
Area of Applicability:	**Engineering**
Documentation Type:	**Strategy**
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Compiled by	Compiled by	Reviewed by	Functional Responsibility
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1. INTRODUCTION

The supply of labour for the welding of HP Pressure Parts and replacements of the Flow Accelerated affected components in Turbine, Boiler and Auxiliary Plant areas at Kriel Power Station will go out to the open market. The tender documents will be published on the tender bulletin after the technical evaluation criteria are approved. The scope of work has been defined which includes but not limited to the Boiler internal and external components, High Pressure pipework, Hot Reheat pipework, Cold Reheat pipework and all applicable piping in the Turbine and Outside plants for a period of 4 years at Kriel Power Station.

2. SUPPORTING CLAUSES

2.1 SCOPE

The Technical evaluation strategy document defines the technical criteria by which tenderers wishing to provide services as per the defined scope at Kriel Power Station will be evaluated.

2.1.1 Purpose

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

2.1.2 Applicability

This document is applicable to Kriel Power Station.

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] 240-48929482: Tender Technical Evaluation Procedure

[2] 240-106628253: Standard for Welding Requirements on Eskom Plant

[3] Pressure Equipment Regulations (PER)

[4] BS 1113: Design and manufacture of water-tube steam generating plant (Including Superheaters, Reheaters and steel tube economiser)

[5] EN 12952 (All Parts) Water-Tube boilers and auxiliary installations

[6] EN 13480 (All parts) Piping

[7] AWS Structural Welding Codes

[8] AWS B2.1/B2.1M: Specification for Welding Procedure and Performance Qualification

[9] EN 10052 – Vocabulary of heat treatment terms for ferrous products

[10] EN 1011: Welding-Recommendations for welding procedures for metallic materials – General Rules

2.2.2 Informative

[11] 240-83540088 Requirements for NDT on Eskom Plant Standard

[12] 240-83539994 Eskom NDT Personnel Approval (NPA) for Quality Related Special Processes on Eskom Plant Standard

[13] QM 58 Supplier Contract Quality Requirements Specification

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
AIA	Approved Inspection Authority
CV	Curriculum Vitae
FAC	Flow Accelerated Corrosion
WPS	Welding Procedure Specification
WPQR	Welding Procedure Qualification Record
TET	Technical Evaluation Team
NDT	Non Destructive Testing
SOW	Scope of Work
QCP	Quality Control Plan

2.5 ROLES AND RESPONSIBILITIES

As per 240-48929482: Tender Technical Evaluation Procedure

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

3. TENDER TECHNCIAL EVALAUTION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

The mandatory technical evaluation criteria are a “must meet criteria. These criteria shall not be weighed, but shall be assessed on a Yes/No basis as to whether the criteria are met or not. An assessment of “No” against any criterion shall technically disqualify the tenderer and shall not be further evaluated against the qualitative criteria.

Qualitative criteria are weighted criteria used to identify the highest technically ranked tenderer after identifying that all mandatory criteria have been met. The qualitative criteria are weighed to reflect the the relevant importance of each criterion.

The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is **80%**. This is 10% greater than the 70% threshold stipulated in the normative reference [1] above. The main reasons for deviation are the criticality of the weldments testing, supervision, storage, application and logistics involved, with particular attention to:

- Code, standard and guidelines compliance
- Regulatory requirements (PER, SANS ISO 3834 - 2, etc.)
- High operating pressure.
- High operating temperatures.
- Internal and external parts criticality – Handling.
- Skilled and appropriately trained personnel.
- Machinery, tools and equipment precession required.
- Conduciveness of the work execution environment.

3.2 TET MEMBERS

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1	Feyane Tivane – Candidate Engineer (CE)	System engineer – Boiler Pressure Parts
TET 2	Ishfaaq Ramathula – Candidate Engineer (CE)	System engineer – Turbine Feed heating System and FAC
TET 3	Gontse Mathibedi – Pr.Eng	Senior System engineer – Turbine CW System

3.3 TENDER RETURNABLES

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	1. Valid ISO 3834-2 Certification Complete certificate (all pages) of the valid ISO 3834-2 certificate must be submitted and it must clearly indicate the following: Design Codes (BS EN 13480; BS EN 13445 and P5500) as well as the following material groups (1, 5, 6, and 8 according to 15608) for the tenderer is declared competent. 2. A declaration letter signed by both parties in case of a JV or Working Agreement must be submitted together with one valid certificate of either party. 3. Signed agreement/JV must be submitted too	• To ensure that all welding Procedures make reference of the national standards to which it is drawn up from and the contractor is authorised by an accredited body to do hot work • Outage Scope of Work: Provision of High Pressure Parts Welding On the Turbine Plant and Flow Accelerated Corrosion Replacements Scope on Boiler Areas at Kriel Power Station	• To ensure correct and proper usage of WPQR and WPS code/standard compliance • The OHS Act compliant hot work procedure is essential because it specifies a set of hot work principles and minimum requirements. • Outage Scope of Work: Provision of High Pressure Parts Welding On the Turbine Plant and Flow Accelerated Corrosion Replacements Scope on Boiler Areas at Kriel Power Station
2.	Proof of other maintenance/Project work on welding of HP Piping, High Pressure Parts and pressure vessels as classified in SANS 347 must be submitted in a form of: - Contract - 2xoff Purchased Orders (Detailing all work done as per the contract)	- Outage Scope of Work: Provision of High Pressure Parts Welding On the Turbine Plant and Flow Accelerated Corrosion Replacements Scope on Boiler Areas at Kriel Power Station	• Necessary experience required to execute the scope and ensure that the tenderer will be held professionally accountable for the work done.

