

 Eskom	Strategy	Majuba Power Station
---	----------	----------------------

Title: **Supply, Repair and Replacement of Boiler Refractory During Outages for Five-Year Period – Technical Evaluation Strategy** Document Identifier: **ENG/GEN/REP/70**

Alternative Reference N/A
Number:

Area of Applicability: **Boiler Engineering**

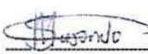
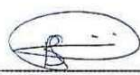
Functional Area: **Engineering**

Revision: **1**

Total Pages: **14**

Next Review Date: **June 2029**

Disclosure Classification: **Controlled Disclosure**

Compiled by	Supported by	Supported by	Functional Responsibility	Authorized by
				
T.S. Maluleke	S. Masondo	B.S. Dlamini	L.T.J. Madonsela	J. Swanepoel
Boiler Pressure Parts System Engineer	Senior Boiler Engineer	Senior Boiler Engineer	Boiler Engineering Manager	Group Engineering Manager
Date: 2024-07-12	Date: 2024-07-12	Date: 18/07/2024	Date: 19/07/2024	Date: 2024/07/19

Content

	Page
1. Introduction.....	3
2. Supporting Clauses	3
2.1 Scope.....	3
2.1.1 Purpose.....	3
2.1.2 Applicability	3
2.1.3 Effective date.....	3
2.2 Normative/Informative References	3
2.2.1 Normative.....	3
2.2.2 Informative.....	4
2.3 Definitions	4
2.4 Abbreviations	4
2.5 Roles and Responsibilities	4
2.6 Process for Monitoring.....	4
2.7 Related/Supporting Documents.....	4
3. Tender Technical Evaluation Strategy	5
3.1 Technical Evaluation Method.....	5
3.2 Technical Evaluation Threshold.....	6
3.3 TET Members	6
3.4 Mandatory Technical Evaluation Criteria	7
3.5 Qualitative Technical Evaluation Criteria	8
4. Acceptance.....	13
5. Revisions.....	13
6. Development Team	14
7. Acknowledgements	14

Figures

Tables

Table 1: Qualitative Evaluation Criteria Scoring Table [2].....	5
Table 2: TET Members	6
Table 3: Mandatory Technical Evaluation Criteria (Gate Keepers)	7
Table 4: TET members' responsibilities.....	13

CONTROLLED DISCLOSURE

1. Introduction

This document details the technical evaluation strategy for the supply of labour, tools, equipment, consumables, supervision, management, logistics, storage and support services for repair and replacement of refractory on Boilers at Majuba Power Station.

2. Supporting Clauses

2.1 Scope

This document discusses the different technical aspects that will be evaluated and scored by the multidisciplinary Technical Evaluation Team (TET) for the supply of labour, tools, equipment, consumables, supervision, management, logistics, storage and support services for repair and replacement of refractory on Boilers at Majuba Power Station. The contract is for the duration of 5 years and contract scope of work has been developed.

The team members who will be involved in the evaluation are listed and appointed in this document along with their responsibilities. This document also describes the acceptable and unacceptable risks and qualifications and/or conditions that will be applicable to the supply scope of work. Once the Technical Evaluation Strategy is authorised, no changes will be made to the evaluation criteria without the appropriate authorisations.

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 shall apply throughout Majuba Power Station Boilers.

2.1.3 Effective date

This document shall be effective as from the date of authorisation.

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] ISO 9001 Quality Management Systems
- [2] 240-168966153 Generation Tender Technical Evaluation Procedure
- [3] 32-727: Safety, Health, Environment, and Quality (SHEQ) Policy.

CONTROLLED DISCLOSURE

2.2.2 Informative

[4] 474-59 Internal Audit Procedure.

[5] EAP 0304-1 Required Operational Capability Report.

[6] 32-1034 Eskom Procurement Policy and supply chain management policy.

