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Strategy for Ingula Water and  
Sewage Treatment Plant  
Operations and Maintenance**

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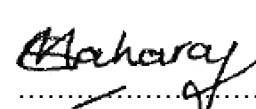


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## **1. INTRODUCTION**

The Ingula Pumped Storage Scheme is located approximately 23 km north-east of Van Reenen. It straddles the Little Drakensberg escarpment, which forms the border between the Free State and Kwa Zulu-Natal Provinces. The Power Station was commissioned by Eskom between 2016 and 2017 and the handed over to Eskom Peaking for operation. The power station consists of a Sewage Treatment Plant and a Water Treatment Plant which both require resources to fulfil the operation and maintenance of the plants to ensure a fully functional potable water and sewage treatment system.

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

The scope of this document is to capture the tender technical evaluation strategy for the Ingula Water and Sewage Treatment Plant Operations and Maintenance package, in order to meet the requirements of an operational power station and regulatory requirements.

#### **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 applies to the Tender Evaluation Team for the Water and Sewage Treatment Plant Operations and Maintenance Package, which includes the following scope:

- Provision of Spares
  - Sewage Treatment Plant
  - Water Treatment Plant (Upper and Lower Water Treatment Plant)
- Maintenance team (as and when required)
- Plant Operations
  - Upper Water Treatment Plant
  - Lower Water Treatment Plant
  - 3 Boreholes (BH 2, 3 and 4)
  - Sewage Treatment Plant

This will include the following for both the water and sewer treatment plants

- Daily Operations
- Emergency Operations
- Standby Operations
- Testing
- Recording and Documentation

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## 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] ISO 9001 Quality Management Systems

### 2.2.2 Informative

- [3] Tender - Ingula Water and Sewage Treatment Plant Operations and Maintenance
- [4] Operating & Maintenance Instructions – Area 2 Primary and Upper Water Treatment Plant
- [5] J/1172/SA – Operation & Maintenance Manual for the Prentec (PTY) Ltd 120m<sup>3</sup>/day Package Plant for Bramhoek Area 2
- [6] 2016-OM-001 – Main Underground Works and Appertant Civil and Building Works Operations & Maintenance Manuals

## 2.3 DEFINITIONS

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

### 2.3.1 Classification

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

## 2.4 ABBREVIATIONS

Abbreviation	Description
BH	Borehole
CoE	Center of Excellence
EDWL	Engineering Design Work Lead
LDE	Lead Discipline Engineer
O&M	Operation and Maintenance
TET	Technical Evaluation Team

## 2.5 ROLES AND RESPONSIBILITIES

As per 240-48929482: Tender Technical Evaluation Procedure

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## 2.6 PROCESS FOR MONITORING

N/A

## 2.7 RELATED/SUPPORTING DOCUMENTS

None

## 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%.

A weighted score-card approach is used to evaluate the technical compliance of the tenders against the technical specifications. Tenderers need to have a weighted score of 70% overall or more to technically qualify for further evaluation.

The evaluation strategy for Safety, Health and Environmental as well as Quality is not included in this document as it does not form part of the Engineering scope.

The evaluation of the tender submission will be based on the tenderer's ability to meet the Operation and Maintenance requirements.

The engineering requirements are further broken down into Business Plan, O&M Programme, Experience and Transport Plan, with the weighted score breakdown for each category indicated below in Table 1.

**Table 1: Overall Weighted Score Breakdown per Discipline**

<b>Category</b>	<b>Overall Weighted Score (%)</b>
Business Plan	20
Operations & Maintenance	25
Experience	35
Transport Plan	20
<b>Total Score</b>	<b>100</b>

The scoring method will be as stipulated in Table 5: Qualitative Technical Evaluation Criteria.

### 3.2 TET MEMBERS

The full time core technical evaluation team will consist of the following team members (in-line with the Tender Engineering Evaluation Procedure, 240-48929482) in Table 2 and Table 3.

