

	Technical Evaluation Criteria Annexure AB/AC	Research, Testing & Development
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Title: Tender Technical Evaluation Strategy for the design, supply, delivery, installation and commissioning of real time monitoring systems capable of monitoring geomagnetically induced current and magnetic field at selected Eskom sites	Unique Identifier:	N/A
	Alternative Reference Number:	N/A
	Area of Applicability:	Research, Testing & Development
	Documentation Type:	Strategy
	Revision:	1
	Total Pages:	20
	Next Review Date:	N/A
	Disclosure Classification:	CONTROLLED DISCLOSURE

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1. INTRODUCTION

As part of the Eskom Resilience Program, a Geomagnetic Disturbances (GMD) Joint Working Group (JWG) was established to assess the resilience of Eskom against the possible disaster of GMDs (listed as priority 2) and make recommendations on managing and mitigating against it.

As part of achieving its objectives, the GMD JWG has identified the need to have real time monitoring of solar storms intensity which will assist in making adequate recommendations and designing of fit for purpose resilience programs and practices. The RTM system requires devices that are not standard in Eskom.

The progress and outcomes of the GMD JWG is supported and being tracked by the Eskom Transmission Executive Committee (TEXCO).

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of this document is to capture the tender technical evaluation strategy for the *Design, supply, delivery, installation and commissioning of real time monitoring systems capable of monitoring geomagnetically induced current (GIC) and magnetic field (B-field) at selected Eskom sites, including training to the end user.*

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] Scope of *Design, supply, delivery, installation and commissioning of real time monitoring systems capable of monitoring geomagnetically induced current (GIC) and magnetic field (B-field) at selected Eskom sites, including training to the end user*

2.2.2 Informative

- [3] ISO 9001 Quality Management Systems

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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
GIC	Geomagnetically Induced Current
OEM	Original Equipment Manufacturer
PS	Power Station
RT&D	Research, Testing & Development
RTM	Real Time Monitoring
TET	Technical Evaluation Team
USB	Universal Serial Bus

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 a '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%.

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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.

The scoring method will be as shown Table 1.

Table 1: 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

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3.2 TET MEMBERS

Table 2: TET Members

TET number	TET Member Name	Designation
TET 1	Sibusiso Maphumulo	Senior Engineer, RT&D
TET 2	Amesh Narain Singh	Senior Engineer, RT&D
TET 3	Sandile Moloi	Technician, RT&D
TET 4	Lennox Dukashe	Chief Engineer, Generation
TET 5	Mantsie Hlakudi	Chief Engineer, Transmission

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3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

Table 3: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	1. Provision of a real time monitoring (RTM) system with the following capabilities: a) Capability to continuously and automatically measure and monitor geomagnetically induced current (GIC) in Amperes. b) Capability to continuously and automatically measure and monitor the magnetic field (B-field) in Tesla. c) Capability to continuously and automatically integrate the GIC and magnetic field data into a web-based data acquisition system.	The tenderer submits confirmation on an original equipment manufacturer (OEM) or local supplier company letterhead that the RTM system will have the listed capabilities below: a) Capability to continuously and automatically measure and monitor geomagnetically induced current (GIC) in Amperes. b) Capability to continuously and automatically measure and monitor the magnetic field (B-field) in Tesla. c) Capability to continuously and automatically integrate the GIC and magnetic field data into a web-based data acquisition system.	Capability Constraints.
2.	Engineering Council of South Africa (ECSA) Registration or Registration with International Body Recognised by ECSA – Lead Design Engineer Only	The detailed design in terms of this Contract is to be executed by a qualified professional who is registered as a Professional Engineer (Pr. Eng) with ECSA or has equivalent registration with an International Body that is recognised by ECSA; registration period of more than 2 years. The tenderer submits a certified copy of the above mentioned registration certificate for the lead design engineer; not older than 3 months and certified at a South African Police Station. The tenderer also submit the curriculum vitae of the lead design engineer.	Capability of Engineers and compliance to statutory requirement.

