

Title: **Tender Technical Evaluation
Strategy – Tutuka Power Station
Submerged Scraper Conveyor
Upgrade**

Unique Identifier: **15ENG GEN-2171**

Alternative Reference Number: **N/A**

Area of Applicability: **Engineering**

Documentation Type: **Strategy**

Revision: **2**

Total Pages: **17**

Next Review Date: **N/A**

Disclosure Classification: **CONTROLLED
DISCLOSURE**

Compiled by**Lubabalo Tyatyeka****Engineer – Tutuka Power
Station**

Date: 2022/03/11

Functional Responsibility**Phil Hoop****Boiler Engineering Manager –
Tutuka Power Station**

Date: 11/03/2022

Authorised by**Ntombifuthi Ngcobo****Engineering Manager – Tutuka
Power Station**

Date: 11/03/2022

CONTENTS

	Page
1. INTRODUCTION	3
1.1 SCOPE	3
1.1.1 Purpose	3
1.1.2 Applicability.....	3
1.2 NORMATIVE/INFORMATIVE REFERENCES.....	3
1.2.1 Normative	3
1.2.2 Informative	4
1.3 DEFINITIONS.....	4
1.3.1 Classification	4
1.4 ABBREVIATIONS.....	4
1.5 ROLES AND RESPONSIBILITIES.....	4
1.6 PROCESS FOR MONITORING.....	4
1.7 RELATED/SUPPORTING DOCUMENTS.....	4
2. TENDER TECHNICAL EVALUATION STRATEGY	4
2.1 TECHNICAL EVALUATION THRESHOLD	4
2.2 TET MEMBERS.....	5
2.3 MANDATORY TECHNICAL EVALUATION CRITERIA.....	6
2.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA.....	7
2.5 TET MEMBER RESPONSIBILITIES.....	14
2.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS.....	15
2.6.1 Risks.....	15
2.6.2 Exceptions / Conditions	16
3. AUTHORISATION.....	17
4. REVISIONS	17
5. DEVELOPMENT TEAM	17

TABLES

Table 1: TET Members	5
Table 2: Mandatory Technical Evaluation Criteria.....	6
Table 3: Qualitative Technical Evaluation Criteria.....	7
Table 4: Qualitative Evaluation Criteria Scoring Table.....	13
Table 5: TET Member Responsibilities.....	14
Table 6: Acceptable Technical Risks.....	15
Table 7: Unacceptable Technical Risks	15
Table 8: Acceptable Technical Exceptions / Conditions.....	16
Table 9: Unacceptable Technical Exceptions / Conditions	16

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

The change in coal quality at Tutuka Power Station (P.S.) has resulted in the Submerged Scraper Conveyor (SSC) being under designed for the current coarse ash production. Furthermore, high frequency of submerged idler wheel, scraper bar, chain and electrical related failures have resulted in SSCs being one of the major contributors to the station's Unplanned Capability Loss Factor (UCLF). SSCs are currently not only the primary cause of load losses, but are also now the cause of major secondary losses and damages due to ash ingress into the cooling water affecting the cooling towers and condensers.

This document covers the multi-disciplinary design team technical evaluation requirements that will be evaluated and how the evaluations will be scored, for the SSC Upgrade at Tutuka Power Station. The team members are listed and appointed in this document along with their responsibilities.

The document further describes the acceptable and unacceptable risks and qualifications and/or conditions.

The technical evaluation requirements consist of the following criteria:

- Mandatory Evaluation Criteria
- Qualitative Evaluation Criteria
- Acceptable/Unacceptable Qualifications

Supporting Clauses

1.1 SCOPE

The Tender Technical Evaluation Strategy will define the following technical evaluation criteria:

- Mandatory Evaluation Criteria
- Qualitative Evaluation Criteria
- TET Member Responsibilities
- Acceptable / Unacceptable Qualifications

Once the Technical Evaluation Strategy is approved no changes will be permitted to be made to the evaluation criteria.

