

Title: **Scope of Work for Milling Plant  
Maintenance for Operational  
Units 1-10 Tender Technical  
Evaluation Strategy**

Unique Identifier:

Alternative Reference Number: **N/A**

Area of Applicability: **Hendrina Power  
Station**

Documentation Type: **Strategy**

Revision: **0**

Total Pages: **14**

Next Review Date: **N/A**

Disclosure Classification: **CONTROLLED  
DISCLOSURE**

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**Compiled by**

**Functional Responsibility**

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## **1. INTRODUCTION**

Mills are used to grind/pulverise coal to PF (pulverised fuel). The coal from the bunkers enters the feeder which regulates the coal flow to the mill where it is grinded, and the fine PF is transported by the PA (Primary Air) via the PF pipes to the burners. The boundaries of the milling plant start at the coal bunker isolation gate and end at the PF pipe flanges at the coal burners. Over the operating duration of the mills, a lot of wear and damage is experienced in the milling plant, which requires that the plant is maintained on a regular basis. As a result, planned maintenance service activities are crucial as well as routine maintenance aimed at preventing unplanned breakdowns.

This tender technical evaluation is for the evaluation of the mills maintenance service contract. The mills maintenance service scope includes planned, breakdown and routine maintenance activities of the mill feeders, mills assemblies, PF piping and all other associated components from and including the coal bunker isolation gate to and including the PF pipe flange at the coal burners.

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

The scope of this document applies to the supply of mill maintenance services at Hendrina Power Station, which includes but is not limited to:

- Mills' overhauls that include the replacement of the grinding elements.
- Mills' services that include the change of grinding balls or as scheduled.
- Mill feeders' services.
- Mills' inspections and repairs during planned outages.
- Mill's breakdown maintenance that includes, for example, mill gearbox change, mill throat replacement, etc.
- Mills' routine maintenance, that includes, for example, mill gearbox oil level inspections, mill housing PF leaks inspections and repairs, hydraulic system gas leak inspections, etc.
- PF pipe inspections, repairs and replacement.

The milling plant boundaries begin at the bunker discharge isolation valve and end at the last PF pipe flanges attached to the coal burners. Within these boundaries, the following major subsystems are included (this list is not exhaustive):

- Mill feeders.
- Mills.
- Mills gas loading system.
- Mills lubrication system.
- Mills inertia pit dampening system.
- PF piping system that includes PF pipe spools, splitter boxes, PF isolation dampers, orifices and hanger and supports.

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### 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 all relevant stakeholders at Matla Power Station who are involved with the technical tender evaluation process for the milling plant maintenance service contract.

## 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] ISO 9001 Quality Management Systems
- [3] 32-1034: Eskom Procurement and Supply Chain Management Procedure
- [4] 32-1033: Eskom's Procurement and Supply Chain Management Policy
- [5] 240-56239137: Standard for Babcock & Wilcox E type Hollow Grinding Balls
- [6] 474-12656 Mills and Coal Burners Group Technology Strategic Report 2022 (Rev 1)
- [7] Eskom Babcock and Wilcox maintenance manuals

### 2.2.2 Informative

Not applicable

## 2.3 DEFINITIONS

### 2.3.1 Grinding element

Grinding elements are the family of grinding components for the different tube mill (liners) and vertical spindle mills (grinding rings, hollow balls, rollers/tyres and segments/tracks).

### 2.3.2 Classification

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

## 2.4 ABBREVIATIONS

Abbreviation	Description
PF/pf	Pulverised Fuel
PA	Primary Air
TET	Technical Evaluation Team

## 2.5 ROLES AND RESPONSIBILITIES

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

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## **2.6 PROCESS FOR MONITORING**

Not applicable.

## **2.7 RELATED/SUPPORTING DOCUMENTS**

Not applicable.

## **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 80%.

Milling Plant has been classed as Level 1 equipment based on the high cost of the mills and related components, safety aspects of the milling plant and requirements to run within governance. From the Mills and Coal Burners Group Technology Strategic Report, it is a mandatory requirement to at least meet 80% threshold of the defined qualitative criteria.

### **3.2 TET MEMBERS**

**Table 1: TET Members**

<b>TET number</b>	<b>TET Member Name</b>	<b>Designation</b>
TET 1		
TET 2		
TET 3		
TET 4		

The Tender Evaluation Team Members will be appointed by the delegated authority.

