

Title: **Technical Specification for
maintenance of spit casing
pumps**

Unique Identifier:

Alternative Reference Number:

Area of Applicability: **Engineering**

Documentation Type: **Strategy**

Revision: **0**

Total Pages: **14**

Next Review Date: **N/A**

Disclosure Classification: **CONTROLLED
DISCLOSURE**

Compiled by



**T. Khumalo
Engineer –
Auxiliary Engineering**

Functional Responsibility



**E.N. Hlophe
Auxiliary Engineering
Manager**

Authorised by



**E.N. Hlophe
Auxiliary Engineering
Manager**

Date: 2022/08/26

Date: 2022/09/07

Date: 2022/09/07

CONTENTS

	Page
1. INTRODUCTION	3
2. SUPPORTING CLAUSES	3
2.1 SCOPE	3
2.1.1 Purpose	3
2.1.2 Applicability	3
2.2 NORMATIVE/INFORMATIVE REFERENCES	3
2.2.1 Normative	3
2.2.2 Informative	3
2.3 DEFINITIONS	4
2.3.1 Classification	4
2.4 ABBREVIATIONS	4
2.5 ROLES AND RESPONSIBILITIES	5
2.6 PROCESS FOR MONITORING	6
2.7 RELATED/SUPPORTING DOCUMENTS	6
3. TENDER TECHNICAL EVALUATION STRATEGY	6
3.1 TECHNICAL EVALUATION THRESHOLD	6
3.2 TET MEMBERS	6
3.3 MANDATORY TECHNICAL EVALUATION CRITERIA	7
3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA	8
3.4.1 Qualitative Technical Evaluation Scoring Criteria	9
3.5 TET MEMBER RESPONSIBILITIES	12
3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS	12
3.6.1 Risks	12
3.6.2 Exceptions / Conditions	12
4. AUTHORISATION	14
5. REVISIONS	14
6. DEVELOPMENT TEAM	14
7. ACKNOWLEDGEMENTS	14

TABLES

Table 1: TET Members	6
Table 2: Mandatory Technical Evaluation Criteria	7
Table 3: Qualitative Technical Evaluation Criteria	8
Table 4: TET Member Responsibilities	12
Table 5: Acceptable Technical Risks	12
Table 6: Unacceptable Technical Risks	12
Table 7: Acceptable Technical Exceptions / Conditions	12
Table 8: Unacceptable Technical Exceptions / Conditions	13

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

1. INTRODUCTION

Duvha Power Station is a coal fired power station built between 1978 and 1984, and is situated near Witbank. The station has six power generating units, each with an output of 600MW. The total plant capacity is 3600MW. The Station is equipped with spit casing pumps which are utilised for ashing and dusting cycles. These pumps are sluice pumps. Sluice booster pumps and ash water return (AWR) pumps. These pumps require regular internal maintenance to ensure that they sustain the required efficiency and prolonged life span.

2. SUPPORTING CLAUSES

2.1 SCOPE

The project scope of work focuses collecting, stripping, repair, assembling and delivering of the split casing pumps at Duvha Power Station.

2.1.1 Purpose

The purpose of this document is to describe the minimum requirements for quality control & assurance, collection, maintaining or repairing and delivery of spit casing pumps at Duvha Power Station.

2.1.2 Applicability

This document is to apply to the Duvha Power Station's maintenance of split casing pumps.

2.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document are to 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] 240-44682850: PCM - Provide Engineering During Project Sourcing
- [3] 32-1033: Eskom Procurement and Supply Chain Management Policy
- [4] 32-1034: Eskom Procurement and Supply Management Procedure

2.2.2 Informative

- [1] 240-53665024: Engineering Quality Manual
- [2] 240-53114186: Document and record Management Procedure
- [3] ISO 9001 Quality Management Systems.
- [4] NEC3 - Maintenance of split casing pumps at Duvha Power Station

