Eskom	Strategy	Research, Testing &Development

Title: **Tender Technical Evaluation Strategy for Hybrid Wind and Solar PV Microgrid Research Facility**

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Compiled by	Functional Responsibility	Authorised by
Mashudu Ndwambi	**Monde Soni**	p.p. K.V. Thejane **Ouma Bosaletsi**
Senior Advisor: RT&D	**Chief Engineer: Distribution**	**Senior Manager: RT&D**
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TABLES

1. INTRODUCTION

A project to establish a microgrid research facility is being developed as a source (supply and install) project. A microgrid plant that will be used for research purposes to advance and improve the existing offering on microgrids. The facility will be situated at Eskom's RT&D Rosherville facility.

Microgrid Research Facility will have the following major components that are integrated to operate as a unit:

- Solar PV panels
- Wind Turbine Generators (WTG)
- Batteries
- Power conversion system (PCS)
- Programmable load
- Control room
- Monitoring and Control system
- All auxiliaries

Concept – the existing Eskom Microgrid currently being deployed is the basis of the concept for the envisaged research facility.

This document must be read in conjunction with the requirements specified in Hybrid Wind and Solar PV Microgrid Research Facility technical evaluation spreadsheet.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of this document is to capture the tender technical evaluation strategy for the Hybrid Wind and Solar PV Microgrid Research Facility Project. The scope of the project is specifically described in the Scope of Supply and Installation of Hybrid Wind and Solar PV Microgrid Research Facility.

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 Risk and Sustainability Division.

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] Design, supply, delivery, installation and commissioning of hybrid wind and solar PV microgrid research facility at Eskom Research, Testing and Development (RT&D)

2.2.2 Informative

[3] ISO 9001 Quality Management Systems

2.3 DEFINITIONS

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
CV	Curriculum Vitae
ECSA	Engineering Council of South Africa
PS	Power Station
TET	Technical Evaluation Team
RT&D	Research Testing and Development

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

N/A

3. TENDER TECHNICAL EVALUATION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

Mandatory Technical Evaluation Criteria (gatekeepers) are ‘must meet’ criteria. These criteria shall not be weighted, or point scored but shall be assessed on a Yes/No basis as to whether or not the criteria are met. An assessment of ‘No’ against any criterion shall technically disqualify the tenderer and shall not be further evaluated against Qualitative Criteria.

Qualitative Technical Evaluation Criteria are weighted evaluation criteria used to identify the highest technically ranked tenderer after determining that all the Mandatory Evaluation Criteria have been met. The Qualitative Evaluation Criteria are weighted to reflect the relevant importance of each criterion. The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 80%.

The evaluation of the tender submission will be based on the tenderer's ability to meet the Engineering requirements. A weighted score card approach will be used to evaluate the tender submission against the specifications and Employer's requirements.

Table 1: Evaluation Criteria

EVALUATION CRITERIA	WEIGHTING
Stage 1	MANDATORY TECHNICAL EVALUATION CRITERIA
Stage 2	Qualitative Technical Evaluation Criteria
Technical/Functional Requirements	Threshold of 80% for Functionality
TOTAL	100

The scoring method will be as shown Table 2.

Table 2: Qualitative Evaluation Criteria Scoring

Score	(%)	Definition
5	100	**COMPLIANT** • Meet technical requirement(s) AND; • No foreseen technical risk(s) in meeting technical requirements.
4	80	**COMPLIANT WITH ASSOCIATED QUALIFICATIONS** Meet technical requirement(s) with; • Acceptable technical risk(s) AND/OR; • Acceptable exceptions AND/OR; • Acceptable conditions.
2	40	**NON-COMPLIANT** • 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**

3.2 TET MEMBERS

Table 3: TET Members

TET number	TET Member Name	Designation
TET 1	Monde Soni	Chief Engineer, Distribution
TET 2	Edison Makwarela	Senior Consultant, Distribution
TET 3	Vincent Mabodi	Engineer, Distribution
TET 4	Sibusiso Maphumulo	Project Manager, RT&D
TET 5	Mashudu Ndwambi	Senior Advisor, RT&D