2.3 Definitions

Definition	Explanation
Refractory	A heat-resistant material that lines the high-temperature areas of the furnace. The refractory protects components against heat, erosion, and water damage.
Specification	The document/s forming part of the contract in which the methods of executing the various items of work to be done is described, as well as the nature and quality of the materials to be supplied and it includes technical schedules and drawings attached thereto as well as all samples and patterns.

2.4 Abbreviations

Abbreviation	Explanation
API	American Petroleum Institute
EDWL	Engineering Design Work Lead
HIRA	Hazard Identification and Risk Assessment
ISO	International Organization for Standardization
MSDS	Material Safety Data Sheet
N/A	Not Applicable
NQF	National Qualification Authority
OHS Act	Occupational Health & Safety Act
PO	Purchase Order
QCP	Quality Control Plan
SAMTRAC	Safety Management Training Course
TET	Technical Evaluation Team

2.5 Roles and Responsibilities

The Boiler Pressure Parts System Engineer is responsible for the review and update this document and ensure it aligns with the organisation's tender evaluation procedure [2].

2.6 Process for Monitoring

N/A

2.7 Related/Supporting Documents

[7] Majuba Power Station Procurement Purchase Requisition Compliance Checklist.

CONTROLLED DISCLOSURE

3. Tender Technical Evaluation Strategy

3.1 Technical Evaluation Method

The Tender Technical Evaluation Strategy is divided into two stages.

Stage 1:

All TET members, as defined in Table 2, shall independently evaluate each tender in terms of compliance to the defined Mandatory Technical Evaluation Criteria. Each TET member shall provide an individual scoring form on the compliance (YES) or non-compliance (NO) of all tenderers' responses to the Mandatory Technical Evaluation Criteria. Each TET member shall provide clear justification(s) for each Mandatory Technical Evaluation Criteria evaluated as non-compliant (NO).

All individual scoring forms shall be evaluated by the Boiler Engineering Line Manager to check for consistency in scoring of the Mandatory Evaluation Criteria. Should the Boiler Engineering Line Manager find inconsistency in the scoring, an internal clarification meeting shall be conducted with all TET members (who performed the evaluation) in the presence of the Commercial Representative. This meeting shall aim to jointly establish which of the tenderers qualify for the next phase of Qualitative Technical Evaluation. In the case where no tenderer meets all Mandatory Evaluation Criteria this shall be formally escalated to the Procurement Manager who shall guide the subsequent process. All meeting minutes shall be recorded and distributed to the Procurement Manager and included in the Tender Technical Evaluation Report.

Stage 2:

Tenderers that have met all the Mandatory Evaluation Criteria shall be evaluated against the Qualitative Criteria as defined in the Tender Technical Evaluation Strategy. The scoring of qualitative criteria shall be based on the degree of achievement by the tenderer to meet the technical requirements. A score shall be allocated as per Table 1, for each technical qualitative criterion. Each TET member shall populate a Tender Technical Evaluation Scoring Form for each tenderer. Note that the individual Qualitative Criteria scores shall only be finalised after all clarification sessions have been concluded.

A weighted score-card approach is used to evaluate the technical compliance of the tenders against the specifications.

Table 1: Qualitative Evaluation Criteria Scoring Table [2]

Score	Percentage	Description
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.

CONTROLLED DISCLOSURE

Score	Percentage	Description
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

3.2 Technical Evaluation Threshold

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

3.3 TET Members

Table 1 below lists the TET members.

Table 2: TET Members

TET Number	TET Member Name	Designation
TET 1	Bonginkosi Dlamini	Senior Engineer
TET 2	Sipho Masondo	Senior Engineer
TET 3	Tinyiko Maluleke	Boiler Pressure Parts System Engineer
TET 4	Nduduzo Gazu	Boiler Pressure Parts System Engineer
TET 5	Lulama Matiwana	Outage Manager

CONTROLLED DISCLOSURE

3.4 Mandatory Technical Evaluation Criteria

Table 3: Mandatory Technical Evaluation Criteria (Gate Keepers)