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

2.3 DEFINITIONS

Definition	Description
Acceptance	The <i>Employer</i> accept the condition or design but does not take responsibility from the Contractor
Approval	Written agreement or authorization by <i>Employer</i> . All requests for approval must be submitted in writing and any proposed deviation from specified requirements must be fully justified and agreed by <i>Employer</i> .
Design Authority	Design Authority - When Eskom acts as the Design Authority on a project/package/plant/System/asset, the reviewer(s) are to review the design documentation to ensure that: the design satisfies the design requirements; all relevant COE design standards, procedures and guidelines have been adhered to; the design is suitable and correct (calculations, philosophy, functionality, etc.); best COE practices were applied; the design is integrated by identifying all interfaces with other packages/plant Systems/assets and ensuring that these interfaces are catered for.
Contractor	Refers to the corporation appointed to perform the engineering, procurement, and construction Works required for the project.
Design freeze	Is a binding decision that defines the whole product, its parts or parameters and allows the continuation of the design based on that decision (no further changes can be made to the design, it is cut-off for the engineers)
Employer	Refers to Eskom Holdings State Owned Company
Interface	Interface in these document means either to hard wired or software interaction between the <i>Contractors</i> and/or other Works
Owners Engineer	Owners Engineer - When Eskom acts as the Owners Engineer on a project/package/plant/System/asset, the reviewer(s) are to review the design documentation issued by the Design Authority to ensure that: the design satisfies the stakeholder requirements (i.e. validation of design deliverables against stakeholder requirements). General technical oversight is provided over the design.
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
System	A set of things working together as parts of a mechanism or network in an organised manner or method such that the requirements of the System are achieved.
The Client	The end user will be Eskom who will be represented by Matla Power Station throughout the duration of the Project.

2.3.1 Classification

- a. **Public domain:** published in any public forum without constraints (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

Abbreviation	Description
BS	British Standard
AWR	Ash Water Return
CA	Corrective Action
CD	Compact Disc

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

Abbreviation	Description
DGN	MicroStation CAD drawing, vector format
DIN	Deutsches Institut für Normung (German Institute for Standardization)
DWG	AutoCAD drawing, vector format
FAT	Factory Acceptance Testing
FRA	Failure Report Analysis
GA	General Arrangement
GO	General Overhaul
GPS	Global Positioning System
GUI	Graphical User Interface
HBS	Hardware Breakdown Structure
ISO	International Organisation for Standardisation
LCC	Life Cycle Cost
LOSS	Limits of Service and Supply
O&M	Operating and Maintenance
OEM	Original Equipment Manufacture
OH&S	Occupational Health and Safety
PBS	Plant Break Down Structure
PFD	Process Flow Diagram
P&ID	Process Instrumentation Diagram
PM	Planned Maintenance/Project Manager
PS	Power Station
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Procedure
SANS	South African National Standards
VDSS	Vendor Document Supplier Submittals

2.5 ROLES AND RESPONSIBILITIES

- Compiler : The document compiler is responsible for ensuring that this document is up-to-date and that this document is not a duplication of an existing documentation, regarding the document's objectives and content.
- Functional Responsibility : The Functional Responsible Person is to determine if the document is fit for purpose, before the document is submitted for authorisation.
- Authoriser : The document authoriser is a duly delegated person with the responsibility to review the document for alignment to business strategy, policy, objectives and requirements. He/she are to authorise the release and application of the document.

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

2.6 PROCESS FOR MONITORING

The primary process for monitoring will be governed by the Design Review Procedure (240-53113685), this entails assuring that the design achieves the requirements set out in this document. Any changes to this document will be performed as per Project Engineering Change Management Procedure (240-53114026).

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

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%.

SCORE	PERCENTAGE (%)	DESCRIPTION
5	100	COMPLIANT - Meet the technical requirement(s) AND, - No foreseen technical risk(s) in meeting technical requirements
4	80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS - Meet the technical requirement(s) with, - Acceptable technical risks AND/OR; - Acceptable exceptions AND/OR; - Acceptable conditions
2	40	NON-COMPLIANT - Does not meet the technical requirement(s) AND/OR Unacceptable technical risk(s) AND/OR; - Unacceptable exceptions AND/OR; - Unacceptable conditions
0	0	TOTALLY DEFICIENT/NON-RESPONSIVE

3.2 TET MEMBERS

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1	T. Khumalo	System Engineer – Auxiliary Engineering