3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

Table 4: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	The Contractor to submit a list of traceable references adequately proving that at least One (1) or more contracts of similar scope. • Deployment of off- grid microgrid plants, with sites being > 50kW capacity. • Deployment of grid-tied solar plants of power supply > 1MW The Contractor (or its partner or subcontractor) must demonstrate a minimum of three years' experience in supplying, installing and commissioning of on-grid/off-grid microgrid plants, and a minimum of 5 years' operating as a business in South Africa.	A list of at least One (1) relevant verifiable reference within the last 5 years must be provided indicating the following: • Project name • Client • Description of work performed (size of structures to be indicated) • Project value • Project start and end date. • Name, designation and contact number of reference person The Bidder must provide proof of the completed microgrids Plants and operational project(s) in the form of a signed contract, completion certificate or cutover certificate with references from clients.	Research and training facility to be built by highly experienced company.
2.	The tenderer submits CV demonstrating with certification that lead design engineer has a minimum of 5 years' experience in mechanical engineering or electrical engineering and is professionally registered with ECSA. Experience must include a minimum of 3 microgrids and/or renewable projects.	The lead design Engineer must be ECSA registered. The Tenderer to submit CV, ECSA professional registration certificate for the lead design engineer.	Research and training facility to be built by highly experienced personnel

QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 5: Qualitative Technical Evaluation Criteria

Item	***Requirement*** ***The tender provides the Preliminary report which addresses the requirements stipulated in the Technical Returnable document (refer to the excel spreadsheet)***	***Weight***	***Score Awarded***
1	Functionalities to ensure comprehensive control, efficient operation, and robust performance	10%	
2	Solar PV Requirement	8%	
3	Battery Energy Storage Requirements	8%	
4	Wind Turbine Generator Requirements	8%	
5	Power Conversion System (PCS) Requirements	10%	
6	Programmable Load Requirements	6%	
7	Network Unit Requirements	12%	
8	Protection Requirements	8%	
9	Monitoring and Control Functionality Requirements	12%	
10	Office Room Signals	10%	
11	Overall Generating Capacity	8%	
Total		**100%**	

- **The tenderer must complete the Technical Returnable Document** : The evaluation of technical proposals will be based on the scoring results outlined in the technical scoring **Table 5 and Technical Returnable document (excel spreadsheet*)***.
- The scoring criteria is as per Table 2: Qualitative Evaluation Criteria Scoring

- The Technical Evaluation threshold is 80%.

3.4 3.4 TET MEMBER RESPONSIBILITIES

Table 6: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7
1	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X
3	X	X	X	X	X	X	X
4	X	X	X	X	X	X	X
5	X	X	X	X	X	X	X
6	X	X	X	X	X	X	X
7	X	X	X	X	X	X	X
8	X	X	X	X	X	X	X
9	X	X	X	X	X	X	X
10	X	X	X	X	X	X	X
11	X	X	X	X	X	X	X
12	X	X	X	X	X	X	X
13	X	X	X	X	X	X	X
Qualitative Criteria Number	**TET 1**	**TET 2**	**TET 3**	**TET 4**	**TET 5**	**TET 6**	**TET 7**
1	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X
3	X	X	X	X	X	X	

4	X						X
5	X						X
6	X						X
7		X	X	X	X	X	
8							
9							
10							
11							

Foreseen Acceptable / Unacceptable Qualifications

3.4.1 Risks

Table 7: Acceptable Technical Risks

Risk	Description
1	1: COMPLIANT: Meets all applicable sub-criteria
2	1: COMPLIANT: Meets all applicable sub-criteria
3	1: COMPLIANT: Meets all applicable sub-criteria
4	1: COMPLIANT: Meets all applicable sub-criteria
5	1: COMPLIANT: Meets all applicable sub-criteria
6	1: COMPLIANT: Meets all applicable sub-criteria
7	1: COMPLIANT: Meets all applicable sub-criteria
8	1: COMPLIANT: Meets all applicable sub-criteria
9	1: COMPLIANT: Meets all applicable sub-criteria
10	1: COMPLIANT: Meets all applicable sub-criteria
11	1: COMPLIANT: Meets all applicable sub-criteria

Table 8: Unacceptable Technical Risks

Risk	Description
1	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
2	0: NON-COMPLIANT

	0: TOTALLY DEFICIENT OR NON-RESPONSIVE
3	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
4	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
5	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
6	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
7	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
8	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
9	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
10	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE
11	0: NON-COMPLIANT 0: TOTALLY DEFICIENT OR NON-RESPONSIVE

3.4.2 Exceptions / Conditions

Table 9: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	**None**

Table 10: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	**None**

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Monde Soni	Chief Engineer, Distribution	
Edison Makwarela	Senior Consultant, Distribution	
Vincent Mabodi	Engineer, Distribution	
Sibusiso Maphumulo	Project Manager, RT&D	
Mashudu Ndwambi	Senior Advisor, RT&D	

5. REVISIONS

Date	Rev.	Compiler	Remarks
24 February 2025	01	Mashudu Ndwambi	New document
24 February 2025	02	Mashudu Ndwambi	Document review

6. DEVELOPMENT TEAM

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

- Mashudu Ndwambi
- Monde Soni
- Edison Makwarela
- Vincent Mabodi

7. ACKNOWLEDGEMENTS

N/A