	Mandatory Technical Criteria Description	Reference to Technical Specification or Tender Returnable	Source	Motivation for use of Criteria
3.4.1	Quality Management	The service provider shall have a Quality Management System that meets or exceeds the requirements of ISO 9001. Relevant and applicable Certification and the Quality Management Policy to be submitted.	Submit an ISO9001 Certification and Quality Management Policy	To ensure quality management during scope execution.
3.4.2	Company to have CIDB grading	The company must prove that they have CIDB grade 7 Civil Engineering. This type involves brick and plaster works on high temperature applications	Submit CIDB 7CE certificate	To ensure company can execute this kind of scope

CONTROLLED DISCLOSURE

3.5 Qualitative Technical Evaluation Criteria

Qualitative Technical Criteria Description					Criteria Weighting (%)	Criteria Sub Weighting (%)
No	Qualitative Technical Criteria Description	Reference to Technical Specification/Tender Returnable	Source	Evaluation Guideline Notes and Scores		
3.5.1	Method Statement	Knowledge of the SOW execution and methodology	Detailed Method Statement with client interventions indicated at different milestones in relation to the scope of work execution. How the work is to be executed with emphasis on the following: (a) How the refractory repair and replacement is to be executed on the different components/areas within the subcritical boiler with emphasis on breaking techniques, mixture ratio, mixing time, curing philosophy, initial heat-up philosophy, application techniques and final inspection philosophy. (b) Safety Consideration of OHS Act. Of 1993 when executing refractory work on all components within subcritical boilers.	- Detailed Method Statement comprehensively satisfies (a), (b), (c), and (d) = 5 - Method Statement satisfies most of (a), (b), (c), and (d) with minor omissions = 4 - Method Statement partially satisfies (a), (b), (c), and (d) = 2 - Nonresponsive = 0	25	100

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

			(c) Refractory material containment, extraction/cleaning with consideration for the environment as per ISO14001. (d) Risk assessment for all refractory activities with mitigations on all identified risks.			
3.5.2	Proof of Workforce Experience				25	
3.5.2.1	Work Experience	Site Manager X1 (The site manager provided to oversee the execution of the services has proof of proficiency in supervision, safety awareness and technical ability (certificates))	Submit the following for the site manager: (a) N6/ National Diploma (Mechanical/Civil Engineering). (b) 5 years' managerial experience and signed proof of contract of employment.	- National Diploma (Mechanical/Civil) and 5 years managerial experienced with signed proof of contract of employment = 5 - National Diploma (Mechanical/Civil) with less than 5 years managerial experienced with signed proof of contract of employment =4 - No National Diploma (Mechanical/Civil) with less than 3 years managerial experienced with signed proof of contract of employment =2 - Nonresponsive = 0		20
3.5.2.2	Work Experience	Quality Controller X1 (Proficiency in quality control and technical ability (certificates))	(a) Quality Control Inspector with an N6/ National Diploma or equivalent (b) QC certification as a minimum.	N6/National diploma or equivalent, QC and valid API 936 refractory certification =5		20

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

			(c) Valid API 936 Refractory certificate and proof of experience of the certified person in refractory quality control and inspections.	• N6/National diploma equivalent. QC certification, expired API 936 refractory certification =4 • N6/National diploma equivalent. No QC neither API 936 certification =2 • Nonresponsive = 0		
3.5.2.3	Work Experience	Supervisor X1 (Proficiency in supervision and technical ability (certificates))	Submit the following for the supervisors: (a) Grade 12 (Matric) certificate. (b) Supervision training certificate. (c) Proof of supervision experience (5 years) in refractory repairs and installation on subcritical boilers in the form of a CV.	• Grade 12, Supervision certificate and supervision experience (5 years) • Grade 12, Supervision certificate and supervision experience (3 years) =4 • Grade 12, No Supervision certificate, and No supervision related experience =2 • Nonresponsive = 0		20
3.5.2.4	Work Experience	Skilled Refractory Workers X5 (Proficiency of skilled workers on mixing and application of refractory)	• Five (5) skilled refractory installers with National Certificate in Refractories Installation (NQF Level 2) or equivalent with 3 years refractory experience as a minimum.	• Five (5) skilled refractory installers with National Certificate in Refractories Installation (NQF Level 2) or equivalent with 3 years refractory experience as a minimum = 5		20

