

Title: **Duvha Power Station Ikageng Sewage Treatment Plant Refurbishment Tender Technical Evaluation Strategy**

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### CONTROLLED DISCLOSURE

## **1. INTRODUCTION**

Ikageng Sewage Treatment Plant (STP) is currently underperforming. The plant is unable to produce water that fully complies with the National Water Act General Limits for discharge. This is evident from the high level of free chlorine, ammonia and suspended solids that are present in the final effluent. The plant continues to operate with a lack of controls, resulting in incorrect operation of important components of the STP. There is no redundancy for aeration of the sewage effluent, which is a risk in the event that the aeration of the sequential batch reactor (SBR) fails. There is also the issue of sludge settling in the aeration pond, resulting in more frequent cleaning of the pond.

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

This document covers the technical evaluation criteria to be utilised for the process of evaluating the tender submissions for the Upgrading of Ikageng Sewage Plant project.

#### **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 for the Upgrade of Ikageng Sewage Plant project at Duvha 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] 240-48929482: 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**

- [5] 382-ECM-AABZ28-SP0004-26: Duvha PS Ikageng STP Refurbishment Technical Specification Rev 1

## **2.3 DEFINITIONS**

**2.3.1.1 Enquiry:** A competitive or non-competitive request for information, interest, quotations or proposals made to a supplier, a group of suppliers or the market at large.

### **CONTROLLED DISCLOSURE**

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**2.3.1.2 Tender:** A tender refers to an open or closed competitive request for quotations / prices against a clearly defined scope / specification.

**2.3.1.3 Contractor:** Service provider, consultant or Contractor that is approved by the Employer.

### 2.3.1 Classification

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

## 2.4 ABBREVIATIONS

Abbreviation	Description
C&I	Control and Instrumentation
COE	Centre of Excellence
ECSA	Engineering Council of South Africa
FAT	Factory Acceptance Test
LV	Low Voltage
NEC	New Engineering Contract
NWA	National Water Act
TES	Technical Evaluation Strategy
TET	Technical Evaluation Team
VDSS	Vendor Document Submission Schedule

## 2.5 ROLES AND RESPONSIBILITIES

As per 240-48929482: Tender Technical Evaluation Procedure

## 2.6 PROCESS FOR MONITORING

N/A

## 2.7 RELATED/SUPPORTING DOCUMENTS

Sewage Plant New Engineering Contract (NEC) document

## 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%. Should no Contractor meet the minimum threshold of 70% Eskom reserves the right to negotiate and/or consider Contractors that obtained between 65% and 69%

This outcome of successful execution of this project will result in the station using a plant that operates to produce effluent that is within the caveat of the legal requirements and thus a stringent minimum threshold for the successful tenderer.

### **CONTROLLED DISCLOSURE**

**Table 1: Qualitative Evaluation Criteria**

Score	(%)	Definition
5	100	<b>COMPLIANT</b> Meet technical requirement(s) AND; No foreseen technical risk(s) in meeting technical requirements.
4	80	<b>COMPLIANT WITH ASSOCIATED QUALIFICATIONS</b> Meet technical requirement(s) with; Acceptable technical risk(s) AND/OR; Acceptable exceptions AND/OR; Acceptable conditions.
2	40	<b>NON-COMPLIANT</b> Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.
0	0	<b>TOTALLY DEFICIENT OR NON-RESPONSIVE</b>

### 3.2 TET MEMBERS

**Table 2: TET Members**

TET number	TET Member Name	Designation
TET 1	Andile Makhubo	Duvha PS – Auxiliary Plant Engineer
TET 2	Nomfundo Mdlokovana	Duvha PS – Control & Instrumentation Engineering
TET 3	Vusi Chirwa	Duvha PS – Civil Engineering
TET 4	Thulani Dlamini	Duvha PS – Electrical Engineering
TET 5	Lethukuthula Ndwandwe	Duvha PS – Control & Instrumentation Engineering

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### 3.3 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.	Letter indicating that the Contractor will ensure that the sewage treatment plant refurbishment will guarantee compliance with the NWA General Limits for discharge.	Section 2.3	The scope of this project is to ensure that the discharge of effluent is of a quality that is prescribed by the act.
2.	ECSA certificate and CV of key personnel: Professional Civil Engineer/Civil Technologist Professional Electrical Engineer Professional Control and Instrumentation Engineer	Section 4.1	There are several designs which must be done by the relevant engineers and as such professional registration is essential.
3.	Verifiable evidence of Projects Completed in the last five years of similar works.	VDSS	This is to ensure that a tenderer is capable of performing modifications on sewage treatment plants.

