

 Eskom	Strategy	Engineering
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1. INTRODUCTION

This document describes the process to be followed in performing the technical evaluations of the tender returnables for the Tutuka Power Station Hydrogen generating plant project

The evaluations of tenders will be based on the tenderer's ability to meet both mandatory and qualitative requirements specified for this project. A weighted score card approach will be used to determine the best qualifying tenderer, and the technical evaluation criteria and scoring are set out in detail within this report

2. SUPPORTING CLAUSES

2.1 SCOPE

This strategy defines the Technical Evaluation Team (TET), their responsibilities and the criteria to be used to evaluate the Tutuka Power Station Hydrogen Generating 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 a basis for the tender evaluation process

2.1.2 Applicability

This document is applicable to Tutuka 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] | 32-1034 | Eskom Procurement Policy |
| [3] | ISO 9001 | Quality Management Systems |
| [4] | 240-53716712 | Tender Technical Evaluations Results Form Template |
| [5] | 240-53716726 | Tender Technical Evaluations Scoring Form Template |
| [6] | 240-56227413 | Hydrogen Systems Standard |
| [7] | 15ENG GEN-2255 | Hydrogen Generating Plant Upgrade Project Scope of Work (Tutuka Power Station) |

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2.2.2 Informative

2.3 DEFINITIONS

2.3.1 Classification

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

Definition	Description
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
Eskom Evaluation Team	The persons appointed by Eskom (referred to as the Employer) to perform the evaluation of tender submissions in line with Eskom's requirements
Normative	Documents that shall be read in conjunction with this report and are binding on tenderers
Tender	A tender refers to an open or closed competitive request for quotations/ prices against a clearly defined scope or specification

2.4 ABBREVIATIONS

Abbreviation	Description
C&I	Control and Instrumentation
CIDB	Construction Industry Development Board
CV	Curriculum Vitae
DCS	Distributed Control System
ECSA	Engineering Council of South Africa
H ₂	Hydrogen
NDT	Non-Destructive Test
OEM	Original Equipment Manufacturer
OPCR	Outside Plant Control Room
PLC	Programmable Logic Controller
TES	Tender Evaluation Strategy
TET	Technical Evaluation Team

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2.5 ROLES AND RESPONSIBILITIES

As per 240-48929482 Tender Technical Evaluation Procedure

2.6 PROCESS FOR MONITORING

As per 240-48929482 Tender Technical Evaluation Procedure

3. TENDER TECHNICAL EVALUATION STRATEGY

In order to be eligible for evaluation, the tenderer shall meet all the mandatory requirements

The evaluation of tenders will be based on the tenderer's ability to meet the requirements specified in the Hydrogen Generating Plant Upgrade Project Scope of Work for Tutuka Power Station 15ENG GEN-2255

The evaluation exercise is performed by the Eskom Evaluation team. The following criteria will be used to assess the tenderer's capability to enter into a contract with Eskom with respect to specific products and to meet Eskom's requirements

3.1 TECHNICAL EVALUATION THRESHOLD

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

3.2 TET MEMBERS

3.3 MANADATORY TECHNICAL EVALUATION CRITERIA

This part of the evaluation starts when submissions are opened and assessed for the first time. The Eskom evaluation team will go through the details of the returnable submissions that are the required and will be ensured that all the mandatory Requirements are met. Submissions that received 'No' for any of these requirements will not be able to proceed to the Technical Qualitative Requirements Evaluation stage and therefore will fail the technical evaluation.

Table 2: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1	<i>Is all information supplied in English</i>		Design requirement is for all submissions to be in the English language
2	Supply proof of registration with an Electrical Contractor's Board	Letter of confirmation as MIE	To ensure the Contractor is registered to perform electrical work
3.	Has the company had a contract terminated within Eskom in the last 5 years		Contractor reputability
4	Supply proof of Registration with a Compressed Gas Association	Letter of confirmation	To ensure that the Contractor is registered to perform work on high pressure equipment
5	ECSA Professional Engineering Certification of key personnel <ul style="list-style-type: none"> • Professional Mechanical Engineer • Professional Electrical Engineer • Professional Civil Engineer • Professional Control and Instrumentation Engineer • Professional Project/ Construction Manager 	Provide CV's of key personnel as accompanied by a copy of ECSA Professional Certification or verifiable evidence for Professional Engineer/Technologist who is accountable for the design, construction monitoring and certification of applicable scope	Design Integrity