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 4: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Scoring Criteria	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	Relevant Experience and Execution of the Works		As per the Scope of work		30	
	1.1	Project Organogram	The tenderer provides a detailed organogram for the entire Project, including the design, construction, commissioning, operation, and maintenance. The organogram shall indicate the key personnel for the Project.	As per Table 1.		10
	1.2	Capabilities of key project personnel	The tenderer submits the CV of the project manager only, with more than 3 years experience in project managing minor construction, installation and commissioning of any condition monitoring system, or any similar electrical construction.	5 - More than 3 years relevant experience for resource. 4 - 3 years relevant experience for resource 2– 2 years relevant experience for resource 0 - Less than 1 year experience for		5

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				resource		
	1.3	Scope Execution Plan	The tenderer submits the project plan which complies to the requirements of the scope, and addresses the following: • Project implementation method statement, • Compliance to safety, health, environmental and quality (SHEQ) requirements • Operation and maintenance and manuals • Critical spares list • Procurement strategy • Risk identification and mitigation strategy	As per table 1.		10
	1.4	Scope Execution Schedule	The contractor submits the project schedule which complies to the requirements of the scope, and addresses the following: • Resources • Material/ Equipment • Scope execution duration breakdown	As per table 1.		5
2.	RTM System Conceptual Design Diagram		Provide the preliminary concept diagram of the RTM system design indicating the capabilities listed in sections 2.1 to 2.5 below.	As outlined below in 2.1 to 2.5.	50	
	2.1	GIC Monitoring	Capability to continuously and automatically measure and monitor geomagnetically induced current (GIC) in Amperes.	10 - Provision is made in the concept diagram. 0 – No provision made.		10

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	2.2	Magnetic Field Monitoring	Capability to continuously and automatically measure and monitor the magnetic field (B-field) in Tesla.	10 - Provision is made in the concept diagram. 0 – No provision made.		10
	2.3	Web Based Acquisition	Capability to continuously and automatically integrate the GIC and magnetic field data into a web-based data acquisition system.	10 - Provision is made in the concept diagram. 0 – No provision made.		10
	2.4	Manual data download	Capability to manually download data from the RTM system via a universal serial bus (USB) port.	10 - Provision is made in the concept diagram. 0 – No provision made.		10
	2.5	Mobile or temporary Installation	Mobile or temporary installed RTM system – must be able to disconnect equipment after use at a specific site and recreate the set-up and connections at various sites, by transporting the equipment in a van/light truck or in a trailer; <u>OR:</u> Fixed RTM system with capability to modify the RTM system for mobile or temporary application.	10 - Provision is made in the concept diagram. 0 – No provision made.		10
3	Field Experience		Provide the following on an OEM or local agent company letterhead:	As outlined below in 3.1 to 3.3.	7.5	
	3.1	Supply	Number of RTM systems or any other condition monitoring systems that the OEM or local agent have supplied ; <u>and</u> Reference list of the companies to whom the OEM or local agent have supplied RTM systems or any other	2.5 - Minimum of 1 (one) system supplied, <u>and</u> minimum of 1 (one) reference in reference list 0 - No experience		2.5

			condition monitoring systems. Include the company name, contact person name & surname, and contact person's email address.			
	3.2	Installation & commissioning	Number of RTM systems or any other condition monitoring systems that the OEM or local agent has installed and commissioned; and Reference list of the companies where RTM systems or any other condition monitoring systems were installed and commissioned, by the OEM or local agent. Include the company name, contact person name & surname, and contact person's email address.	2.5 - Minimum of 1 (one) system installed and commissioned, and minimum of 1 (one) reference in reference list 0 - No experience		2.5
	3.3	Web based data acquisition implementation	Number of web-based data acquisition solutions for RTM systems or any other condition monitoring system, implemented by the OEM or local agent; and Reference list of the companies where web-based data acquisition solutions for RTM systems or any other condition monitoring system, were implemented by the OEM or local agent. Include the company name, contact person name & surname, and contact person's email address.	2.5 - Minimum of 1 (one) web-based data acquisition solution implemented, and minimum of 1 (one) reference in reference list 0 - No experience		2.5

