

	Strategy	Engineering
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1. INTRODUCTION

The Drakensberg (DRP) Pumped Storage Scheme (PPS) turbine refurbishment outages necessitate welding and associated services, such as heat treatment and general machining, to support the refurbishment and maintenance of turbine components to ensure plant availability, reliability as well as production performance.

The Power Station consists of 4 units each with separate turbine plants. The turbine plant generally consists of a main shaft rotating by means of water flowing through a runner of the turbine, which turns the rotor of the generator and generate electricity to the national grid of South Africa. The flow rate of the water is controlled with guide vanes in conjunction with a governor system. The governor system consists of various components to allow the guide vane servomotors, operating ring and guide vanes to move.

Turbine refurbishment outages, for all PSS Power Stations, are currently on a 15 yearly routine, during which a limited opportunity is granted to inspect and maintain components that are typically non-accessible. All known, expected and un-expected findings in terms of defects, operating wear, damage and deterioration will be assessed and attended to accordingly.

There will be an open tender with the main objective of awarding the specified contract for welding and all associated services, such as general machining and heat treatment, to an experienced and technically competent service providing *Contractor*. The *Contractor* shall execute DRP turbine refurbishment outages for all 4 units, which are currently scheduled, and subject to possible date changes, for August 2025 (DRP unit 3), October 2025 (DRP unit 4), March 2027 (DRP unit 2) and April 2027 (DRP unit 1). This document lays out the strategy for performing the technical evaluation of the received tenders.

2. SUPPORTING CLAUSES

2.1 SCOPE

The *works* includes provision of manpower, consumables, material, tools, equipment, quality control and all associated services, such as welding, machining and heat treatment, by the *Contractor* during the planned turbine refurbishment outages. The *Contractor* performs the specified welding and machining according to the applicable codes, standards and *Employer's* requirements as per the Technical Specification document 31A/11111-P3-A.

The *works* shall be implemented by the *Contractor* at the *Employer's* site (Eskom Drakensberg Pumped Storage Scheme) as well as at the *Contractor's*, or sub-*Contractor's*, facilities as required.

This document covers the different aspects that will be evaluated and scored by the Technical Evaluation Team (TET) to identify an experienced and technically competent *Contractor*, and potential sub-*Contractors* for associated services. A potential sub-*Contractor* will be scored as per the evaluation criteria stipulated for the *Contractor*.

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 applies to the Drakensberg Pumped Storage Scheme Turbine System. The project applies to the Turbine Engineering Department, Drakensberg Mechanical Maintenance Department, Materials

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Management Department, Procurement Department, Outage Department and Drakensberg Pumped Storage Scheme.

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] Doc. No. 31A/11111-P3-A - Technical Specification – DRP – Welding and Machining
- [3] All drawings as referenced in Doc. No. 31A/11111-P3-A - Technical Specification – DRP – Welding and Machining

2.2.2 Informative

- [4] N/A

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
ASME	American Society of Mechanical Engineers
BS	British Standard
BPVC	Boiler and Pressure Vessel Code
Doc. No.	Document Number
EN	European Standard
DRP	Drakensberg
ISO	International Organisation for Standardisation
IWE	International Welding Engineer
IWT	International Welding Technologist
N/A	Not Applicable
PSS	Pumped Storage Scheme
PWHT	Post Weld Heat Treatment
PMI	Positive Material Identification
QCP	Quality Control Plan
QMS	Quality Management System
Rev.	Revision
TET	Technical Evaluation Team

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Abbreviation	Description
WT	Wall Thickness
WPS	Welding Procedure Specification
WPQR	Welding Procedure Qualification Record

2.5 ROLES AND RESPONSIBILITIES

Tender Technical Evaluation Team Members:

These members are responsible to study the Technical Specification, develop the Tender Technical Evaluation Strategy as well as to review and evaluate technical aspects of the tender documentation as per the Tender Technical Evaluation Strategy.

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

All referenced documents as per Section 2.2.

3. TENDER TECHNICAL EVALUATION 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 or not 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 considered from the technical perspective is 70%.

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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

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3.3 MANDATORY TECHNICAL EVALUATION CRITERIA ON TENDER CLOSING

Table 3 define all Mandatory Technical Evaluation Criteria to be submitted by the *Contractor* by the tender closing date. Should the *Contractor* fail to submit these criteria by the tender closing date, the *Contractor* will be disqualified.

Table 3: Mandatory Technical Evaluation Criteria on Tender Closing

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

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 4 define all Qualitative Technical Evaluation Criteria to be submitted by the *Contractor* by the tender closing date. Should the *Contractor* fail to submit these criteria by the tender closing date, the *Contractor* will score zero for each of the criterion stipulated in Table 4.