### 3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

**Table 4: Qualitative Technical Evaluation Criteria**

	<b>Qualitative Technical Criteria Description</b>		<b>Reference to Technical Specification / Tender Returnable</b>	<b>Criteria Weighting (%)</b>	<b>Criteria Sub Weighting (%)</b>
<b>1.</b>	<b>General</b>			<b>15</b>	
	1.1	Quality control plan for the project scope	Section 2.4		30
	1.2	Detailed programme for the project execution	VDSS		30
	1.3	Organogram indicating key staff members	VDSS		40
<b>2.</b>	<b>Process/Chemical</b>			<b>15</b>	
	2.1	<p>Method Statement that the Contractor will comply with the full scope of work including the following:</p> <ul style="list-style-type: none"> <li>• Disinfectant dosing pumps and associated piping, valves and fittings (20%)</li> <li>• Mechanical surface aerators (20%)</li> <li>• Ultrasonic flow meters on the inlet and final effluent lines (15%)</li> <li>• Supply of Diphoterine® solution (9%)</li> <li>• Supply of safety buoys (9%)</li> <li>• Supply of life jackets (9%)</li> <li>• Supply of spares list (9%)</li> <li>• Supply of maintenance strategy (9%)</li> </ul>	Section 3.1		100
<b>3.</b>	<b>Civil</b>			<b>25</b>	

	3.1	Method Statement to clearly demonstrate the bidder's compliance with the full civil scope of work	Section 3.2.4		100
<b>4.</b>	<b>Mechanical</b>			<b>25</b>	
	4.1	High level construction method statement, the method statement clearly demonstrates the Tenderer's compliance with the full scope of work as detailed in the Scope of Work.	Section 3.2.1		60
	4.2	Deviations related to the mechanical works (including fire protection) 5 – No deviations; 4 – Deviations do not impact the functioning of the plant. 2 – Deviations impact on the functioning of the plant or result in non-compliance to codes & standards 0 – Deviations result in non-compliance to legal requirements or no deviation schedule has been submitted			40
<b>5</b>	<b>Control and Instrumentation</b>			<b>10</b>	
	5.1	Method Statement for all Control and Instrumentation Work: A statement from the Tenderer detailing how they plan to execute the work for the C&I requirements as described in the Works Information	Section 3.2.3 Section 11		60
	5.2	Traceable evidence of C&I work that was executed in the past.	Order		40
<b>6</b>	<b>Electrical</b>			<b>10</b>	
	6.1	Method statement for all electrical work.	Section 3.2.2		40
	6.2	Compliance letter with the electrical requirements	The Contractor shall provide a letter indicating that they will comply with the electrical requirements ( <b>Tender Returnable for Electrical Contractor</b> ) and further that the construction and functional requirements of the new control panel shall comply with		15



		requirements of Appendix B of LV Switchgear Standard (240-56227516) or clearly state any deviations in the letter of this specification.		
6.3	Typical full FAT results of the Control Panel rated below 10kA	Submit typical full FAT results of the Control Panel rated below 10kVA.		15
6.4	Technical Schedule A&B for drive motors and LV Switchgear	Completed Technical Schedule A&B for drive motors and LV Switchgear		15
6.5	Temporary supply method statement	<p>The method statement should contain the following:</p> <ul style="list-style-type: none"> <li>Plans on to decommission the existing supply Motor Control Panel and re-energise it to allow the operation of the plant while executing the entire Works.</li> <li>Associated cabling scope of work.</li> </ul>		15
<b>TOTAL</b>				<b>100</b>

### 3.5 TET MEMBER RESPONSIBILITIES

**Table 5: TET Member Responsibilities**

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5
1	X	X	X	X	X
2	X	X	X	X	X
3	X	X	X	X	X
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 2
1	X	X		X	X
2	X				
3			X		

4	X				
5		X			X
6				X	

### 3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

#### 3.6.1 Risks

**Table 6: Acceptable Technical Risks**

Risk	Description
1.	Tenderers who have not executed similar works
2.	Alternative (equivalent) equipment being used instead of the preferred equipment

**Table 7: Unacceptable Technical Risks**

Risk	Description
1.	Equipment that does not operate within the prescribed limits
2.	Performance guarantees not given for the work done
3.	Lack of local support for the equipment or products used

#### 3.6.2 Exceptions / Conditions

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



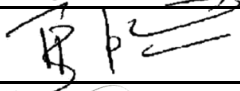

Risk	Description
1.	Delays due to the elements which may prolong the project duration
2.	

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

Risk	Description
1.	All conditions must be met

#### 4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Nomfundo Mdlokovana	Duvha PS – Control & Instrumentation Engineering	
Vusi Chirwa	Duvha PS – Civil Engineering	
Thulani Dlamini	Duvha PS – Electrical Engineering	
Lethukuthula Ndwandwe	Duvha PS – Control & Instrumentation Engineering	

#### 5. REVISIONS

Date	Rev.	Compiler	Remarks
April 2020	1	A Makhubo	This is as per the requirement from the procedure 240-48929482
January 2021	2	A Makhubo	There were amendments made to the document to further strengthen the technical requirements

#### 6. DEVELOPMENT TEAM

- Andile Makhubo
- Nomfundo Mdlokovana
- Jerushan Pillay
- Vusi Chirwa
- Nokwazi Base

#### 7. ACKNOWLEDGEMENTS

None

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