Eskom	Strategy	Engineering

Title: **Tender Technical Evaluation Strategy Vanderkloof Guide Vane Journal Refurbishment**

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Senior Engineer	**SEM Turbine Systems**	**Engineering Manager**
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TABLES

1. INTRODUCTION

This document details the technical evaluation strategy for the refurbishment of the Vanderkloof guide vane journals.

2. SUPPORTING CLAUSES

2.1 SCOPE

The *works* is the refurbishment of the Vanderkloof guide vanes. This includes the collection of the guide vanes from Vanderkloof Hydro Power Station, the welding and machining of the guide vanes, the inspection and corrosion protection, and the packaging and delivery to Vanderkloof Power Station. A spare set of guide vanes, currently in storage, is refurbished prior to the turbine refurbishment of February 2026. The one set of guide vanes in use in Unit 1 is refurbished upon removal from the turbine unit. This set will be used in Unit 2 upon completion of the refurbishment. Two sets of guide vanes are refurbished, forty items in total. Stainless steel overlay welding is done on the corroded journals after which it is machined to size to accommodate the guide vane bushes. The guide vane blades are protected from corrosion by painting it with a high-solids epoxy paint. The *works* is defined and specified as per the works information: Vanderkloof Guide Vane Journal Refurbishment, Document 160A/40011-2.

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 a basis for the tender technical evaluation process.

2.1.2 Applicability

This document applies to Eskom Peaking Generation: Vanderkloof Hydro 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.

2.2.2 Informative

[2] 160A-40011 Investigation Report: Vanderkloof Guide Vanes, I.C. Meyer August 2019.

[3] 31A/100418 Workplan.

[4] Drawing 0.39/724 Rev 1 Guide Vane

[5] Drawing 0.39/725 Rev 1 Details of Guide Vane and Packing Box

2.3 DEFINITIONS

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
NDT	Non-Destructive Testing
TET	Technical Evaluation Team
QCP	Quality Control Plan
WPS	Welding Procedure Specification
WPQS	Welding Procedure Qualification Specification

2.5 ROLES AND RESPONSIBILITIES

N/A 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

A weighted score-card approach is used to evaluate the technical compliance of tenders against the technical specification. Tenders need to have a minimum weighted score of 70% to technically qualify for further evaluation. The evaluation of the tender submission will be based on the tender's ability to meet the technical requirements.

Mandatory technical evaluation criteria (gatekeepers) are 'must meet' criteria. These criteria shall not be weighted or scored any points, but shall be assessed on a Yes/No basis as to whether the criteria are met. An assessment of 'No' against any criteria shall technically disqualify the tender and further evaluation against the qualitative criteria will therefore not be performed.

Qualitative technical evaluation criteria is a weighted evaluation used to identify the highest technically ranked tender after determining that all the mandatory evaluation criteria have been met. The qualitative evaluation criteria are weighted to reflect the relevant importance of each criterion. The minimum weighted final score (threshold) required for the tender to be consider from the technical perspective is 70%.

Table 1: Qualitative Evaluation Criteria Scoring Guideline

Score	Percent (%)	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.		

3.2 TET MEMBERS

Table 2: TET Members

TET number	TET Member Name	Designation
TET 1		Senior Mechanical Engineer, Peaking Turbine Engineering
TET 2		Mechanical Engineer, Peaking Turbine Engineering

3.3 MANADATORY TECHNICAL EVALUATION CRITERIA

Table 3: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria

3.3.1	Welding Quality Management System: ISO 3834-2 Certification
	The *Contractor* provides the following with regards to ISO 3834-2 certification:
	• A valid certificate.
	• Complete certificate comprising of all pages.
	• Product/Construction standards:
	  o Must include ASME VIII
	  o Must include at least one of the following: BS/PD 5500 or EN 13480 or EN 13445 or EN 12952
	  o Must include AWS D1.1
	• Welding Process(es) according to ISO 4063:
	  o Must include MMA (111)
	  o Must include TIG (141)
	  o Must include SAW (121)
	  o Must include at least one of the following: MIG (131) or MAG (135)
	• Parent Material Group(s) according to ISO/TR 15608:
	  o Must include Group 1
	  o Must include Group 8
		Refer to the Technical Specification Document 160A/40011-2.
		ISO 3834-2 certification due to expire within the next 6 months shall be supported by evidence of a renewal application.
		A labour broker shall not be used for this specialized welding service that is required. The *Contractor* must provide the technical services themselves.
			The *Contractor* must adhere to this mandatory criterion to prove that the *Employer's* quality requirements for fusion welding of metallic materials are being complied with and that the *Contractor* is committed to high-quality welding processes and competence.