1.1.1 Purpose

The purpose of this tender technical evaluation strategy is to define the Mandatory Evaluation Criteria, Qualitative Evaluation Criteria and Technical Evaluation Team (TET) member responsibilities for tender technical evaluation. The technical evaluation strategy serves as basis for the tender technical evaluation process.

1.1.2 Applicability

This document applies to the Tutuka Power Station Units 1-6 SSC Upgrade Project and is applicable to Tutuka Power Station Engineering Department.

This document will form the basis for the technical evaluation process, this is a multidiscipline project and thus this document is applicable to the multidisciplinary TET members.

1.2 NORMATIVE/INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

1.2.1 Normative

[1] 240-48929482: Tender Technical Evaluation Procedure

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] Eskom Procurement Policy and Supply Chain Management Procedure 32-1034

1.2.2 Informative

[3] Tutuka Power Station Submerged Scraper Conveyor Upgrade Contracting strategy

1.3 DEFINITIONS

No Definitions required.

1.3.1 Classification

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

1.4 ABBREVIATIONS

Abbreviation	Description
C&I	Control and Instrumentation
CV	Curriculum Vitae
DRA	Definition Release Approval
ECSA	Engineering Counsel of South Africa
MTTF	Mean Time To Failure
MTTR	Mean Time To Repair
N/A	Not Applicable
PLC	Programmable Logic Controller
SSC	Submerged Scraper Conveyor
TET	Technical Evaluation Team

1.5 ROLES AND RESPONSIBILITIES

N/A as per 240-48929482: Tender Technical Evaluation Procedure

1.6 PROCESS FOR MONITORING

N/A

1.7 RELATED/SUPPORTING DOCUMENTS

N/A

2. TENDER TECHNICAL EVALUATION STRATEGY

2.1 TECHNICAL EVALUATION THRESHOLD

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

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.

2.2 TET MEMBERS

It is noted as part of the Tender Technical Evaluation Procedure that two TET members are required to evaluate a specific criterion. Tutuka Power Station does not at the moment have a Civil Engineering resource to perform the evaluations. Thus TET 8 has been noted as, to be determined. A team member will be assigned to perform the evaluation before the evaluations start by the Tutuka Power Station Civil Engineering Manager.

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1	Lubabalo Tyatyeka	Boiler Engineer – Tutuka Power Station
TET 2	Linda Mahlangu	Mechanical Engineer – Kusile Power Station
TET 3	Richard Brayshaw	Electrical Engineer – Tutuka Power Station
TET 4	Ryan Hector	Electrical Engineer – Tutuka Power Station
TET 5	Motlatsi Tshupe	C&I Engineer – Tutuka Power Station
TET 6	Mboneni Ngwenyama	C&I Engineer – Tutuka Power Station
TET 7	Clarissa Lesanne Chetty	Civil Engineer – Tutuka Power Station
TET 8	Pikela Chauke	EDWL Boiler Engineering Tutuka 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 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.	Compliance with Eskom welding procedure and supply of materials, minimum requirements as follows: <ul style="list-style-type: none">• ISO 3834 Certification.	Tenderer to submit valid; <ul style="list-style-type: none">• ISO 3834 Certificate.	Requirement in the 240-106628253; Standard for Welding Requirements on Eskom Plant.
2.	Lead Design Engineer/s who will be accountable and oversee the project must be ECSA registered and poses sound and related experience to the project.	Tenderer to submit; <ul style="list-style-type: none">• ECSA registration certificate/ECSA registration number• Curriculum Vitae (CV). For the Lead Design/mechanical Engineer, Lead Electrical Engineer, and the Lead Structural Engineer	Capability Constraint

2.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 3 defines all Qualitative Evaluation Criteria to be used as well as reference to specification and specific weighting.