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4	Equipment Specification	Provide the specification of the RTM system modules (GIC monitoring, magnetic field monitoring, data acquisition). As a minimum, the following parameters must be returned per module: • Dimensions • Weight • Ingress Protection (IP) rating • Mains Power Supply • Battery Life (if applicable) • Operating Temperatures • Storage Temperatures • Cabling (lengths, weights, type of connectors etc.)	2.5 - Provision of all 8 (eight) minimum parameters 1.5 - Provision of any 5 (five), up to 7 (seven) of the minimum parameters: 0 - Provision of less than 5 (five) of the minimum parameters	2.5	
5	Technical Support	Provide confirmation on an OEM or local agent company letterhead: OEM or local agent's number of years of experience related to technical support of RTM systems or any other condition monitoring systems; <u>and</u> Reference list of companies to whom the OEM or local agent provided technical support related to RTM systems or any other condition monitoring systems. Include the company name, contact person name & surname, and contact person's email address.	2.5 - Minimum of 1 (one) year experience; and minimum of 1 (one) reference in reference list 0 - No experience	2.5	
6	Training	Provide confirmation on an OEM or local agent company letterhead:	2.5 - Minimum of 1 (one) year experience; and minimum of 1 (one)	2.5	

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		OEM or local agent's number of years of experience related to training on RTM systems or any other condition monitoring systems; <u>and</u> Reference list of companies to whom the OEM or local agent provided training related to RTM systems or any other condition monitoring system. Include the company name, contact person name & surname, and contact person's email address.	reference in reference list 0 - No experience		
7	Quality Documentation and Certification	The tenderer submits the Inspection Test Plan (ITP) and checklists for all activities in the scope, or any similar completed project.	As per Table 1.	5	
				TOTAL:	100

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
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5
1	X	X	X	X	X
2		X	X	X	X
3		X	X	X	X
4		X	X	X	X
5	X	X	X	X	X
6	X	X	X	X	X
7	X	X	X	X	X

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3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 6: Acceptable Technical Risks

Risk		Description
1.	1.1	Organogram does not show all the key personnel for the project.
	1.2	Construction manager does not have sufficient experience.
	1.3	Scope execution plan has major omissions.
	1.4	Scope execution schedule does not meet the project requirements.
2.		Tenderer submits incomplete conceptual diagram.
3.		Tenderer does not meet all areas required for field experience (supply, installation & commissioning, and web-based data acquisition implementation)
4.		Equipment specifications does not meet Eskom's requirement.
5.		Tenderer does not have sufficient experience in providing the required technical support.
6.		Tenderer does not have sufficient experience in providing the required training.
7.		Quality requirements are not met.

Table 7: Unacceptable Technical Risks

Risk		Description
1.	1.1	No organogram provided.
	1.2	Construction manager does not have any experience.
	1.3	Scope execution plan does not address the scope requirements.

	1.4	Scope execution schedule does address the scope requirements.
2.		Concept diagram not submitted.
3.		The tenderer did not demonstrate experience in the field related to the scope of work required.
4.		Equipment specifications does not meet Eskom's requirement.
5.		The tenderer did not demonstrate experience in providing the required technical support.
6.		The tenderer did not demonstrate experience in providing the required training.
7.		Quality requirements are not met.

3.6.2 Exceptions / Conditions

Table 8: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	None identified at this stage.

Table 9: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	None identified at this stage.

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Sibusiso Maphumulo		
Amesh Narain Singh		
Sandile Moloj		
Lennox Dukashe		
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5. REVISIONS

Date	Rev.	Compiler	Remarks
22 July 2024	1	A Narain Singh	Draft for Review

6. DEVELOPMENT TEAM

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

- Janine Jagers, Middle Manager: Real Time Asset Management, RT&D

7. ACKNOWLEDGEMENTS

N/A

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