

Title: Tender Technical Evaluation
Strategy for

Gariep Hydroelectric Power
Station

Welding and Machining

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1. INTRODUCTION

The Gariep (GRP) Hydroelectric Power Station turbine plants necessitate specialised welding and associated services during the Mini Overhaul (MO) outages to support the refurbishment and maintenance of turbine components to ensure plant availability, reliability as well as production performance.

The Power Station consists of four units each with separate vertical shaft turbine plants capable of generating 90 MW individually, operating at 136.4 rpm with a maximum net head of 62.5m. 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.

Turbine mini overhaul (MO) outages, for Gariep Hydroelectric Power Station, are currently on a 6 yearly routine, during which a limited opportunity is granted to inspect and maintain components. There will be an open tender with the main objective of awarding the specified contract for welding and all associated services to an experienced and technically competent service providing *Contractor*. The *Contractor* shall execute the required welding repairs during the GRP MO outages for all units, which are currently scheduled, and subject to possible date and duration changes, for March 2027 (GRP Unit 2), April 2027 (GRP Unit 3), June 2027 (GRP Unit 4) and July 2028 (GRP U1). The MO outages are currently limited to 25 days for GRP U2 and GRP U1, while GRP U3 and GRP U4 are currently scheduled for 31 days.

This document lays out the strategy for performing the technical evaluation of the received tenders.

2. SUPPORTING CLAUSES

2.1 SCOPE

The *works* include provision of manpower, consumables, tools, equipment, quality control and associated services, such as welding, general associated machining and heat treatment, by the *Contractor* during the planned MO outages, to perform the specified welding according to the applicable codes, standards and *Employer's* requirements as per the Technical Specification document 151A/3037.

The *works* shall be implemented by the *Contractor* at the *Employer's* site (Eskom Gariep Hydroelectric Power Station) as well as at the *Contractor's*, or sub-*Contractor's*, facilities, only if 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 Gariep Hydroelectric Power Station turbine system. The project applies to the Turbine Engineering department, Gariep Mechanical Maintenance department, Materials Management department, Procurement department and Outage department.

2.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

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2.2.1 Normative

- [1] Doc. No. 151A/3037: Technical Specification – GRP – 6Y MO - Welding and Machining
- [2] All drawings as referenced in Doc. No. 151A/3037: Technical Specification – GRP – 6Y MO - Welding and Machining

2.2.2 Informative

- [3] 240-48929482: Tender Technical Evaluation Procedure

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
GRP	Gariep
ISO	International Organisation for Standardisation
IWE	International Welding Engineer
IWT	International Welding Technologist
N/A	Not Applicable
PMI	Positive Material Identification
PSS	Pumped Storage Scheme
PWHT	Post Weld Heat Treatment
QCP	Quality Control Plan
QMS	Quality Management System
Rev.	Revision
TET	Technical Evaluation Team
WT	Wall Thickness
WPS	Welding Procedure Specification
WPQR	Welding Procedure Qualification Record

2.5 ROLES AND RESPONSIBILITIES

Tender Technical Evaluation Team Members:

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These members are responsible to study the Technical Specification, develop the Engineering Tender Technical Evaluation Strategy as well as to review and evaluate technical aspects of the tender documentation as per the Engineering 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 defines 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 defines 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 the criterion not provided.

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 as per the following:	<u>Relevant to sections 3.4.1.1 and 3.4.1.2:</u> Refer to Technical Specification Document 151A/3037. 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) must be submitted as proof of qualification. Multiple WPS's and WPQR's can be submitted, if necessary, by the <i>Contractor</i> to ensure the required dimensional range is covered.	85%	

