

Title: **Tender Technical Evaluation  
Strategy for Supply & Delivery of  
Boiler Tubes.**

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## **1. INTRODUCTION**

The Tender Technical Evaluation strategy defines the mandatory and qualitative evaluation criteria that serve as a basis for the tender evaluation process. Various tender returnable will be evaluated based on the qualitative criteria specified in this document, and the tenderers meeting the minimum threshold will be considered further.

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

This document covers the various technical aspects to be evaluated by the Tender Evaluation Team (TET) for the supply and delivery of Boiler Tubes and shields at Hendrina Power Station. The scope includes the following:

- Supply procured boiler tubes as requested by the *Employer*.
- Confirm correctness of the supplied boiler tubes information prior to delivery to *Employer's* premises.
- Provide boiler tubes technical information in accordance with the scope of work.
- Timeously inform the *Employer* of any delays or when outstanding or additional information from the *Employer* is required.
- Ensure that only high-quality products are delivered.
- Ensure that every effort is made to keep to the agreed program and plan.
- Provide all required technical datasheets and/or product brochures.
- Conform to all the other requirements stipulated in this document.
- Supply all the necessary test sheets/results, where applicable.

#### **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 is applicable to Hendrina 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] 240-168966153 Generation Tender Technical Evaluation Procedure
- [2] 474-10206 - Strategic Boiler Tubes Order Specification
- [3] QM-58 Supplier Contract Quality Requirements Specifications
- [4] 240-123801640 Standard for Low Pressure Pipelines as per scope
- [5] 240-105691858 Materials Management Safe Work Procedures Transportation Requirements for Material Handling

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### **2.2.2 Informative**

[6] ISO 9001 Quality Management Systems

[7] 32-1-34 Eskom Procurement Policy

### **2.3 DEFINITIONS**

<b>Term</b>	<b>Definition</b>
Employer	The organization (Eskom) to which the supplier will be contracted for this tender and contracts that may result therefrom
Employer's Premises	Hendrina Power Station
Industrial Storage Facility	Physical space suitable for the storage of the items specified in the scope of work
Tubing	Metal tubes located inside of boilers that heat water to <i>produce steam</i> .
Shields	Component that is used to protect the heating surface of the boiler tubes, reduce wear, and increase the heating surface of the pipes.
Returnable	Document submitted by tenderer for evaluation in support of tender bid
Spares	Parts that can be used for replacement

#### **2.3.1 Classification**

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

### **2.4 ABBREVIATIONS**

<b>Abbreviation</b>	<b>Description</b>
ISO	International Organisation of Standardisation
NEC	New Engineering Contract
OEM	Original Equipment Manufacturer
QCP/QIP	Quality Control Plan / Quality Inspection Plan
PS	Power Station
SABS	South African Bureau of Standards
SOW	Scope of Work
TET	Technical Evaluation Team

### **2.5 ROLES AND RESPONSIBILITIES**

As per 240-168966153: Generation Tender Technical Evaluation Procedure for Generation

### **2.6 PROCESS FOR MONITORING**

N/A

### **2.7 RELATED/SUPPORTING DOCUMENTS**

474-10206 - Strategic Boiler Tubes Order Specification

### 3. TENDER TECHNICAL EVALUATION STRATEGY

#### 3.1 TECHNICAL EVALUATION THRESHOLD

The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 70%.

Table 1: Qualitative Evaluation Criteria Scoring Table

Score	(%)	Definition
5	100	<b>COMPLIANT</b> <ul style="list-style-type: none"><li>• Meet technical requirement(s) AND.</li><li>• No foreseen technical risk(s) in meeting technical requirements.</li></ul>
4	80	<b>COMPLIANT WITH ASSOCIATED QUALIFICATIONS</b> Meet technical requirement(s) with. <ul style="list-style-type: none"><li>• Acceptable technical risk(s) AND/OR.</li><li>• Acceptable exceptions AND/OR.</li><li>• Acceptable conditions.</li></ul>
2	40	<b>NON-COMPLIANT</b> <ul style="list-style-type: none"><li>• Does not meet technical requirement(s) AND/OR.</li><li>• Unacceptable technical risk(s) AND/OR.</li><li>• Unacceptable exceptions AND/OR.</li><li>• Unacceptable conditions.</li></ul>
0	0	<b>TOTALLY DEFICIENT OR NON-RESPONSIVE</b>