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6	Cell-stack life expectancy of >8 years OEM's agent response time to rectify plant failure < 48 hours	Letter from the OEM	This is to ensure that the plant will be adhere to the expected design life and should there be failures there is a quick response from the Contractor
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3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Notes to tenderer

- 1 An undertaking is required that resources identified would not be changed on award of Contract
- 2 The CVs of key personnel should have experience which is comparable in nature to the works specified in this tender
- 3 It is required that key personnel, in particular, have good communication skill in the English language
4. Where no information is offered by the Tenderer, no points shall be scored

Table 3: Qualitative Evaluation Criteria Scoring Table

Score	(%)	Definition
5	100	COMPLIANT <ul style="list-style-type: none"> Meets technical requirement(s)
4	80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS Meets technical requirement(s) with, <ul style="list-style-type: none"> 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
Note 1: The scoring table does not allow for scoring of 1 and 3 Note 2: Foreseen acceptable and unacceptable risk(s), exceptions and conditions shall be unambiguously defined in the relevant Tender Technical Evaluation Strategy		

Table 4: Qualitative Technical Evaluation Criteria

No	Qualitative Technical Criteria Description	Weighting	Sub-Weighting		
6.1	General	30%			
6.1.2	<p>Company's background and experience on the design and construction of Hydrogen generating plants and distribution plants or similar works</p> <p><i>Company's background and experience shall be a minimum of 3 years on design, construction and commissioning of Hydrogen generating plant. Any sub-contracted companies as part of the main tenderer shall have experience of minimum 3 years on design, construction and commissioning of the main aspects or disciplines of the project, including but not limited to</i></p> <ul style="list-style-type: none"> • Hydrogen generating plant • Civil and Structural works • Electrical design • Control and Instrumentation • Hazardous installations • Name of company where project was executed • Project description • Construction period • Contact person 		20%	Demonstrate previous experience on similar equipment	<p>5 = 100% = COMPLIANT</p> <ul style="list-style-type: none"> • Meet technical requirement(s) <p>4 = 80% = COMPLIANT WITH ASSOCIATED QUALIFICATIONS</p> <ul style="list-style-type: none"> • Meet technical requirement(s) with, • Acceptable technical risk(s) AND/OR, • Acceptable exceptions AND/OR, • Acceptable conditions <p>2 = 40% = NON-COMPLIANT</p> <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 <p>0 = 0% = TOTALLY DEFICIENT OR NON-RESPONSIVE</p>
6.1.2	Deviation list with direct references to the clauses in the Eskom Hydrogen Systems		10%		

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	standard 240-56227413 and technical specification to be submitted				
6.1.3	<p>Original Equipment Manufacturer (OEM) of the Hydrogen plant represented by local South African company</p> <p>The OEM shall provide a summary of the agency agreement as well as confirmation on a signed letter head that the local agent is authorised or accredited to perform the following activities Test, commission, maintain, modify, and conduct operating and maintenance training to the end user The direct contact details of the OEM technical support shall be indicated on the agency agreement and Eskom will have direct access and will be included in all technical issues raised</p>		20%	<p>Provide the following from the OEM</p> <ul style="list-style-type: none"> • Training certificate from the OEM • OEM's letter of warranty • OEM's letter of technical support 	
6.1.4	The Local Company (Agent) to have approval from the OEM to perform partial replacement of cells and full cell stack assembly		25%	Letter of confirmation	
6.1.5	Supply confirmation of a 2 year warranty on the cell stack		10%	Full OEM replacement warranty	
6.1.6	Compliance to the full scope of work of the hydrogen Generating plant		5%	Comprehensive overview of offered solution and concept for integration to existing infrastructure	
6.1.7	Project Execution Plan and Project Programme		10%	Programme/ Plan demonstrating timelines and milestone completion dates for each activity	