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
3.4.1.1.	Proof of qualified WPS & WPQR for Turbine Runner - Runner Material: JIS G5121 SCS1 (Martensitic Stainless-Steel Casting) - Parent Material Group (ISO 15608): 7 - Minimum Build-Up Thickness: From 3 mm - Maximum Build-Up Thickness: 10 mm	<u>Scoring for group 7 material weld repairs for section 3.4.1.1:</u> Refer to Technical Specification Document 151A/3037. 5/5 - The <i>Contractor</i> provides a qualified WPS and WPQR, including the hardness test, destructive and non-destructive testing results and reports, for the required dimensional ranges, material group and welding process as required per the Technical Specification Document 151A/3037, qualified according to BS EN 15614-1. 4/5 - The <i>Contractor</i> provides a qualified WPS and WPQR, including the hardness testing, destructive and non-destructive testing results and reports, for the required dimensional ranges, material group and welding process as required per the Technical Specification Document 151A/3037 qualified according to ASME. Additionally, any acceptable technical risks or technical exceptions noted by the TET members will result in a 4/5. 2/5 - The <i>Contractor</i> provides a qualified WPS and WPQR, including destructive and non-destructive testing results but lacking hardness testing results, for the required dimensional ranges, material group and welding process as required per the Technical Specification Document 151A/3037. Additionally, any unacceptable technical risks or technical exceptions noted by the TET members will result in a 2/5. 0/5 - The <i>Contractor</i> fails to provide a relevant WPS and/or WPQR; Or the provided WPS and/or WPQR is not authorised and signed by the IWE/IWT and AIA; Or the WPQR does not include any testing results.		50%

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
3.4.1.2.	Proof of qualified WPS & WPQR for Spiral Casing Liner, Stay Vanes, Draft Tube Liner and their respective Mandoors - Spiral Casing Liner and Mandoor Material: JIS G3106 SM50B (modified) - Stay Vanes Material: BS 968 (High Tensile Structural Steel for General Building Construction) - Draft Tube Liner and Mandoor Material: BS 15 (Mild Steel Plate for Structural Purposes) - Parent Material Group (ISO 15608): 1 - Diameters (Ø): >500 mm - Minimum Build-Up/Butt-Weld Thickness: From 3 mm - Maximum Build-Up/Butt-Weld Thickness: 13 mm	<u>Scoring for group 1 material weld repairs for section 3.4.1.2:</u> Refer to Technical Specification Document 151A/3037. 5/5 - The <i>Contractor</i> provides a qualified WPS and WPQR, including the destructive, non-destructive and laboratory testing results and reports, for the required dimensional ranges, material group and welding process as required per the Technical Specification Document 151A/3037, qualified according to BS EN 15614. 4/5 - The <i>Contractor</i> provides a qualified WPS and WPQR, including the destructive, non-destructive and laboratory testing results and reports, for the required dimensional ranges, material group and welding process as required per the Technical Specification Document 151A/3037, qualified according to ASME. Additionally, any acceptable technical risks or technical exceptions noted by the TET members will result in a 4/5. 2/5 - Any unacceptable technical risks or technical exceptions noted by the TET members will result in a 2/5. 0/5 - The <i>Contractor</i> fails to provide a relevant WPS and/or WPQR; Or the provided WPS and/or WPQR is not authorised and signed by the IWE/IWT and AIA; Or the WPQR does not include the required testing results; Or the WPS & WPQR is not according to the required welding processes.		50%

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
3.4.2.	Capabilities - Experience and Quality Control.		13%	
3.4.2.1.	Previous Projects/Experience. The <i>Contractor</i> submits any valid proof of at least one previous project whereby the <i>Contractor</i> performed welding on a pressure containing pipe or vessel (can be any Hazard Category per SANS 347) or turbine runner. The welding performed can be on any material group, any dimensional range and with PWHT.	<u>Scoring for section 3.4.2.1:</u> 5/5 - The <i>Contractor</i> submits valid proof of previous welding done at a PSS or Hydro Electric Power Station (any PSS or Hydro Electric plant worldwide, including Eskom plants) with PWHT on a vessel, pipe or turbine runner. 4/5 - The <i>Contractor</i> submits valid proof of previous welding done at a PSS or Hydro Electric Power Station (any PSS or Hydro Electric plant worldwide, including Eskom plants), but without PWHT on a vessel, pipe or turbine runner. Additionally, any acceptable technical risks or technical exceptions noted by the TET members will result in a 4/5. 2/5 - The <i>Contractor</i> submits valid proof of welding performed that was not at a PSS or Hydro Electrical Power Station, on a vessel, pipe or turbine runner with or without PWHT. Any unacceptable technical risks or technical exceptions noted by the TET members will result in a 2/5. 0/5 – Non-response. Or the welding performed was not on a pressure containing pipe or vessel or on a turbine runner.		80%
3.4.2.2.	Previous Profiling Experience The <i>Contractor</i> submits any valid proof of at least one previous project whereby the <i>Contractor</i> performed profiling of a runner, rotor, shaft of similar component.	<u>Scoring for section 3.4.2.2:</u> 5/5 - The <i>Contractor</i> submits valid proof of previous profiling done on a PSS or Hydro Electric Power Station's (any PSS or Hydro Electric plant worldwide, including Eskom plants) runner. 4/5 - The <i>Contractor</i> submits valid proof of previous profiling done on a PSS or Hydro Electric Power Station's (any PSS or Hydro Electric plant worldwide, including Eskom plants) turbine rotor or similar component. Additionally, any acceptable technical risks or technical exceptions noted by the TET members will result in a 4/5. 2/5 - The <i>Contractor</i> submits valid proof of previous profiling done on a PSS or Hydro Electric Power Station's (any PSS or		5%