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		80%	
3.4.1.1.	Proof of qualified WPS & WPQR for Turbine Runner Material Group (ISO 15608): 7 Minimum Build-Up Thickness: From 3 mm	Refer to the Technical Specification Document 31A/11111-P3-A. 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 <i>Contractor</i> provides a qualified WPS/WPQR for the required dimensional ranges and as per the welding process required by the Technical Specification Document 31A/11111-P3-A. 4/5 - The <i>Contractor</i> 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 31A/11111-P3-A. scoring continues on the next page		15%
3.4.1.2.	Proof of qualified WPS & WPQR for Liners Material Group (ISO 15608): 1 Minimum Build-Up Thickness: From 3 mm			15%
3.4.1.3.	Proof of qualified WPS & WPQR for Guide Vanes Material Group (ISO 15608): 7 Minimum Build-Up Thickness: From 3 mm			15%
3.4.1.4.	Proof of qualified WPS & WPQR for Shaft Seal Upper, Middle and Bottom Case Housing Material Group (ISO 15608): 7 Minimum Build-Up Thickness: From 4 mm			15%

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
3.4.1.5.	Proof of qualified WPS & WPQR for Shaft Seal Sleeve Material Group (ISO 15608): 7 Thickness: 15 mm / Diameter: 1100 mm	2/5 - For Weld Build-Ups including 3.4.1.1 to 3.4.1.3: The <i>Contractor</i> provides a qualified WPS/WPQR for any welding process and the minimum Build-Up thickness covered by the provided WPS/WPQR deviates by no more than 2 mm (thus starting from either 4 mm or 5 mm). - For 3.4.1.4, 3.4.1.5 & 3.4.1.6 there is no scoring of 2/5. - For 3.4.1.7: The <i>Contractor</i> provides a WPS/WPQR for a Corrosion Protection Overlay directly on to the parent material, without a 309L-butter layer. 0/5 o The <i>Contractor</i> 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.		15%
3.4.1.6.	Proof of qualified WPS & WPQR for the Embedded Pipework Blanks and Bottom Facing Plate Blanks Embedded Pipework Material Group (ISO 15608): 1 Embedded Pipework Thickness: SCH 80 Embedded Pipework Diameter (NB): 100 mm Bottom Facing Plate Material Group (ISO 15608): 7 Facing Plate Thickness: 25 mm			15%
3.4.1.7.	Proof of qualified WPS & WPQR for Bush Casing Repairs Parent Material Group (ISO 15608): Group 1 309L Butter Layer Group (ISO 15608): Group 8 316L Corrosion Protection Overlay: Group 8 Total Weld Build-Up & Overlay: 5 – 7 mm Middle Bush Casing Diameter (Ø): 380 mm Bottom Bush Casing Diameter (Ø): 370 mm			10%
3.4.2.	Quality control plan. The <i>Contractor</i> submits a detailed Quality Control Plan (QCP) for the Turbine Runner Blade Repairs (Item 3.2.1.10 as per Document 31A/11111-P3-A), as part of the tender returnable documents to the <i>Employer</i> 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 <i>Employer</i> reserves the right to revise the QCP after purchase order placement.	Refer to the Technical Specification Document 31A/11111-P3-A. A potential sub- <i>Contractor</i> will be scored as per the evaluation criteria stipulated for the <i>Contractor</i> . Scoring: 5/5 - The <i>Contractor</i> submits a detailed quality control plan (QCP) to the <i>Employer</i> for acceptance as part of the tender returnable documents. This QCP includes inspection, hold and witness points as listed in Document 31A/11111-P3-A. <p style="text-align: right;">.....scoring continues on the next page</p>	15%	

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
		<p>4/5 - The <i>Contractor</i> submits a basic quality control plan (QCP) to the <i>Employer</i> for acceptance as part of the tender returnable documents. This QCP includes inspection, hold and witness points as listed in Document 31A/11111-P3-A.</p> <p>2/5 - The <i>Contractor</i> submits a basic QCP without any hold, witness or inspection points as requested in Document 31A/11111-P3-A.</p> <p>0/5 - Non-response.</p>		
3.4.3.	<p>Deviations.</p> <p>The <i>Contractor</i> lists all their technical deviations from the Technical Specification document (31A/11111-P3-A). If there are none, the <i>Contractor</i> must clearly indicate this in writing for the <i>Employer's</i> review, as a non-response will be evaluated as non-responsive (Score = 0).</p> <p>Should the <i>Employer</i> identify any deviations during the tender technical evaluation, which the <i>Contractor</i> did not identify, the <i>Contractor</i> will be score as deficient (Score = 0).</p>	<p>Refer to the Technical Specification Document 31A/11111-P3-A.</p> <p>Scoring:</p> <p>5/5 The <i>Contractor</i> indicates that they have no technical deviations.</p> <p>4/5 The <i>Contractor</i> lists their technical deviations, and the <i>Employer</i> assesses and identifies them to be non-core/non-critical items that will have minor impacts on the <i>Works</i>.</p> <p>2/5 The <i>Contractor</i> lists their technical deviations, and the <i>Employer</i> assesses and identifies them to be core/critical items that will have mild impacts on the <i>Works</i>.</p> <p>0/5 Non-response from the <i>Contractor</i>; Or the <i>Contractor</i> lists their technical deviations, and the <i>Employer</i> assesses and identifies them to be core/critical items that will have a major impact on the <i>Works</i>.</p>	5%	
TOTAL			100%	N/A