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**Table 2: Core TET Members**

<b>TET number</b>	<b>TET Member Name</b>	<b>Designation</b>
TET 1	Nivashini Naidoo	Engineer- Civil & Structural Engineering
TET 2	Richard Marr	Engineer- Mechanical Engineering
TET 3	Aveshan Venketsamy	Engineer- Mechanical Engineering
TET 4	Len Slabbert	Contracts
TET 5	Sibusiso Dlongolo	Maintenance
TET 6	Nokwazi Hadebe	Operations

The part time/support team member shall be required to fill in a technical evaluation form, if their names are marked as mandatory (X), next to a criterion. The part time/ support team member may not be required to fill in a technical evaluation form, if their names are marked as optional (O) next to a criterion, but shall assist the main members where necessary. These members may be as follows in Table 3.

**Table 3: Optional TET Members**

<b>TET number</b>	<b>TET Member Name</b>	<b>Designation</b>
TET 7	Johannes Fielies	Engineer- Civil & Structural Engineering

The core members' and the optional members' responsibilities are described in Table 8.

### **3.3 MANDATORY TECHNICAL EVALUATION CRITERIA**

**Table 4: Mandatory Technical Evaluation Criteria**

	<b>Mandatory Technical Criteria Description</b>	<b>Motivation for use of Criteria</b>
1.	<p>A minimum of 3 year experience/ evidence of operation and maintenance of Water and Sewage Treatment Plants that are equivalent to the works required in this package.</p> <p>This includes:</p> <ul style="list-style-type: none"><li>• Project Name</li><li>• Description of work performed</li><li>• Project Value (only for scope performed)</li><li>• Project Start and End Date</li></ul> <p>The Tenderer submits a list of traceable references which adequately proves that the Tenderer has relevant experience.</p> <p>Name, designation and Contact Person of Referee are required.</p> <p>If the Tenderer sub-contracts any of the technical works, the list of sub-contractors must be evaluated to confirm that the tenderer understands the full scope and that the entire scope is covered</p>	Capability Constraint

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	<p>within their own expertise and that of the sub-contractors':</p> <p>The list of sub-contractors should include the following information:</p> <ul style="list-style-type: none"><li>• Name and address</li><li>• Element of work to be done</li><li>• Work Experience:<ul style="list-style-type: none"><li>◦ Description, Value, Date, Client Contact details</li></ul></li></ul>	
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### 3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

During the tender evaluations, Table 5 shall be used by the TET members to score each criterion on a scale of 0 to 5.

**Table 5: Qualitative Technical Evaluation Criteria**

<b>SCORE</b>	<b>PERCENTAGE</b>	<b>DESCRIPTION</b>
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> <ul style="list-style-type: none"><li>• Meet technical requirement(s) with;</li><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.

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**Table 6: Qualitative Technical Criteria**

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1. Business Plan Criteria: Overall Weighted Score Breakdown = 20%					
1.1	Business Plan			20	
	1.1.1	The Tenderer is required to submit a detailed business plan and company portfolio so as to determine the Tenderer's capabilities.  The business plan is to include all resources (human, financial, implementation plan & SHE plan) to execute the scope of works in full.	<ul style="list-style-type: none"><li>Resource Plan showing all resources (financial, operational etc.)</li><li>SHE Plan</li><li>Implementation Plan</li></ul>		10
	1.1.2	The business organogram is to the indicate names, roles, years of service and designations of each staff member that form part of the contracting company.	Detailed Organogram		5
	1.1.3	The Tenderer shows the potential business risks assessed in the business plant i.e. a SWOT analysis.	SWOT Analysis		5
2. Ops & Maintenance Criteria: Overall Weighted Score Breakdown = 25%					
2.1	Programme			10	
	2.1.1	The Tenderer is to provide a holistic programme indicating how the scope will be executed.	Detailed Programme		5
	2.1.2	The submitted programme is to indicate how manpower will be applied i.e. manpower roster indicating who will work to ensure two persons always on duty on dayshift, 7 days a week	<ul style="list-style-type: none"><li>Works Information</li><li>Shift Roster</li></ul>		5
2.2	Monitoring & Controlling			15	
	2.2.1	The Tenderer is to provide detailed method statements indicating how the scope will be executed.	Method Statements		5