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

				• Five (5) skilled refractory installers with National Certificate in Refractories Installation (NQF Level 2) or equivalent with two (2) years refractory experience as a minimum =4 • Three (3) skilled refractory installers with National Certificate in Refractories Installation (NQF Level 2) or equivalent with one (1) years refractory experience as a minimum = 2 • Nonresponsive = 0		
3.5.2.5	Work Experience	Safety Officer X1	Submit the following for the Safety Officer: (a) Grade 12 (Matric) certificate. (b) HIRA certificate (c) SAMTRAC certificate or a Safety diploma (d) Proof of Safety Officer experience (3 years) in repair and replacement of refractory in subcritical boilers in the form of a CV.	• Submitted a, b, c, and d = 5 • Submitted a, b, c and with less than 3 years of related experience = 4 • Submitted a, b, and c = 2 • Nonresponsive = 0		20
3.5.3	Contract experience	The service provider provides demonstrable evidence that the company has been in	Total durations of all contracts and Purchased Order.	• Submitted all 5 orders = 5 • Submitted Only 3 orders = 4	25	100

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

		the repair and replacement of refractory in the boiler application for a period of not less than 3 years.	Submit all contracts PO and their durations. Include reference person(s) and name of the company where the service was rendered. Provide the following: (a) Submit soft copies of orders/contracts with traceable references	- Submitted 2 orders = 2 - Nonresponsive = 0		
3.5.4	Quality control Plan and Quality Assurance	Company Quality Assurance Processes	Supply documented procedures or work instructions or inspection technique sheets that address the following: Internal quality audits, nonconformances, corrective and preventative actions, storage, and handling of equipment, QCPs.	- All required documentation submitted and comprehensive = 5 - Almost all required documentation submitted and partially comprehensive = 4 - Partially submitted documentation submitted and not comprehensive = 2 - Nonresponsive = 0	25	100
Total					100	
Overall Minimum Threshold for Qualification					70	

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Table 4: TET members' responsibilities

Criteria No.	Description	TET 1	TET 2	TET 3	TET 4	TET 5
3.4	Mandatory Technical Evaluation Criteria					
3.4.1	Quality Management	✓	✓	✓	✓	✓
3.4.2	Company Work Experience	✓	✓	✓	✓	✓
3.5	Qualitative Technical Evaluation Criteria					
3.5.1	Method Statement	✓	✓	✓	✓	✓
3.5.2	Proof of work experience	✓	✓	✓	✓	✓
3.5.3	Equipment and Tools	✓	✓	✓	✓	✓
3.5.4	Quality control Plan and Quality Assurance	✓	✓	✓	✓	✓

4. Acceptance

This document has been seen and accepted by:

Note: Initials not acceptable

Full Name and Surname	Designation
Johan Swanepoel	Engineering Manager
Lulama Matiwana	Outage Manager
Lindani Madonsela	Boiler Engineering Manager
Nduduzo Gazu	Pressure Parts Engineer
Sipho Masondo	Senior Boiler Engineer
Deon Beukes	Boiler Specialist

5. Revisions

Date	Rev.	Compiler	Remarks
June 2024	1	Tinyiko Maluleke	First issue for contracting purposes

CONTROLLED DISCLOSURE

6. Development Team

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

Full Name and Surname	Designation
Bonginkosi Dlamini	Senior Boiler Engineer
Sipho Masondo	Senior Boiler Engineer
Lulama Matiwana	Outage Manager
Nduduzo Gazu	Boiler Pressure Parts Engineer
Tinyiko Maluleke	Boiler Pressure Parts Engineer

7. Acknowledgements

N/A

CONTROLLED DISCLOSURE