MECHANICAL EVALUATION CRITERIA

No.	Qualitative Technical Criteria Description	Weighting	Sub-Weighting		Sub-Weighting
6.2	Mechanical and General including Safe Production Process Evaluation	25%			
6.2.1	The hydrogen generating plant meets the requirements listed in the standards and specifications. Excellent response which demonstrates the ability to deliver the Hydrogen generating plant scope in excess of the minimum requirements		40%	<p>1 Technical Data Sheets for proposed equipment, plant and instrumentation (valves, pipes, pressure gauges, dryers and monitoring station)</p> <p>6 Track record of the specific technology offered and specified being in service in an application similar than what is stipulated for > 3 years without significant failure i.e. cell stack failure</p> <p>7 The maintainability of all the equipment needs to be clearly indicated</p>	<p>5 = 100% = COMPLIANT</p> <ul style="list-style-type: none"> Meet technical requirement(s) <p>4 = 80% = COMPLIANT WITH ASSOCIATED QUALIFICATIONS</p> <ul style="list-style-type: none"> Meet technical requirement(s) with, Acceptable technical risk(s) AND/OR, Acceptable exceptions AND/OR, Acceptable conditions <p>2 = 40% = NON-COMPLIANT</p> <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 <p>0 = 0% = TOTALLY DEFICIENT OR NON-RESPONSIVE</p>
6.2.2	Supply detailed P&ID for proposed interconnections between the process plant and the storage receivers, measurement panel, etc		20%	Detailed P&IDs	
6.2.3	Perform Engineering Risk analysis		20%	Provide HAZOP, FMECA and RAM report for the works	
6.2.4	The Firefighting system meets the provisions of SANS 10400 and the listed standards		20%	Hydrogen and fire detection design proposal	

ELECTRICAL EVALUATION CRITERIA

No.	Qualitative Technical Criteria Description	Weighting	Sub-weighting	Tender Returnable(s)	
6.3	Electrical Criteria	10%			
6.3.4	Method statement for manufacture, design, delivery, and installation of all electrical equipment for the Works		30%	<p>Shall contain the following as a minimum</p> <ul style="list-style-type: none"> Description of electrical scope of work for this project Single line drawing or block diagram demonstrating the electrical supply Earthing procedure 	<p>5 = 100% = COMPLIANT</p> <ul style="list-style-type: none"> Meet technical requirement(s) <p>4 = 80% = COMPLIANT WITH ASSOCIATED QUALIFICATIONS</p> <ul style="list-style-type: none"> Meet technical requirement(s) with, Acceptable technical risk(s) AND/OR, Acceptable exceptions AND/OR, Acceptable conditions <p>2 = 40% = NON-COMPLIANT</p> <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 <p>0 = 0% = TOTALLY DEFICIENT OR NON-RESPONSIVE</p>
6.3.2	Explosion prevention techniques meeting the HAZLOC zone to which it is located For motors, lighting, cabling and cable glands and all other electrical and electronic equipment to be installed in the Hydrogen generating plant		30%	<p>Provide explosion prevention techniques for motors, light fittings, cable glands etc OR provide a declaration that all Electrical designs and Installations will comply with requirements of SANS 10108</p>	
6.3.3	Provide companies reference on work performed on Electrical equipment, primarily switchgear Provide evidence of work successfully performed on the design, manufacture, installation and commissioning of Electrical equipment		10%	Company's ability to perform work on Electrical Switchgear	
6.3.4	Hydrogen generating plant Electrical Distribution board design to supply all electrical equipment forming part of the project		30%	Proposed Electrical plant design	

CONTROL AND INSTRUMENTATION EVALUATION CRITERIA

No	Qualitative Technical Criteria Description	Weighting	Sub-Weighting	Tender Returnable(s)	
6.4	Control and Instrumentation Criteria	10%			
6.4.1	Detailed method statement from the Tenderer detailing the execution plan for the C&I work requirements as described in the Works information. The Works shall include the interface of the new H2 plant PLC to the existing plant Historian and interface to the Employer's OPCR DCS for monitoring purposes.		50%	Method Statement	<p>5 = 100% = COMPLIANT</p> <ul style="list-style-type: none"> Meet technical requirement(s) <p>4 = 80% = COMPLIANT WITH ASSOCIATED QUALIFICATIONS</p> <ul style="list-style-type: none"> Meet technical requirement(s) with, Acceptable technical risk(s) AND/OR, Acceptable exceptions AND/OR, Acceptable conditions
6.4.2	Provide contactable references for a minimum two (2) years where the bidder has successfully performed control and instrumentation design, network interfaces, supply and implementation work.		50%	<p>List of references detailing the following</p> <ul style="list-style-type: none"> Name of Company Details of work performed relating to control and instrumentation design, network interfaces, supply and implementation work Contact person 	<p>2 = 40% = NON-COMPLIANT</p> <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 <p>0 = 0% = TOTALLY DEFICIENT OR NON-RESPONSIVE</p>