Table 3: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	Mechanical Evaluation			30	
	1.1	<p>Design experience of chain conveying system with drive and take up systems.</p> <ul style="list-style-type: none"> 5 or more completed chain conveying system with drive and take up systems design projects (5/5 points). 3 to 4 completed chain conveying system with drive and take up systems design projects (4/5 points). 1 to 2 completed chain conveying system with drive and take up systems design projects (2/5 points). Not submitted/ Design experience not relevant or satisfactory/ No design experience (0/5 points). 	<p>The tenderer provides:</p> <ul style="list-style-type: none"> Reference that the Manufacturer/Supplier has successfully built/supplied similar equipment. Certificate of completion that includes the description of the completed project, details of the client and the construction dates. The scope previously completed must be relevant to the scope required to be completed as part of this enquiry ie. Design and construction of chain conveying system with drive and take up system. 		40
	1.2	<p>Design experience of slurry water pumping systems and ability to provide drawings (mechanical, electrical and control & instrumentation) and operating procedures.</p>	The tenderer submits the following;		20

**Tender Technical Evaluation Strategy – Tutuka Power
Station Submerged Scraper Conveyor Upgrade**

Unique Identifier: **15ENG GEN-2171**

Revision: **2**

Page: **8 of 17**

		<p>Water recovery systems, slurry pump and pipe systems design capability.</p> <ul style="list-style-type: none"> • 5 or more completed water recovery systems, slurry pump and pipe systems design projects (5/5 points). • 3 to 4 water completed recovery systems, slurry pump and pipe systems design projects (4/5 points). • 1 to 2 completed water recovery systems, slurry pump and pipe systems design projects (2/5 points). • Not submitted/ Design capability not relevant or satisfactory/ No design capability (0/5 points). 	<ul style="list-style-type: none"> • Description of the scopes completed and certificate of completion. • The client details. • Reference that the Manufacturer/Supplier has successfully built/supplied similar equipment with in the last 10 years. 		
	1.3	<p>CIDB rating of 7ME/CE or higher.</p> <ul style="list-style-type: none"> • Supplier has a CIDB grading of 7 or higher (5/5 points) • Not submitted/Supplier has CIDB grading less than 7 /No CIDB grading (0/5 points). 	<p>Tenderer to submit;</p> <ul style="list-style-type: none"> • Submit valid registration certificate. 		30
	1.4	<p>Project Schedule</p> <ul style="list-style-type: none"> • High level project schedule that indicates critical project milestones and durations submitted (5/5 points). • High level project schedule that indicates critical project milestones or durations submitted (2/5 points). • High level project schedule that indicates critical project milestones not submitted (0/5 points). 	<p>Tenderer to provide high level project schedule that indicates critical project milestones and durations.</p>		10
2.	Electrical Evaluation Criteria			25	

**Tender Technical Evaluation Strategy – Tutuka Power
Station Submerged Scraper Conveyor Upgrade**

Unique Identifier: **15ENG GEN-2171**

Revision: **2**

Page: **9 of 17**

	2.1	<p>Method statement demonstrating understanding of full scope.</p> <ul style="list-style-type: none"> Project methodology details fully how scope will be met and provides comprehensive methodology of approach (5/5 points). Proposed project methodology contains high level descriptions that reiterates scope of works (2/5 points). No Method statement/ Not satisfactory (0/5 points). 	<p>Section 3.2.8 of Technical Specification</p> <p>Provide project methodology document detailing how the Tenderer proposes to execute the Works.</p>		100
3.	Control and Instrumentation Criteria			20	
	3.1	<p>Control system integration capability</p> <ul style="list-style-type: none"> CV and OEM letter show 5 or more years of experience of system integrators (5/5 points). CV and OEM letter show less than 5 years (4/5 points). Not submitted/ Experience not relevant (0/5 points). 	<p>Section 3.2.9.1 of Technical Specification</p> <p>OEM letter stating previous experience of system integrators.</p> <p>CV of proposed engineering professionals indicating years of experience, and previously completed project.</p>		50
	3.2	<p>Instrumentation and Junction Boxes IP-ratings (IP68)</p> <ul style="list-style-type: none"> Instrument list includes IP(IP68) rating on field instrument (5/5 points). Not submitted/ IP rating not relevant (0/5 points). 	<p>Section 3.2.9.1 of Technical Specification</p> <p>Tenderer to include IP rating on field instrument list.</p> <p>Must be in line with Eskom Standard which requires the rating to be IP68.</p>		10
	3.3	<p>Instrumentation requirement</p> <ul style="list-style-type: none"> Contractor to provide letter confirming that the field instrumentation will meet the technical specification requirement in section 3.2.9.1 (5/5 points). 	<p>Section 3.2.9.1 of Technical Specification</p> <p>Field Instrument List that shows the types of field instruments and the</p>		10