**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.

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### **3.2 MANDATORY TECHNICAL EVALUATION CRITERIA**

**Table 3: Mandatory Technical Evaluation Criteria**

	<b>Mandatory Technical Criteria Description</b>	<b>Reference to Technical Specification / Tender Returnable</b>	<b>Motivation for use of Criteria</b>
1.	<ul style="list-style-type: none"><li>EN Materials: A valid (and current) certificate of conformity by a Third Party/Notified Body (in accordance with EN 764-5 (Clause 4) or AD 2000-Merkblatt W 0), to demonstrate that the material manufacturing plant has been audited and authorised as having a quality assurance system for material manufacture in accordance with PED 97/23/EC or 2014/68/EU (Pressure Equipment Directive), to produce the material grades and dimension ranges tendered for. This certificate should be accompanied by the Appendices containing all material, size ranges and harmonised standards approved. Where CE marking is available, the EU declaration of conformity for each product type (material grades and dimensions) tendered for must be included. It will be mandatory to provide the name, address and contact number of the Third Party/Notified Body that carried out the conformity assessment upon contract award.</li></ul>	Signed, A valid (and current) certificate of conformity by a Third Party/Notified Body (in accordance with EN 764-5 (Clause 4) or AD 2000-Merkblatt W 0)	

### 3.3 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 4: Qualitative Technical Evaluation Criteria

Technical Evaluation for Boiler Tubes					Date:	
						Totals:
Company:						
Mandated Requirements (Either 1a or 1b is applicable)			Scoring		Weight	
1a		<p><u>EN Materials:</u> A valid (and current) certificate of conformity by a Third Party/Notified Body (in accordance with EN 764-5 (Clause 4) or AD 2000-Merkblatt W 0), to demonstrate that the <b>material manufacturing plant</b> has been audited and authorised as having a quality assurance system for material manufacture in accordance with PED 97/23/EC or 2014/68/EU (Pressure Equipment Directive), to produce the material grades and dimension ranges tendered for. This certificate should be accompanied by the Appendices containing all material, size ranges and harmonised standards approved. Where CE marking is available, the EU declaration of conformity for each product type (material grades and dimensions) tendered for must be included. It will be mandatory to provide the name, address and contact number of the Third Party/Notified Body that carried out the conformity assessment upon contract award.</p>	Yes/No			
Qualitative Requirements				L2	L1	
		<p><b>Qualitative Technical Criteria Description</b>  <b>Reference to Technical Specification / Tender</b>  <b>Returnable Criteria Sub Weighting (%) Criteria Sub Weighting (%)</b></p>	Reference to Technical Specification / Tender Returnable	Criteria Sub Weighting (%)	Criteria Sub Weighting (%)	

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1	Details of manufacturing plant / previous history of supply:			20		
	1.1	<b>Details of Manufacturing Plant:</b> Formal business name of the manufacturing plant, street and postal address, contact names and telephone numbers of senior plant managers, along with their organisational roles. The manufacturing plant is the <i>site of manufacturing, inspection, testing, and release. If any activity is carried out at a different location or facility other than the main manufacturing plant, this shall be duly disclosed in the tender submission (showing clearly the scope/activities that will be done at a different plant location) and the same information shall be provided for the plant/site where other activities will be performed.</i>	100% = 5 80% = 4 40% = 2 Non responsive = 0		70	
	1.2	<b>Previous History of Supply:</b> A list of material manufactured at the plant, with particular regard to the materials required as part of the tender, shall be supplied. This should include a reference list with contact details of the end users, dates of delivery, material grade, dimensions, harmonised standards applied and tonnage.	100% = 5 80% = 4 40% = 2 Non responsive = 0		30	
2	Steel-making process			20		
	2.1	The foundries (if different from the material manufacturing plant) that will be used to supply cast billets for the manufacture of HP pipework and boiler tubing shall be listed in the tender returnable documents.	100% = 5 80% = 4 40% = 2 Non responsive = 0		20	
	2.2	The manufacturer shall provide Eskom (also in tender returnables) with a short technical description of its process to ensure the production of “clean” steel within the limits of this Standard. Raw material and scrap control by foundries must demonstrate low contamination levels with trace impurities and dangerous (i.e. poisonous and radioactive) elements. Only fully killed steels will be acceptable.	100% = 5 80% = 4 40% = 2 Non responsive = 0		40	
	2.3	Manufacturers shall also provide details of raw material suppliers along with relevant certification of the suppliers’ quality management system/process, such as a valid or current ISO9001 certificate or comprehensive quality manuals (where an ISO certificate is not available). This information shall be provided with the tender submission	100% = 5 80% = 4 40% = 2 Non responsive = 0		40	