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**3.3 MANDATORY TECHNICAL EVALUATION CRITERIA**

**Table 2: 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.	N/A		

**3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA**

**Table 3: Qualitative Technical Evaluation Criteria**

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
<b>1.</b>	Ability of company to execute			<b>35</b>	
	1.1	Previous experience on vertical spindle coal mills or pulveriser maintenance	Copies of Mill Maintenance Contracts for vertical spindle coal mills' maintenance services.	0 (0%) Total duration Durations of previous Mill maintenance contract (0-5 years) 2 (40%) Total Durations of previous Mill maintenance contract (6- 8 years) 4 (80%) Total Duration of previous Mills maintenance contract (9-10 years) 5 (100%) Total Duration of previous mills maintenance contract (greater 10 years)	100
<b>2.</b>	QCP from previous mills maintenance services			<b>20</b>	
	2.1	<ul style="list-style-type: none"> <li>- QCP for a vertical spindle coal mill/pulveriser service/refurbishment/overhaul maintenance.</li> <li>- QCP for a vertical spindle coal mill/pulveriser gearbox replacement.</li> <li>- QCP for a vertical spindle coal mill/pulveriser ball change.</li> </ul>	<ul style="list-style-type: none"> <li>- Copy of a signed off QCP by all relevant parties for a vertical spindle coal mill/pulveriser service/refurbishment/overhaul maintenance.</li> <li>- Copy of a signed off QCP by all relevant parties for a vertical spindle coal mill/pulveriser gearbox replacement.</li> <li>- Copy of a signed off QCP of by all relevant parties or a vertical spindle coal mill/pulveriser ball change.</li> </ul>	0 (0%) Non-responsive OR no fully signed QCPs. 2 (40%) Fully signed QCP for ball change or GB replacement 4 (80%) Fully signed QCP for Mill service and feeder service (i.e., describe high level scope of service). 5 (100%) Fully signed QCP for a vertical spindle MILL OVERHAUL and feeder service including gearbox replacement and ball change	100

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	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
<b>3.</b>	Work Execution Plan			<b>35</b>	
	3.1	A detailed methodology indicating how the scope of work will be carried out. The methodology must cover regular services, corrective maintenance and labour requirements (types and quantity) for activities.	<ul style="list-style-type: none"> <li>- Detailed methodology detailing common activities encountered in the maintenance of vertical spindle mills such as ball changes or rebuilds.</li> <li>- Organogram or list detailing adequate manpower requirements for the duration of the contract based on the scope of work.</li> </ul>	0 (0%) Non-responsive OR deliverable does not cover any requirements. 2 (40%) Detailed plan covering 1 activity + detail of all required site personnel 4 (80%) Detailed plan covering 2 activities + detail of all required site personnel 5 (100%) Detailed plan covering 3 or more activities + detail of all required site personnel.	80
	3.2	BS EN ISO 15614-1 Welding Procedure	<ul style="list-style-type: none"> <li>- Certified copy of a steel welding procedure approved by a registered IWE or IWT.</li> </ul>	0 (0%) Non-responsive OR deliverable does not cover any requirements. 2 (40%) N/A 4 (80%) Procedure provided but not certified. 5 (100%) Certified procedure provided.	10
		ISO 3834 Certification	<ul style="list-style-type: none"> <li>- Certified copy of a valid ISO 3834 certification</li> </ul>	0 (0%) Non-responsive OR deliverable does not cover any requirements. 2 (40%) N/A 4 (80%) Procedure provided but not certified. 5 (100%) Certified procedure provided.	10
<b>4.</b>	Human Resources Verification			<b>10</b>	
	4.1	Site Manager	<ul style="list-style-type: none"> <li>- Engineering National Diploma in mechanical engineering Certificate or higher.</li> <li>- Project Management Certificate.</li> </ul>	0 (0%) Non-responsive OR Engineering qualification less than National Diploma.	20