3.3.2	Machining Capabilities and Quality Management System: Lathe Turning & ISO 9001	Refer to the Technical Specification Document 160A/40011-2.	The *Contractor*, or *Sub-Contractor*, must demonstrate a commitment to quality

	The *Contractor* provides the following: • A company profile and/or a signed letter on a company letterhead, clearly indicating that lathe turning is a core capability of the company. • Confirmation that the company has a lathe with at least a capacity of 650 mm swing and a bed length of 3.5 m • A valid ISO 9001 certificate	A potential *Sub-Contractor,* capable of the required service (thus no labour brokers), will be scored as per the evaluation criteria stipulated for the *Contractor.* ISO 9001 certification due to expire within the next 6 months shall be supported by evidence of a renewal application. The *Employer* reserves the right to visit the *Contractor*'s, or sun-*Contractor*'s, premises for evaluation purposes.	management, ensuring consistent and reliable services that meet the *Employer's* requirements.

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 4: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description	**Reference to Technical Specification / Tender Returnable**	**Criteria Weighting (%)**	**Criteria Sub Weighting**
3.4.1	**Proof of qualified WPS and WPQR** Parent Material Group (ISO 15608): Group 1 309L Butter Layer Group (ISO 15608): Group 8 316L Corrosion Protection Overlay (ISO 15608): Group 8 Total Weld Build-Up & Overlay: 4 mm The diameter of the bottom journal is 250 mm, the middle journal is 280 mm, and the top journal is 250 mm. Middle Bush Casing Diameter (Ø): 380 mm	Refer to the Technical Specification Document 160A/40011-2. WPS & WPQR to be authorised/signed off by IWE/IWT and AIA; All destructive and non-destructive test results as required by the welding code (BS EN 15614-1 or ASME IX or BS EN 15614-7 for overlays) must be submitted as proof of qualification. Scoring: **5/5 -** The *Contractor* provides a qualified WPS/WPQR for the required dimensional ranges and as per the welding process	**50%**	

		required by the Technical Specification Document 160A/40011-2 **4/5 -** The *Contractor* provides a qualified WPS/WPQR for the required dimensional ranges for an alternative welding process (GTAW, MMA, etc.) rather than the process required by the Technical Specification Document 160A/40011-2. **2/5 -** The *Contractor* provides a WPS/WPQR for a Corrosion Protection Overlay directly on to the parent material, without a 309L butter layer. **0/5 -** The *Contractor* provides no WPS/WPQR; or the provided WPS/WPQR is not authorised/signed by the IWE/IWT & AIA; Or the WPS/WPQR is not for the correct material group or dimensional ranges (except for the dimensional exceptions for scoring of 2/5 above). Or the WPQR is not complete with lacking destructive or non-destructive report.		
3.4.2	**Proof of Lathe Machining Services Capabilities** The *Contractor*, or *Sub-Contractor*, provides proof of the company's lathe machining capabilities, in the form of a list of previous similar services provided. The similar services provided should cover at least 80% of the specified dimensions (swing of 650 mm, distance between centres of 3.5 m of the components as per Sections 4.1 and 4.3 of the Technical Specification Document 160A/40011-2, with the acceptance criteria for eccentricity and	Refer to the Technical Specification Document 160A/40011-2. A potential sub-C*ontractor* will be scored as per the evaluation criteria stipulated for the *Contractor.* **Scoring:** **5/5 -** The *Contractor* submits a list of similar services provided which covers at least 80% inclusive of the specified dimensions of the components as per Sections 4.1 and 4.3 of	**30%**	

	diametrical tolerance of g6 or less and ovality and parallelism less than 50 µm. The final dimensions with the required tolerances to be clearly indicated.	the Technical Specification Document 160A/40011-2, with the acceptance criteria for ovality and parallelism. **4/5 -** The *Contractor* submits a list of similar services provided which covers between 60% and 80% inclusive of the specified dimensions of the components as per Sections 4.1 and 4.3 of the Technical Specification Document 160A/40011-2, with the acceptance criteria for eccentricity of 0.050 mm or less. **2/5 -** The *Contractor* submits a list of similar services provided which covers between 40% and 60% inclusive of the specified dimensions of the components as per Sections 4.1 and 4.3 of the Technical Specification Document 160A/40011-2, with the acceptance criteria for eccentricity of 0.050 mm or less. **0/5 –** Non-response; Or for dimension ranges provided are not within 40%; or the tolerance acceptance criteria are not 0.050mm or less.		
3.4.3	**Quality Control Plan**		**10%**	
3.4.3.1	**Welding quality control plan** The *Contractor* submits a detailed Quality Control Plan (QCP) for the Guide Vane Journal Refurbishment (Section 4.2 as per Document 160A/40011-2), as part of the tender returnable documents to the *Employer* for acceptance. The	Refer to the Technical Specification Document 160A/40011-2. A potential *Sub-Contractor* will be scored as per the evaluation criteria stipulated for the *Contractor.*		**50%**

