Eskom	Strategy	Engineering

Title:	**Kendal Diesel Generator Control System Upgrade - Tender Technical Evaluation Strategy**	Unique Identifier:	***1038323**
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Compiled by	Functional Responsibility	Authorised by
.....	.....	.....
Nathi Mkhize	**Remember Sigawuke**	**Malibongwe Mabizela**
Kendal Electrical Engineer	**Kendal Electrical Engineering Manager**	**Kendal Engineering Manager**
Date: 23/06/2023	Date: 23 June 2023	Date: 23 June 2023

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TABLES

1. INTRODUCTION

Kendal Power Station consists of six unitised 3.3kV diesel generators (DG), and one 3.3kV station diesel generator, all rated 1250kVA, 1500rpm, 218.7A each. Each DG set is supplied with an independent control system consisting of a DG control panel, which includes a Relay Panel and a Synchronising and Mimic Panel. This DG Control Panel is equipped with Programmable Logic Controller (PLC) that supervises and controls engine functions and alarms. The DG control panel also includes various controls, protection relays, meters, an alarm annunciator, synchro-scope and synchronising check relays, and live mimic panel which show the statuses of the various circuit breakers.

The emergency diesel generator plant at Kendal Power Station is one of the plants that are been running on the already obsolete equipment, specifically the Siemens S5 PLC technology & other interface components such as protection devices/relays. This has resulted in the unavailability of spares and technology support by the relevant OEMs. Power plant operations have been left at risk due to the increasing amount of obsolete equipment failures. Kendal diesel generator plant has experienced many failures recently resulting in increased risk to production.

The objective of this project is to address these issues of obsolescence, limited spares availability and high plant risk of failure by upgrading the Kendal diesel generator control system with the newest OEM technologies & equipment.

This technical evaluation strategy serves as basis for the tender technical evaluation process.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document covers the criteria and requirements on how Eskom intends to evaluate the tenders for Kendal diesel generator control system upgrade.

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.

2.1.2 Applicability

This document applies to Kendal Power Station only.

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.

[3] 240-62772907 Specification for diesel generator systems

2.2.2 Informative

[4] *1038309 Kendal Diesel Generator Control System Replacement - Technical Specification

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
FAT	Factory acceptance test
ITP	Inspection test procedure
NCR	Non-conformance report
OEM	Original equipment manufacturers
SANS	South African National Standard
SAT	Site acceptance test
SOW	Scope of Work
TET	Technical evaluation team

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 TECHNCIAL EVALAUTION 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 following scoring method will be used:

Table 1: Technical Scoring Methodology

SCORE	PERCENTAGE (%)	DESCRIPTION
5	100	**COMPLIANT** • Meet the technical requirement(s) AND, • No foreseen technical risk(s) in meeting technical requirements
4	80	**COMPLIANT WITH ASSOCIATED QUALIFICATIONS** • Meet the technical requirement(s) with, • Acceptable technical risks AND/OR; • Acceptable exceptions AND/OR; • Acceptable conditions
2	40	**NON-COMPLIANT** • Does not meet the technical requirement(s) AND/OR Unacceptable technical risk(s) AND/OR; • Unacceptable exceptions AND/OR; • Unacceptable conditions
0	0	**TOTALLY DEFICIENT/NON-RESPONSIVE**

3.2 TET MEMBERS

Table 2: TET Members

TET number	TET Member Name	Designation
TET 1	Nathi Mkhize	Electrical Engineer
TET 2	Ayanda Mahlobo	Electrical Engineer
TET 3	Tose Msingathi	Electrical Engineer

3.3 MANADATORY 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	The Tenderer shall provide valid OEM Training Certificates on Control Systems, to be able to supply, install and configure the diesel generator control modules / systems Only approved devices from OEMs as specified in *"240-56227589 - List of Approved Electronic Devices to be used in Eskom"* shall be considered The agreements shall indicate the OEM requirements for training and commitment to support the product during the contract term and warrantee period The warrantee shall be honoured by the OEM to the end user **NB:** All letters, certificates/ agreements to be certified by a Commissioner of Oaths If not certified, it will not be evaluated	Tender Returnable	To ensure only Eskom approved equipment Is installed on Eskom sites, also ensuring post-sales OEM support
2	Proof of registration as an Electrical Contractor with DoL *(Copy of the signed Certificate to be submitted, the copy of certificate can either be registered under the company or to an individual)* **NB:** Certificate to be certified by a Commissioner of Oaths If not certified, it will not be evaluated	Tender Returnable	Ensure that work/delivery is done by competent Company

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 4: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)
1. General company existence and experience:			
1 1	Submit a ***company profile*** indicating company overview detailing the company background, purchase orders related C&I work, available expertise and technical support capabilities 1) Submission of profile with minimum of five orders – 5% 2) Submission of profile - 2 5% 3) No Submission of profile – 0%	Tender Returnable	5%
1 2	The Tenderer shall provide proof of years of experience on supply, installation & commissioning of ***diesel generator control systems or similar C&I control systems***, in a form of engineers' CV and certificates or supporting letters that includes the contract numbers / order numbers / list of customers / verifiable references, and equipment supplied **Lead Engineer or Expert** • B-Tech or National Diploma in Electrical Engineering – 2% • Min 9 years of experience Control Systems (PCS7, Simatic S7, DCS and WinCC SCADA System) – 8% • Simatic S7 Industrial Networks Certificate – 2% • Simatic S7 Certified Programmer Certificate – 2% • Simatic S7 Certified Service Technician Level 2 Certificate – 2% • Simatic S7 Simatic S7 Programming Course Certificate – 2% • Simatic S7 Service and Maintenance Course Part 1 and Part 2 Certificates - 2%	Tender Returnable	30%