Qualitative Technical Evaluation Criteria for Part 1

Score	(%)	Definition
5	100	**COMPLIANT** • Meet technical requirement(s) AND; • No foreseen technical risk(s) in meeting technical requirements.
4	80	**COMPLIANT WITH ASSOCIATED QUALIFICATIONS** Meet technical requirement(s) with; • Acceptable technical risk(s) AND/OR; • Acceptable exceptions AND/OR; • Acceptable conditions.
2	40	**NON-COMPLIANT** • Does not meet technical requirement(s) AND/OR; • Unacceptable technical risk(s) AND/OR; • Unacceptable exceptions AND/OR; • Unacceptable conditions.
0	0	**TOTALLY DEFICIENT OR NON-RESPONSIVE**

Note 1: The scoring table does not allow for scoring of 1 and 3.
Note 2: Foreseen acceptable and unacceptable risk(s), exceptions and conditions shall be unambiguously defined in the relevant Tender Technical Evaluation Strategy.

	Qualitative Technical Criteria Description	Total Weight (**100%)**	Tenders will be expected to score at least the minimum threshold (**80%)** per functional area to proceed to the next phase

1.	Method Statement:
	• Emphasis on hot work execution (5)
	  ○ Hot work preparation and execution
	  ○ Replacement steps/methodology (pick four different components from the pricelist, a bend, T-Piece and a Reducer are a must)
	  ○ Re-welding of the existing insert
	• Hot work quality control philosophy (4)
	• Generic method statement (2)
	• Non-specific methodology steps (0)
		25%	

2.	Quality Control Plan: • QCP for the repairs execution specific and short as possible with holding points where required, signature matrix of all stakeholders (5) • Only showing critical steps to be done prior to work, from method statement (4) • Including signature matrix make provision for the following personnel in your matrix, outage coordinator, Eskom QC, Contractors supervisor only (2) • Inadequate QCP (0)	10%	

3	Proof of experience only (No CV's) for the personnel on this project:
	• Mechanical Works Supervisor, one or more years – signed proof of employment/ service record only (0/5)
	• Only provide the Project manager with 1year as minimum year of experience – signed proof of employment (contracts of employment) (2/5)
	• Proof of relevant work experienced mechanical artisans and fitters, at least 8 personnel and all two requirements above (5): to submit qualification/appointment/trade certificates.
	  ○ No submission (0/5)
	  ○ Two or less than two welders/artisans (2/5)
	  ○ Three to four coded welders (4/5)
	  ○ Five to Eight Coded Welders (5/5)
		20%	

4.	Qualified Welding Procedure Specification (WPS) and Welding Procedure Qualification Record (WPQR) to be submitted as an example for the following materials:
	• 15NiCuMoNb5-6-4 (With PWHT)
	• 10CrMo9-10 (With PWHT)
	WPQR to be signed-off by IWE/IWT and AIA, all NDT results according to BS EN 15614-1 to submitted as proof of qualification.
	  ○ No submission (0/5)
	  ○ Partially signed WPS and WPQR (2/5)
	  ○ Fully signed off WPS and WPQR (4/5)
	  ○ Fully signed off WPS and WPQR with NDT results (5/5)
		30%	

5	Proof of OHS Act 85 of 1993 Certification for the SHEQ processes within the company
	• Valid Proof of Company SHEQ Certification
	  ○ Endorsed by sanas
	  ○ ISO 9001:2015 QMS
	  ▪ Both certification submitted (5/5)
	  ▪ Only one (1) of the certification (2/5)
	  ▪ No submission (0/5)
		15%	

3.4 TET MEMBER RESPONSIBILITIES

Table 2: TET Member Responsibilities

Qualitative Criteria Number	TET 1	TET 2	TET 3
1	X	X	X
2	X	X	X
3	X	X	X
4	X	X	X
5	X	X	X
6	X	X	X

3.5 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.5.1 Risks

Table 3: Acceptable Technical Risks

Risk	Description
1.	Proposed QCP with the critical activities, without acceptance criteria or minor changes required that could be done after contract award.
2.	Certificates for only 4 Welders
3.	Welders having less than 3 years' experience in an industrial environment but having more than 1 years' experience in another environment

Table 4: Unacceptable Technical Risks

Risk	Description
1.	No qualified welders / Zero certificates submitted
2.	No Code and National Standards compliance and Accreditation According SANS ISO 3834-2
3.	No Valid Welders' Certification

3.5.2 Exceptions / Conditions

Table 5: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	**N/A**

Table 6: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	**N/A**

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
Thembelani Ndlumbini	Turbine Plant Engineering Manager
Nkanyezi Mazibuko	Outage Coordinator
Gontse Mathibedi	Senior System engineer
Feyane Tivane	System engineer
Ishfaaq Ramathula	System engineer

5. REVISIONS

Date	Rev.	Compiler	Remarks
August 2022	1	Feyane Tivane	Document created.

6. DEVELOPMENT TEAM

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

- Feyane Tivane
- Gontse Mathibedi
- Ishfaaq Ramathula

7. ACKNOWLEDGEMENTS

N/A