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3	Heat Treatment			20		
	3.1	A valid or current calibration certificate(s) for the facilities used for the heat treatment shall be provided with the tender submission. The actual current calibration certificate for the Eskom order shall be furnished in the data books	100% = 5 80% = 4 40% = 2 Non responsive = 0		40	
	3.2	Loading of piping and tubing in the furnace shall be carried out to avoid non-uniform heating and cooling which could result in non-uniform material properties. A furnace packing plan and short description of heat treatment measures that are or will be in place in order to achieve this shall be included with the tender submission. Detailed procedures must be available for review during site audits by Eskom	100% = 5 80% = 4 40% = 2 Non responsive = 0		10	
	3.3	Suppliers must provide a short description of the heat treatment facilities and procedures to demonstrate how heat treatment will be controlled within parameters/requirements as evidence in the form of the latest heat treatment survey of the facilities.	100% = 5 80% = 4 40% = 2 Non responsive = 0		10	
	3.4	The fully annotated heat treatment schedule for each material tendered for shall be supplied with the tender documents. The heat treatment schedule shall as a minimum contain methods of heating and cooling, heating and cooling rates, holding temperature ranges and holding times. These heat treatment schedule may be provided in the form of a schematic heat treatment dummy chart	100% = 5 80% = 4 40% = 2 Non responsive = 0		40	
4	Chemical composition			15		
	4.1	Declaration of compliance with chemical composition as per 240-87733094	Declaration submitted = 5 Non responsive = 0		60	
	4.2	Declaration of compliance with the adherence to the control of delta ferrite and the formulas governing it as per 240-87733094	Declaration submitted = 5 Non responsive = 0		40	
5	Creep Data			15		

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	5.1	<p>In line with the provisions of Appendix B of EN 12952-2, the material manufacturer shall furnish to Eskom verification of the creep test results for materials intended for operation in the creep range (<math>\geq 450^{\circ}\text{C}</math>). This requirement includes materials covered by EN specifications. The creep tests results shall be based on tests conducted by the material manufacturer from heats of a given material produced from its own plant and procedures. The creep tests results shall be based on actual data for each material grade tendered for or quoted in <b>tender returnable documents</b>. The minimum test duration for the actual creep test shall be 40 000 hrs.</p> <p>The material manufacturer shall provide this data with the tender submission or provide a written declaration that the data exists and will be made available to Eskom personnel during a factory or site assessment or at any stage (when arrangements are made and communicated) prior to contract award.</p>	<p>Creep data/ Declaration submitted = 5 Non-responsive = 0</p>		100	
6	Certification			10		
	6.1	Declaration for compliance to Certification as per 240-87733094	<p>Declaration submitted = 5 Non-responsive = 0</p>		100	

### **3.4 TET MEMBER RESPONSIBILITIES**

**Table 5: TET Member Responsibilities**

<b>Mandatory Criteria Number</b>	<b>TET 1</b>	<b>TET 2</b>	<b>TET 3</b>	<b>TET 4</b>
1	X	X	X	X
<b>Qualitative Criteria Number</b>	<b>TET 1</b>	<b>TET 2</b>	<b>TET 3</b>	<b>TET 4</b>
1.1	X	X	X	X
1.2	X	X	X	X
1.3	X	X	X	X
1.4	X	X	X	X
2.1	X	X	X	X

### **3.5 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS**

#### **3.5.1 Risks**

**Table 6: Acceptable Technical Risks**

<b>Risk</b>	<b>Description</b>
1.	Company/individual experience with slight deviation from scope of work

**Table 7: Unacceptable Technical Risks**

<b>Risk</b>	<b>Description</b>
1.	No information on adherence to Eskom Standards provided.

#### **3.5.2 Exceptions / Conditions**

**Table 8: Acceptable Technical Exceptions / Conditions**

<b>Risk</b>	<b>Description</b>
1.	Qualification of QC is in another field of engineering besides Mechanical Engineering

**Table 9: Unacceptable Technical Exceptions / Conditions**

<b>Risk</b>	<b>Description</b>
1.	QC does not have experience in engineering

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