**Tender Technical Evaluation Strategy – Tutuka Power
Station Submerged Scraper Conveyor Upgrade**

Unique Identifier: **15ENG GEN-2171**

Revision: **2**

Page: **10 of 17**

		<ul style="list-style-type: none"> Not submitted (0/5 points). 	<p>quantities required to complete the works.</p> <p>Technical specification and data sheet for each instrument to be included.</p>		
	3.4	<p>Deviation List Control and Instrumentation</p> <ul style="list-style-type: none"> Letter submitted stating no deviation (5/5 points). Full deviation list submitted (4/5 points). No letter or list submitted (0/5 points). 	<p>Tenderer submits a deviation list pertaining to the C&I scope.</p>		10
	3.5	<p>Local Control Station (LCS) Requirement</p> <ul style="list-style-type: none"> Applicable drawing and technical specification of the local control panel meeting Section 3.2.9.1 of Technical Specification (5/5 points). Not submitted/ Not applicable or sufficient or meeting Section 3.2.9.1 of Technical Specification (0/5 points). 	<p>Section 3.2.9.1 of Technical Specification</p> <ul style="list-style-type: none"> The Tenderer provides LCS(s) with the following requirements: LCS(s) have dual enclosures with both enclosures provided with a door. The interior enclosure will house all the relevant Electrical and C&I components, all required push buttons, SSC speed control potentiometer and indications. The exterior enclosure should be IP 68 rated. Locking mechanism is industrial cubicle handle with padlock. 		20

**Tender Technical Evaluation Strategy – Tutuka Power
Station Submerged Scraper Conveyor Upgrade**

Unique Identifier: **15ENG GEN-2171**

Revision: **2**

Page: **11 of 17**

			<ul style="list-style-type: none"> The SSC panel is divided into two sections one electrical and the other C&I. 		
4.	Civil Evaluation Criteria			15	
	4.1	<p>Method statement for the completion of the Civil and Structural works to be competed.</p> <ul style="list-style-type: none"> Project methodology details fully how scope will be met and provides comprehensive methodology of approach (5/5 points). Proposed project methodology contains high level descriptions that reiterates scope of works (2/5 points). No Method statement/ Not satisfactory (0/5 points). 	<p>Section 3.4.1 of Technical Specification</p> <p>Method statement to include:</p> <ul style="list-style-type: none"> Schedule/sequins of events List of standards applied High level risk identified <p>The method statement to demonstrate how the works will be completed taking into account the risk, constraints and complete scope.</p>		20
	4.2	<p>Contractor's similar works experience of structural engineering projects previously completed.</p> <ul style="list-style-type: none"> 5 or greater than 5 relevant projects completed = 5 points 3 or 4 relevant projects completed = 4 points 1 or 2 relevant project/s completed = 2 points Not submitted/No structural engineering or related project experience/Construction experience not relevant = 0 point 	<p>Work experience and Signed References</p>		20
	4.3	<p>Project programme/schedule submitted detailing the milestones activities, start and completion dates.</p> <ul style="list-style-type: none"> Program / project schedule submitted = 5 points Program / project schedule submitted but not complete= 2 points, 	<p>As per Employer's Works Information</p>		20