	QCP must include the high-level scope of work as well as intervention points (including hold and witness points) indicating the quality control planned for this project. The *Employer* reserves the right to revise the QCP after purchase order placement.	**Scoring:** **5/5 -** The *Contractor* submits a detailed quality control plan (QCP) to the *Employer* for acceptance as part of the tender returnable documents. This QCP includes inspection, hold and witness points as listed in Document 160A/40011-2.		
3.4.3.2	**Machining Quality control plan** The *Contractor* submits a detailed Quality Control Plan (QCP) for the Guide Vane Journal (section 4.4 as per Document 160A/40011-2), as part of the tender returnable documents to the *Employer* for acceptance. The QCP must include the high-level scope of work as well as intervention points (including hold and witness points) indicating the quality control planned for this project. The *Employer* reserves the right to revise the QCP after purchase order placement.	**4/5 -** The *Contractor* submits a basic quality control plan (QCP) to the *Employer* for acceptance as part of the tender returnable documents. This QCP includes inspection, hold and witness points as listed in Document 160A/40011-2. **2/5 -** The *Contractor* submits a basic QCP without any hold, witness or inspection points as requested in Document 160A/40011-2. **0/5 -** Non-response.		**50%**
3.4.4	**Deviations.** The *Contractor* lists all their technical deviations from the Technical Specification document (160A/40011-2). If there are none, the *Contractor* must clearly indicate this in writing for the *Employer's* review, as a non-response will be evaluated as non-responsive (Score = 0).	Refer to the Technical Specification Document 160A/40011-2. **Scoring:** **5/5 -** The *Contractor* indicates that they have no technical deviations. **4/5 -** The *Contractor* lists their technical deviations, and the *Employer* assess and identify it to be non-core/non-critical items that will have minor impact on the *works*. **2/5 -** The *Contractor* lists their technical deviations, and the *Employer* assessed and	**10%**	

		identify it to be core/critical items that will have mild impact on the works. **0/5 -** Non-response from the *Contractor*; or the *Contractor* lists their technical deviations, and the *Employer* assessed and identify it to be core/critical items that will have a major impact on the *works*.		
Total			**100%**	**N/A**

3.5 TET MEMBER RESPONSIBILITIES

Table 5: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2
3.3.1	X	X
3.3.2	X	X
Qualitative Criteria Number	**TET 1**	**TET 2**
3.4.1	X	X
3.4.2	X	X
3.4.3	X	X
3.4.4	X	X

3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 6: Acceptable Technical Risks (Score 4/5)

Risk	Description
3.6.1.1	Apart from the acceptable technical risks stipulated as per the scoring, of 4/5, within the “Reference to Technical Specification / Tender Returnable” column for each of the criteria items, any new risks noticed during the evaluation process will be assessed by the Technical Evaluation Team whether the risks are acceptable or unacceptable.

Table 7: Unacceptable Technical Risks (Score 2/5 or lower)

Risk	Description
3.6.1.2	Apart from the unacceptable technical risks stipulated as per the scoring, of 2/5, within the “Reference to Technical Specification / Tender Returnable” column for each of the criteria items, any new risks noticed during the evaluation process will be assessed by the Technical Evaluation Team whether the risks are acceptable or unacceptable.

3.6.2 Exceptions / Conditions

Table 8: Acceptable Technical Exceptions / Conditions (Score 4/5 or higher)

Risk	Description
3.6.2.1	Apart from the acceptable technical exceptions stipulated as per the scoring, of 4/5, within the “Reference to Technical Specification / Tender Returnable” column for each of the criteria items, any new risks noticed during the evaluation process will be assessed by the Technical Evaluation Team whether the risks are acceptable or unacceptable.

Table 9: Unacceptable Technical Exceptions / Conditions (Score 2/5 or lower)

Risk	Description
3.6.2.2	Apart from the unacceptable technical exceptions stipulated as per the scoring, of 2/5, within the “Reference to Technical Specification / Tender Returnable” column for each of the criteria items, any new risks noticed during the evaluation process will be assessed by the Technical Evaluation Team whether the risks are acceptable or unacceptable.

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
	Engineer- Turbine Systems	
	Chief Engineer: Asset Management	B.E.Dumema

5. REVISIONS

Date	Rev.	Compiler	Remarks
April 2025	1	I.C. Meyer	New Document

6. DEVELOPMENT TEAM

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

7. ACKNOWLEDGEMENTS