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	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
			<ul style="list-style-type: none"> <li>- CV with 10 Years Management Experience and background in mechanical maintenance work.</li> </ul>	2 (40%) Engineering Qualification National Diploma or higher + management experience less than 10 years.  4 (80%) Engineering Qualification National Diploma or higher + Project Management Qualification + management experience less than 10 years.  5 (100%) Engineering Qualification National Diploma or higher + Project Management Qualification + management experience 10 years or higher.	
	4.2	Riggers (number as per work execution plan)	<ul style="list-style-type: none"> <li>- Rigger Trade Test Certificate</li> <li>- Grade 12 Certificate</li> <li>- CV with 5 Years Rigging Experience</li> </ul>	0 (0%) Non-responsive or not applicable.  2 (40%) Grade 12 + Any rigging experience.  4 (80%) Grade 12 + Rigging certification + Rigging experience <b>less than</b> 5 years.  5 (100%) Grade 12 + Rigging certification + Rigging experience <b>greater than</b> 5 years.	20
	4.3	Quality Officers (number as per work execution plan)	<ul style="list-style-type: none"> <li>- N4 to N6 Mechanical Certificates</li> <li>- Trade test certificate</li> <li>- Level 2 Welding Certificate/ quality management /control certificates</li> <li>- CV with 5 years milling plant working experience</li> </ul>	0 (0%) non-responsive or not applicable.  2 (40%) N4 OR N5 Mechanical Certificate + Trade test certificate + Milling Plant Working Experience <b>less than</b> 5 years.  4 (80%) N6 Mechanical Certificates + Trade Test certificate + Level 2 Welding Certificate + Milling Plant Working Experience <b>less than</b> 5 years.  5 (100%) N6 Mechanical Certificates + Trade test certificate + Level 2 Welding Certificate +	20

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	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
				Milling Plant Working Experience <b>greater than 5 years.</b>	
	4.4	Fitters (number as per work execution plan)	<ul style="list-style-type: none"> <li>- Fitter Trade Test Certificate</li> <li>- Grade 12 Certificate</li> <li>- CV with 5 Years Fitting Experience (must include alignment experience on clock gauges)</li> </ul>	0 (0%) Non-responsive or not applicable. 2 (40%) All with Grade 12 + Any Fitting experience. 4 (80%) All with Grade 12 + Fitting certification + Fitting experience <b>less than 5 years.</b> 5 (100%) All with Grade 12 + Fitting certification + Fitting experience <b>greater than 5 years.</b>	20
	4.5	Welders (number as per work execution plan)	<ul style="list-style-type: none"> <li>- Grade 12 Certificate</li> <li>- Trade test as a welder &amp; Certified copy of a valid ISO 9606 certification</li> <li>- Proven trade experience of 3 years which includes experience on vertical spindle mills.</li> </ul>	0 (0%) Non-responsive or not applicable. 2 (40%) All with Grade 12 + Any Welding experience. 4 (80%) All Grade 12 + Welding certifications + Welding experience <b>less than 5 years.</b> 5 (100%) All Grade 12 + Welding certifications + Welding experience <b>greater than 5 years.</b>	20
				<b>TOTAL: 100</b>	

\* All artisans must be authorised as per the Plant Safety Regulations and Fossil Fuel Firing Regulations, within a period of 3 months of start of contract.

**3.5 TET MEMBER RESPONSIBILITIES**

**Table 4: TET Member Responsibilities**

<b>Mandatory Criteria Number</b>	<b>TET 1</b>	<b>TET 2</b>	<b>TET 3 (Optional)</b>	<b>TET 4 (Optional)</b>	<b>TET Etc.</b>
1	X	X	X	X	X
2	X	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>	<b>TET Etc.</b>
1.1	X	X	X	X	X
2.1	X	X	X	X	X
3.1	X	X	X	X	X
3.2	X	X	X	X	X
4.1	X	X	X	X	X
4.2	X	X	X	X	X
4.3	X	X	X	X	X
4.4	X	X	X	X	X
4.5	X	X	X	X	X

**3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS**

**3.6.1 Risks**

**Table 5: Acceptable Technical Risks**

Risk	Description
1.	Lack of experience on 8.5 Type E and MPS 140 mills maintenance.
2.	
3.	
4.	
5.	
6.	
7.	

**Table 6: Unacceptable Technical Risks**

Risk	Description
1.	Lack of mechanical maintenance experience.
2.	
3.	
4.	
5.	
6.	
7.	

**3.6.2 Exceptions / Conditions**

**Table 7: Acceptable Technical Exceptions / Conditions**

Risk	Description
1.	No companies passing on 80%. Acceptable to reduce to 75%.
1.	
2.	
3.	
4.	
5.	
6.	

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

Risk	Description
1.	
2.	
3.	
4.	
5.	
6.	
7.	