**Tender Technical Evaluation Strategy – Tutuka Power
Station Submerged Scraper Conveyor Upgrade**

Unique Identifier: **15ENG GEN-2171**

Revision: **2**

Page: **12 of 17**

		<ul style="list-style-type: none"> Program / project schedule <u>NOT</u> submitted = 0 points 			
	4.4	<p>QCP showing the Contractor's proposed QCP with Holding, Witness, Surveillance points for Employer Contractor.</p> <ul style="list-style-type: none"> QCP showing the Contractor's proposed QCP with Holding, Witness, Surveillance points for Employer Contractor = 5 points QCP not included or not satisfactory = 0 point 	As per Employer's Works Information QCP		20
	4.5	<p>An organogram for the core crew, in particular the names and qualifications of the Site Manager, Safety Officer, Foreman, Machine Operators, General Workers, and supporting staff necessary to execute the works.</p> <ul style="list-style-type: none"> Organogram of the minimum mentioned core crew submitted = 5 points Organogram of the minimum core crew not submitted = 0 points 	<p>CV's Qualifications</p> <p>Company organogram specific to the team allocated to execute Employer's Works Information</p>		20
				TOTAL: 100	

Table 4: Qualitative Evaluation Criteria Scoring Table

Score	(%)	Definition
5	100	COMPLIANT <ul style="list-style-type: none"> • Meet technical requirement(s) AND; • No foreseen technical risk(s) in meeting technical requirements.
4	80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS <ul style="list-style-type: none"> • Meet technical requirement(s) with; • Acceptable technical risk(s) AND/OR; • Acceptable exceptions AND/OR; • Acceptable conditions.
2	40	NON-COMPLIANT <ul style="list-style-type: none"> • 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
<p>Note 1: The scoring table does not allow for scoring of 1 and 3.</p> <p>Note 2: Foreseen acceptable and unacceptable risk(s), exceptions and conditions shall be unambiguously defined in the relevant Tender Technical Evaluation Strategy.</p>		

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.

2.5 TET MEMBER RESPONSIBILITIES

This table shows the TET members allocated to evaluate the various criteria as defined in Table 2 and Table 3 respectively.

Table 5: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET 8
1	x	x	x	x	x	x	x	o
2	x	x	x	x	x	x	x	o
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET 8
1.	x	x						o
2.			x	x				o
3.					x	x		o
4.							x	o

o - TET 8 has been added as an assurance member. TET 8 will have access to all the tender submissions to complete the technical evaluation score verification and consolidations as per the Tender Technical Evaluation Strategy.

2.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

2.6.1 Risks

Table 6: Acceptable Technical Risks

Risk	Description
1.	Subcontracting of the integration of the control system to different entities

Table 7: Unacceptable Technical Risks

Risk	Description
1.	The supplied method statement for the completion of the electrical scope shows that the contractor either has a misunderstanding of what is required to complete the electrical scope
2.	No method statement is supplied (Electrical scope)
3.	Method statement supplied is irrelevant or shows no understanding of the scope
4.	Tenderer is not able to demonstrate that the proposed integrators will be able to engineer in both Siemens and ABB control systems.
5.	The instrumentation list includes instrumentation that is not in line with the operating philosophy.
6.	Incompatible instruments are proposed by the tenderer

2.6.2 Exceptions / Conditions

Table 8: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	Method statement supplied but is lacking in key information requested in the enquiry that can possibly be negotiated

Table 9: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	Any deviation, exception or condition that can result in a risk with regards to the successful completion of the project that cannot reasonably be mitigated or negotiated with the tenderer.

3. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Tebogo Motloutsi	Boiler Engineer – Tutuka Power Station	
Lubabalo Tyatyeka	Boiler Engineer – Tutuka Power Station	
Richard Brayshaw	Electrical Engineer – Tutuka Power Station	
Motlatsi Tshupe	C&I Engineer - Tutuka Power Station	
Linda Mahlangu	Mechanical Engineer – Kusile Power Station	
Mboneni Ngwenyama	C&I Engineer – Tutuka Power Station	
Clarissa Lesanne chetty	Civil Engineer – Tutuka Power Station	

4. REVISIONS

Date	Rev.	Compiler	Remarks
July 2021	1	FM Nieuwoudt	Document completed, ready for signature.
February 2022	2	Lubabalo Tyatyeka Tebogo Motloutsi Clarissa Lesanne Chetty Mboneni Ngwenyama	<ul style="list-style-type: none">Included the scoring guideline for the technical evaluation criteria.Added new TES members.

5. DEVELOPMENT TEAM

The TET members as listed in Table 1 were involved in the development of this 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.