		Hydro Electric plant worldwide, including Eskom plants) vessel or pipe where welding was performed. Any unacceptable technical risks or technical exceptions noted by the TET members will result in a 2/5. 0/5 – Non-response. Or the profiling performed was not on a pressure containing pipe, vessel or on a turbine runner or rotor.		
3.4.2.3.	Quality Control Plan. The <i>Contractor</i> submits a detailed Quality Control Plan (QCP) for the Turbine Runner Blade Repairs (Item 3.2.1.3 as per Document 151A/3037), 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.	<u>Scoring for section 3.4.2.3:</u> 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 151A/3037. 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 151A/3037. Additionally, any acceptable technical risks or exceptions will result in a 4/5. 2/5 - The <i>Contractor</i> submits a basic QCP without any hold, witness or inspection points as requested in Document 151A/3037. Additionally, any unacceptable technical risks or exceptions will result in a 2/5. 0/5 - Non-response.		15%
3.4.3.	Deviations. The <i>Contractor</i> lists all their technical deviations from the Technical Specification document (151A/3037). 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). 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).	<u>Scoring for section 3.4.3:</u> Refer to Technical Specification Document 151A/3037. 5/5 - The <i>Contractor</i> indicates that they have no technical deviations. 4/5 - The <i>Contractor</i> lists their technical deviations, and the <i>Employer</i> identifies them to have minor impacts on the <i>Works</i>. 2/5 - The <i>Contractor</i> lists their technical deviations, and the <i>Employer</i> identifies them to have mild impacts on the <i>Works</i>. 0/5 - Non-response from the <i>Contractor</i>; Or the <i>Contractor</i> lists their technical deviations, and the <i>Employer</i> identifies them to have a major impact on the <i>Works</i>.	2%	

	TOTAL	100%	N/A
<i>Tenderers, please take note: Please be so kind to name the technical submitted documents according to the correlating numbering system for each of the criteria above. This is to ensure ease of evaluation and reduce the risk of missing key information during the evaluation process due to incorrect submission. There will be no positive or negative scoring associated with this friendly request.</i>			

3.5 MANDATORY TECHNICAL EVALUATION CRITERIA BEFORE CONTRACT AWARD

Table 5 defines 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 criteria specifically, 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 working 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	Welding Quality Management System: ISO 3834-2 Certification The <i>Contractor</i> provides the following with regards to ISO 3834-2 certification: • A valid certificate. • Complete certificate comprising of all pages. • Product/Construction standards: ○ 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: ○ Must include MMA (111) ○ Must include TIG (141) • Parent Material Group(s) according to ISO/TR 15608: ○ Must include Group 1 ○ Must include Group 7	Refer to the Technical Specification Document 151A/3037. ISO 3834-2 certification that is due to expire within the next 6 months shall be supported by written confirmation from the <i>Contractor</i> that it will be renewed and remain valid for the full duration of the <i>works</i>. A labour broker shall not be used for this specialised welding services required. The <i>Contractor</i> must provide these technical services themselves.	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.

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 before Contract Award	TET 1	TET 2	TET 3
3.5.1	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
3.7.1.1	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 items, any new risks noticed during the evaluation will be assessed by the TET whether the risks are acceptable or unacceptable.

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

Risk	Description
3.7.1.2	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 items, any new risks noticed during the evaluation will be assessed by the TET 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
3.7.2.1	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 items, any new risks noticed during the evaluation will be assessed by the TET whether the risks are acceptable or unacceptable.

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

Risk	Description
3.7.7.2	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 items, any new risks noticed during the evaluation will be assessed by the TET whether the risks are acceptable or unacceptable.

4. AUTHORISATION

In addition to the signatories on the title page, this document has been seen and accepted by:

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5. REVISIONS

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6. DEVELOPMENT TEAM

7. ACKNOWLEDGEMENTS

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