	<b>Qualitative Technical Criteria Description</b>		<b>Reference to Technical Specification / Tender Returnable</b>	<b>Criteria Weighting (%)</b>	<b>Criteria Sub Weighting (%)</b>
	2.2.2	The Tenderer is to provide quality control checklists for operating and maintaining the Water & Sewage Treatment Plant.	Quality Control Checklist		5
	2.2.3	The Tenderer is to provide report templates relevant to Sewage and Water Treatment Plants	Report Templates		5
<b>3. Experience Criteria: Overall Weighted Score Breakdown = 35%</b>					
<b>3.1</b>	<b>Experience &amp; Resources</b>			35	
	3.1.1	The Tenderer is to have a minimum of 3 years of experience in Sewage and Water Treatment Plant Operations and Maintenance.  Each employee (Management, Supervisors and Field Staff Members) must provide their work history and area of specialist as per organogram.	<ul style="list-style-type: none"> <li>• Organogram</li> <li>• CV's</li> </ul>		15
	3.1.2	The Tenderer is to provide the details of at least three (3) previous sewage and water operating and/or maintenance related contracts/projects. This must be documented and submitted for evaluation, with contactable references.  (Reference form to be used attached)	Tender Returnable Schedule		20
<b>4. Transportation Planning Criteria: Overall Weighted Score Breakdown = 20%</b>					
<b>4.1</b>	<b>Transportation Criteria</b>			20	
	4.1.1	The Tenderer is to provide the type of vehicles to be used for this service.  The Tenderer is to ensure that vehicles comply with the Eskom Vehicle Safety Specification 32-345	<ul style="list-style-type: none"> <li>• Eskom Vehicle Safety Specification 32-345</li> <li>• Transport Plan</li> </ul>		20

**3.4.1 Qualitative Technical Criteria- Scoring Range**

Table 7 below describes how the tenders will be evaluated and scored in terms of the scoring rang of 0, 2, 4 and 5.

**Table 7: Scoring Range for Qualitative Technical Criteria**

<b>Business Plan</b>				
<b>Criteria No</b>	<b>Qualitative Technical Criteria Description</b>	<b>Criteria Sub Weighting (%)</b>	<b>Range</b>	<b>Score</b>
1.1.1	The Tenderer is required to submit a detailed business plan and company portfolio so as to determine the Tenderer's capabilities.  The business plan is to include all resources (human, financial, implementation plan & SHE plan) to execute the scope of works in full.	50	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information (Only two requirements met)	2
			Partial deficiency AND compliance to the Works Information (Three requirements met)	4
			Complete compliance to the Works Information	5
1.1.2	The business organogram is to the indicate names, roles, years of service and designations of each staff member that form part of the contracting company.	30	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information (Only some roles provided)	2
			Partial deficiency AND compliance to the Works Information (More than 50% of the roles indicated)	4
			Complete compliance to the Works Information	5
1.1.3	The Tenderer shows the potential business risks assessed in the business plant i.e. a SWOT analysis.	15	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information (Only some risks assessed)	2
			Partial deficiency AND compliance to the Works Information (More than 50% of the risks assessed)	4
			Complete compliance to the Works Information	5

Ops & Maintenance Programme				
Criteria No	Qualitative Technical Criteria Description	Criteria Sub Weighting (%)	Range	Score
2.1.1	The Tenderer is to provide a holistic programme indicating how the scope will be executed.	50	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information	2
			Partial deficiency AND compliance to the Works Information	4
			Complete compliance to the WI	5
2.1.2	The submitted programme is to indicate how manpower will be applied i.e. manpower roster indicating who will work to ensure two persons always on duty on dayshift, 7 days a week.	50	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information	2
			Shift Roster provided with partial deficiencies.	4
			Shift Roster provided and adheres to the Basic Conditions of the Employment Act.	5
2.2.1	The Tenderer is to provide detailed method statements indicating how the scope will be executed.	33.3	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information	2
			Partial deficiency AND compliance to the Works Information	4
			Complete compliance to the WI	5
2.2.2	The Tenderer is to provide quality control checklists for operating and maintaining the Water & Sewage Treatment Plant.	33.3	Total deficiency AND non-submission	0
			Partial deficiency OR non-compliance to the Works Information	2
			QCPs provided with some deficiencies	4
			All QCPs provided and shows Hold and Witness points and adherence to Water Use Licence and SANS 241 standard	5