3.5 MANDATORY TECHNICAL EVALUATION CRITERIA ON CONTRACT AWARD

Table 5 define all Mandatory Technical Evaluation Criteria to be submitted by the *Contractor* before the contract award date. Any outstanding or unclear information, related to the mandatory technical evaluation criteria, identified by the *Employer* during the technical evaluation, shall be requested from the *Contractor* by the *Employer* (in writing) and must be submitted by the *Contractor* within 5 calendar days from the request to the *Employer* for acceptance. If the *Contractor* doesn't provide the requested information within the 5 days to the *Employer*, the *Contractor* will be disqualified.

Table 5: Mandatory Technical Evaluation Criteria on Contract Award

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
3.5.1	<p>Welding Quality Management System: ISO 3834-2 Certification</p> <p>The <i>Contractor</i> provides the following with regards to ISO 3834-2 certification:</p> <ul style="list-style-type: none"> • A valid certificate. • Complete certificate comprising of all pages. • Product/Construction standards: <ul style="list-style-type: none"> ○ Must include ASME VIII ○ Must include <u>at least one</u> of the following: BS/PD 5500 or EN 13480 or EN 13445 or EN 12952 ○ Must include AWS D1.1 • Welding Process(es) according to ISO 4063: <ul style="list-style-type: none"> ○ Must include MMA (111) ○ Must include TIG (141) ○ Must include <u>at least one</u> of the following: MIG (131) or MAG (135) • Parent Material Group(s) according to ISO/TR 15608: <ul style="list-style-type: none"> ○ Must include Group 1 ○ Must include Group 7 ○ Must include Group 8 	<p>Refer to the Technical Specification Document 31A/11111-P3-A.</p> <p>ISO 3834-2 certification due to expire within the next 6 months shall be supported by evidence of a renewal application.</p> <p>A labour broker shall not be used for this specialized welding service that is required. The <i>Contractor</i> must provide the technical services themselves.</p>	<p>The <i>Contractor</i> must adhere to this mandatory criterion to prove that the <i>Employer's</i> quality requirements for fusion welding of metallic materials are being complied with and that the <i>Contractor</i> is committed to high-quality welding processes and competence.</p>
3.5.2	<p>Machining Capabilities</p> <p>The <i>Contractor</i> provides a company profile and/or a signed letter on a company letterhead, clearly indicating that on-site machining as per the Technical Specification (Document 31A/11111-P3-A) is a capability of the company.</p>	<p>Refer to the Technical Specification Doc. 31A/11111-P3-A.</p> <p>A potential sub-<i>Contractor</i>, capable of the required service (thus no labour brokers), will be scored as per the evaluation criteria stipulated for the <i>Contractor</i>.</p> <p>The <i>Employer</i> reserves the right to visit the <i>Contractor's</i>, or sub-<i>Contractor's</i>, premises for evaluation purposes.</p>	<p>The <i>Contractor</i>, or sub-<i>Contractor</i>, must demonstrate their capability of performing the machining requirements as per the Technical Specification (Document 31A/11111-P3-A).</p>

3.6 TET MEMBER RESPONSIBILITIES

Table 6: TET Member Responsibilities

Qualitative Criteria Number	TET 1	TET 2	TET 3
3.4.1	X	X	X
3.4.2	X	X	X
3.4.3	X	X	X
Mandatory Criteria Number on Contract Award	TET 1	TET 2	TET 3
3.5.1	X	X	X
3.5.2	X	X	X

3.7 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.7.1 Risks

Table 7: Acceptable Technical Risks (Scoring 4 out of 5)

Risk	Description
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 8: Unacceptable Technical Risks (Scoring 2 out of 5)

Risk	Description
1.	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.

3.7.2 Exceptions / Conditions

Table 9: Acceptable Technical Exceptions / Conditions (Scoring 4 out of 5)

Risk	Description
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 10: Unacceptable Technical Exceptions / Conditions (Scoring 2 out of 5)

Risk	Description
1.	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.

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