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

3.3 MANADATORY TECHNICAL EVALUATION CRITERIA

Table 2: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	None		

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 (%)
1.	Mechanical Engineering Criteria				
	1.1	Completed mechanical workshop to maintain spit casing pumps (see section 3.4.1 below). - Letter confirming the workshop to utilize for the duration of the project - The picture of the workshop - Location of the workshop - Picture of atleast 5-ton crane - Picture of shaft or impeller balancing jig - Machine shop (picture of lathe and drilling machine)		20	20
	1.2	SITE ORGANOGRAM Proposed organogram of key personnel for this project which must include the following skill: - Site manager (Cv and qualification to be provided as per the 3.4.1 of this criteria) - Supervisor (Cv and qualification to be provided as per the 3.4.1 of this criteria) - Artisans x 4 (Cv and qualification to be provided at 1.5 of this criteria) (Cv and qualification to be provided as per the 3.4.1 of this criteria) - Quality assurance personnel / technician (Cv and qualification to be provided as per the 3.4.1 of this criteria)	CV and certificates	30	30
	1.3	QUALITY MANAGEMENT SYSTEM Company to have their own quality control management system detailing the critical task in stripping, inspection, repairs, assembling and safe handling of the pumps. This must include method statement of repairing a split casing	A detailed quality assurance plan/document	20	20

		pump from collecting a damage pump to delivering the repaired pump back to the station.			
	1.4	COMPLETED SIMILAR PROJECTS This covers the company experience of the company. The company must have completed at-least 3 project to ensure competency because of the criticality of the scope. The previous completed projects must entail repairing of the split casing centrifugal pumps. A completion certificates or reference letter must be submitted which reflects Client name, • Order number • Project description, (details scope of work if description not clear) • Project cost, • Project start & end date • Project location • Name, designation and contact number of reference person • Letter head signed In an event where the completion certificated does not have all the above details, the supplier can attached any other supporting document that might contain the information to support the completion certificate (e.g. signed contract or detailed orders)	Completion Certificate	30	30
				TOTAL: 100	

3.4.1 Qualitative Technical Evaluation Scoring Criteria

SUPERVISOR	Points	Score
Mechanical Trade Test		
No formal trade test	0	2.5
Trade Test from accredited institution	5	
Working years on maintaining pumps post trade test qualification		

Tender Technical Evaluation Strategy

Unique Identifier: xxxx

Revision: ?

Page: 10 of 14

2 year	2	2.5
2 – 3years	4	
3 – 5 years	5	

ARTISANS	Points	Score
Mechanical Trade Test		
No formal trade test	0	5
Trade Test from accredited institution	5	
Working years on maintaining pumps post trade test qualification		
2 year	2	10
2 – 3 years	4	
3 – 5 years	5	

SITE MANAGER	Points	Score
Mechanical Diploma/qualification above mechanical diploma (specifically mechanical)		
No Mechanical Diploma	0	2.5
Mechanical Diploma from accredited institution	5	
Working years within Electrical post trade test qualification		
3 year	2	2.5
3 – 4 years	4	
4 – 5 years	5	

QUALITY ASSURANCE PERSONNEL / TECHNICIAN		Score
No DIPLOMA in Mechanical Engineering	0	2.5
DIPLOMA in Mechanical Engineering from	5	

accredited institution		
Working years post Diploma qualification		
1 year	2	2.5
1 – 2 years	4	
2 – 3 years	5	

QUALITY MANAGEMENT SYSTEM		Score
No quality management system or plan submitted	0	20
Quality management system or plan submitted without detailing the critical task and method statement	2	
Quality management system or plan submitted with detailed critical task and method statement of repairing pump	5	

LETTER CONFIRMING A MECHANICAL WORKSHOP TO MAINTAIN SPIT CASING PUMPS		Score
No workshop letter with workshop component / machines pictures mentioned above	0	20
Workshop confirmation letter with all workshop component / machines pictures mentioned above	5	

COMPLETED SIMILAR PROJECTS		Score
Number of projects < 3	2	30
Number of projects 3 < 4	4	
Number of projects > 4	5	

3.5 TET MEMBER RESPONSIBILITIES

Table 4: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET n
None								
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET n
	X	n/a	n/a	n/a	n/a	n/a	n/a	n/a

3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 5: Acceptable Technical Risks

Risk	Description
1.	none

Table 6: Unacceptable Technical Risks

Risk	Description
1.	none

3.6.2 Exceptions / Conditions

Table 7: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	Before the final submission of the technical evaluation report a site visit to confirm the workshop requirement will be conducted

Table 8: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	none

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Nelly Hlophe	Auxiliary Engineering Manager	

5. REVISIONS

Date	Rev.	Compiler	Remarks
August 2022	0	T Khumalo	Final document

6. DEVELOPMENT TEAM

N/A

7. ACKNOWLEDGEMENTS

N/A

CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.