CIVIL AND STRUCTURAL EVALUATION CRITERIA

No.	Qualitative Technical Criteria Description	Weighting	Sub-weighting	Tender Returnable(s)	Scoring Criteria
6.5	Civil and Structural Criteria	5%			
6.5.1	Ability to carry out inspections and tests as may be required for the acceptance of data books and existing completed civil and structural works to ensure construction quality and assurance and quality control		40%	<p>Records/details of previous similar work (e g on site inspections, concrete tests, NDTs etc)</p> <p>CVs and details of key resources competent in executing investigations and tests such as</p> <ul style="list-style-type: none"> Concrete durability (e g shrinkage, ASR, Chlorides & sulphates tests etc) Mandatory Concrete tests during construction (e g slump test, cube test etc) <p>Geotechnical tests (e.g Density tests, DCPs etc)</p>	<p>5 = 100% = COMPLIANT</p> <ul style="list-style-type: none"> Meet technical requirement(s) <p>4 = 80% = COMPLIANT WITH ASSOCIATED QUALIFICATIONS</p> <ul style="list-style-type: none"> Meet technical requirement(s) with, Acceptable technical risk(s) AND/OR, Acceptable exceptions AND/OR, Acceptable conditions <p>2 = 40% = NON-COMPLIANT</p> <ul style="list-style-type: none"> Does not meet technical requirement(s) AND/OR, Unacceptable technical risk(s) AND/OR,
6.5.2	Provide detailed method Statement specifying and showing ability to perform the required Scope of works Listing sequence of activities (site investigation/assessment, tools, scope of works, testing, equipment, skills, specialists, and general labour		30%	Sound method statement demonstrating compliance and understanding of the required works	<ul style="list-style-type: none"> Unacceptable exceptions AND/OR, Unacceptable conditions <p>0 = 0% = TOTALLY DEFICIENT OR NON-RESPONSIVE</p>
6.5.3	Provide schedule baseline plan/programme detailing how the works will be executed including lead times to complete the Scope of Work timeously This should include the milestones completion dates		30%	Programme/ Plan demonstrating timelines and milestone completion dates for each activity	

CONFIGURATION AND DOCUMENT MANAGEMENT EVALUATION CRITERIA

No.	Description	Weighting	Sub-weighting	Tender Returnable(s)	Scoring Criteria
6.6	Configuration and Document management Criteria	10%			
6.6.1	Document and Record Management Details on how documents will be managed and transferred between Contractor and Employer		25%	Document and Record Management Procedure	5 = 100% = COMPLIANT <ul style="list-style-type: none"> Meet technical requirement(s) 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
6.6.2	Modification and Change Management How will design and Engineering changes be dealt with during the project		25%	Engineering Change/Modification Procedure Document and Record Management Procedure	
6.6.3	Process for creating and managing drawings		25%	Procedure	
6.6.4	Managing Configuration items The contractor shall supply a configuration management program according to ISO 10007 to ensure that plant structures, components, drawings, design documents and computer software conform to approved design requirements. This program would include how approvals will be done both from the contractor or the employer's side.		25%	Procedure	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

MAINTENANCE EVALUATION CRITERIA

No	Description	Weighting	Sub-weighting	Tender returnable(s)	Scoring criteria
6.7	Maintenance Requirements	10%			
6.7.1	Detailed maintenance activities and maintenance frequencies		30%	Maintenance plan	5 = 100% = COMPLIANT <ul style="list-style-type: none"> Meet technical requirement(s) 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
6.7.2	Detailed Parts List and quantities with description and OEM type and part numbers and hyperlinks to OEM specification documents		30%	Parts list	
6.7.3	Supply Long term cell stack storage procedure		40%	Long term storage procedure	

TET MEMBER RESPONSIBILITIES

Table 5: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET 8	TET 9
1	X	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X
4	X	X	X	X	X	X	X	X	X
5	X	X	X	X	X	X	X	X	X
6	X	X	X	X	X	X	X	X	X
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET 8	TET 9
6.1	X	X	X	X	X	X	X	X	X
6.2					X	X			
6.3	X	X							X
6.4			X	X					
6.5							X	X	
6.6	X								X
6.7	X								X

3.5 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.5.1 Risks

Table 6: Acceptable Technical Risks

Risk	Description
1	Alternative solutions with the same or better performance

Table 7: Unacceptable Technical Risks

Risk	Description
1	<i>Exclusion of scope specified in the Employers requirements</i>
2	Non-compliance to the requirements of the Eskom Hydrogen Systems Standard
3	Exclusion of project schedule
4	Unclear or non-available staff organogram i.e the staffing is weak not showing clarity in roles and responsibilities
5	Exclusion of the pricing/quotation of the works

3.5.2 Exceptions / Conditions

Table 8: Acceptable Technical Exceptions / Conditions

Risk	Description
1	Deviations with technical qualification

Table 9: Unacceptable Technical Exceptions / Conditions

Risk	Description
1	Deviations without technical qualification