2.2.3	The Tenderer is to provide report templates relevant to Sewage and Water Treatment Plants.	33.3	Total deficiency AND non-submission	0
			Report template lacks key information	2
			Report template provided but with some details omitted	4
			Report template provided and adheres to WUL & SANS 241	5
Experience				
Criteria No	Qualitative Technical Criteria Description	Criteria Sub Weighting (%)	Range	Score
3.1.1	The Tenderer is to have a minimum of 3 years of experience in Sewage and Water Treatment Plant Operations and Maintenance.  Each employee (Management, Supervisors and Field Staff Members) must provide their work history and area of specialist as per organogram.	42.9	Total deficiency AND non-submission	0
			Relevant experience, some CV's as per organogram	2
			Relevant experience, CV's as per organogram, but with less than 3 years of service	4
			Relevant experience, CV's provided indicating 3 or more years of service in the Water Treatment Plants	5
3.1.2	The Tenderer is to provide the details of at least three (3) previous sewage and water operating and/or maintenance related contracts/projects. This must be documented and submitted for evaluation, with contactable references.  (Reference form to be used attached)	57.1	Total deficiency AND non-submission	0
			One (1) provided, current and/or completed in the last 5 years	2
			Two (2) provided, current and/or completed in the last 4 years	4
			Three (3) provided, current and/or completed in the last 4 years	5
Transportation Planning				
Criteria No	Qualitative Technical Criteria Description	Criteria Sub Weighting (%)	Range	Score
4.1.1	The Tenderer is to provide the type of vehicles to be used	100	Total deficiency AND non-compliance	0

	for this service.  The Tenderer is to ensure that vehicles comply with the Eskom Vehicle Safety Specification 32-345.		Partial deficiency OR non-compliance to the Works Information	2
			Transport Plan provided but not in compliance with Eskom standard.	4
			Transport Plan in complete compliance to Eskom Vehicle Safety Specification 32-345	5

**3.5 TET MEMBER RESPONSIBILITIES**

Key: X = Mandatory; O = Optional

**Table 8: TET Member Responsibilities**

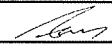



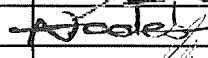

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7
1	X	X	X				O
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7
1.1.1				X	X	X	
1.1.2				X	X	X	
1.1.3				X	X	X	
2.1.1	X	X	X	X	X	X	O
2.1.2	X	X	X	X	X	X	O
2.2.1	X	X	X	X	X	X	O
2.2.2	X	X	X	X	X	X	O
2.2.3	X	X	X	X	X	X	O
3.1.1	X	X	X	X	X	X	O
3.1.2	X	X	X	X	X	X	O
4.1.1				X	X	X	

### 3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

It is anticipated that various risks, exceptions and conditions will be identified during the clarification and negotiation process. Each of those will be considered and evaluated individually to determine whether they are acceptable, unacceptable or whether suitable mitigation measures can be agreed upon.

### 4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Aveshan Venketsamy	Mechanical Engineering	
Len Slabbert	Contracts	
Sibusiso Dlongolo	Maintenance	
Nivashini Naidoo	Civil & Structural Engineering	
Nokwazi Hadebe	Operation	
Richard Marr	Mechanical Engineering	

### 5. REVISIONS

Date	Rev.	Compiler	Remarks
October 2021	0	N Naidoo	Draft
October 2021	1	N Naidoo	Circulated for Signatures

### 6. DEVELOPMENT TEAM

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

- Zandile Mnukwa
- Nokwazi Hadebe
- Len Slabbert

### 7. ACKNOWLEDGEMENTS

- Richard Marr
- Aveshan Venketesamy

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