	Technician (1) • National Diploma in Electrical Engineering – 1% • Min 5 years of experience C&I commissioning -1% • Simatic S7 Service and Maintenance Course Part 1 and Part 2 Certificates – 3% **Technician (2)** • National Diploma in Electrical Engineering – 1% • Min 5 years of experience C&I commissioning -1% • Simatic S7 Service and Maintenance Course Part 1 and Part 2 Certificates – 3%		
2. Technical Qualitative Criteria:			
2 1	Technical Schedule A&B [Each item on schedule A&B are scored as follows Compliant = 5, Partially compliant = 4, Non-compliant = 2, Non-responsive = 0] (Average score out of 5 divide by 5) * 25% = Total % score out of 25	*1038309 Kendal U3 Diesel Generator Control System Replacement - Technical Specification • Appendix C - Tender Returnable • Appendix D – Technical Schedule A&B	15%
2 2	Tenderers shall provide ECSA registered Engineer to sign off the detail designs, testing procedures, commissioning procedures and certification documentation, during design phases, site execution and handover of the complete *Works*	Checking experience and support on the Diesel Generator Control System	10
2 3	**Method statement** demonstrating understanding of full scope of work indicating clearly how the scope will be met (approach), compliance to required standards, guidelines, regulations & legislature 1) Comprehensive & complete Method Statement [20%] 2) Partially compliant (Proposal describes how scope will be met	Tender Returnable *1038309 Kendal U3 Diesel Generator Control System Replacement - Technical Specification	20%

	and includes minor details) [16%] 3) Non-compliant to requirements (does not contain methodology of approach but contains high level descriptions of how construction will be conducted OR Technical proposal reiterates/repeats scope of works) [8%] 4) No Method Statement/ non responsive or missing documents [0%] **NB:** Methodology to also include a separate section for ***commissioning*** where tenderer needs to demonstrate understanding of commissioning diesel generator control systems		
2 4	The bidder should provide a detailed ***project plan*** with timelines based on the scope of work This should include a ***list of long lead items*** and ***timelines*** from order to delivery, installation & commissioning 1) Clear, comprehensive and complete Project Plan with long lead items and timelines [5%] 2) Project Plan provided but incomplete [2%] 3) No Project Plan/non responsive [0%]	Tender Returnable	5%
2 5	The contractor must ensure that all drawing are drawn in MicroStation V8, not converted to MicroStation V8 The proof must be provided that they have software in writing If this activity will be out sourced, the proof of agreement between the two parties must be provided		15%

3.5 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
1	X	X	X				
2	X	X	X				
Qualitative Criteria Number	**TET 1**	**TET 2**	**TET 3**	**TET 4**	**TET 5**	**TET 6**	**TET 7**
1 1	X	X	X				
1 2	X	X	X				
2 1	X	X	X				
2 2	X	X	X				
2 3	X	X	X				
2 4	X	X	X				
2 5	X	X	X				

4. Tender Technical Evaluation Report

On completion of the technical evaluation process and all clarification sessions, the final technical evaluation results shall be documented in a Tender Technical Evaluation Report, which shall comprise, as a minimum,

- Details on the implementation of Tender Technical Evaluation Strategy ,
- List all tenders (tenderer name, etc) received and evaluated,
- Summary of all clarification questions and responses received,
- Summary of evaluation results,
- Interpretation of evaluation results (mandatory and qualitative criteria),
- Final conclusions and recommendations,
- All individual scoring forms and consolidated results,
- Minutes of all meetings during evaluation process (internal clarification sessions, tenderer clarification sessions, etc)

The Tender Technical Evaluation Report shall highlight any key issues that must be further addressed and/or negotiated The report shall also highlight any issues that require on-going scrutiny once the contract has been awarded

On completion of the Tender Technical Evaluation Report, the compiler shall distribute the final draft report to all TET members for their final review

Once the Tender Technical Evaluation Report has been approved and authorized by Electrical and Engineering Manager, the final signed report shall be formally handed over to the Commercial Representative

5. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
Remember Sigawuke	Kendal Electrical Engineering Manager
Malibongwe Mabizela	Kendal Engineering Manager
Ayanda Mahlobo	Kendal Electrical Engineer
Mooiman Phetla	Kendal Electrical Engineer
Ayanda Mahlobo	Kendal Electrical Engineer
Tose Msingathi	Kendal Electrical Engineer

6. REVISIONS

Date	Rev.	Compiler	Remarks
August 2021	0.1	Eugene Kisten	Draft Document for Review
February 2022	0.2	Nathi Mkhize	Final Document
September 2022	0.3	Nathi Mkhize	Final Document

7. DEVELOPMENT TEAM

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

- Eugene Kisten
- Nathi Mkhize

8. APPENDIX A: LIST OF TECHNICAL TENDER RETURNABLES

#	Tender Returnable
1	One hard copy and one soft copy (electronic) of the Technical Schedules A&B.
2	A comprehensive list of customers (with contact details) detailing the equipment ratings supplied as well as the delivery dates.
3	A company overview detailing the company background, c&i related purchase orders, available expertise and national technical support capabilities.
4	Where applicable, an OEM training certificates and or signed confirmation letter/s confirming that warrantees to the end user shall be honoured by the OEM.
5	Proof of registration as an Electrical Contractor with DoL.
6	Submission of Companies and Intellectual Property Commission certification.
7	Proof of years of experience on supply, installation & commissioning of diesel generator control systems, or c&i related projects, with supporting letters that includes the contract numbers / order numbers / list of customers / verifiable references, with equipment supplied
8	High level method statement demonstrating understanding of full scope of work
9	Detailed project plan with timelines based on the scope of work. This should include a list of long lead items and timelines from order to delivery, installation & commissioning
10	Datasheets/brochures of offered equipment