| Eskom | Strategy | Engineering |
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| Date: …… | Date: …… | Date: …… |

# CONTENTS



# TABLES

# 1. INTRODUCTION

This document presents the Technical Evaluation Strategy for the evaluation of the tenders for the Slurry Plant PLC and SCADA System Upgrade for Matla Power Station. This strategy considers key aspects that will give direction to the technical evaluation process.

This strategy has been aligned to the requirements of the Tender Engineering Evaluation Procedure [1].

Refer to the Tender Engineering Evaluation Procedure [1] for a more detailed explanation of the evaluation process that is followed within Eskom.

# 2. SUPPORTING CLAUSES

## 2.1 SCOPE

This document covers the tender evaluation strategy that will be adopted by all Technical Evaluation Team (TET) members when performing technical evaluations for the project. This document also lists the various technical areas of the Employer's Requirements [2] in which the evaluation process is distributed.

### 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

Applicable to Matla Power station Slurry Plant PLC and SCADA System Upgrade.

## 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] 373-MAT--ADDB-D00180-16: Matla Power Station Slurry Plant PLC and SCADA System Upgrade Works Information

### 2.2.2 Informative

## 2.3 DEFINITIONS

None

### 2.3.1 Classification

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

## 2.4 ABBREVIATIONS

| Abbreviation | Description |
|---|---|
| QC | Quality Control |
| QCP | Quality Control Plan |
| RSA | Republic of South Africa |
| BPS | Boiler Protection System |
| C&I | Control and Instrumentation |
| CoE | Centre of Excellence |
| EWO | Early Works Order |
| GBE | Generation Business Engineering |
| GC | Group Capital |
| HMI | Human Machine Interface |
| HVAC | Heating Ventilation and Air Conditioning |
| IEC | International Electrotechnical Commission |
| LCC | Life Cycle Costing |
| LDE | Lead Discipline Engineer |
| MR | Mandatory Requirement |
| OEM | Original Equipment Manufacturer |
| OPC | Object Linking and Embedding for Process Control |
| PDS | Plant Data System |
| PIS | Plant Information System |
| PS | Power Station |
| RFP | Request for Proposal |
| SIL | Safety Integrity Level |
| TA | Technical Area |
| TES | Technical Evaluation Strategy |
| 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

Tender Technical Evaluation Scoring Form

# 3. TENDER TECHNICAL EVALUATION STRATEGY

## 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

**Table 1: TET Members**

| TET number | TET Member Name | Designation |
|---|---|---|
| TET 1 | Khumo Skosana | C&I Senior Advisor |
| TET 2 | Sylvester Mhlongo | C&I Senior Engineer |
| TET 3 | Lindani Zwane | Electrical Engineer |
| TET 4 | Johan Veldman | Senior Engineer Electrical |
| TET 5 | Bonginkosi Mathe | Mechanical HVAC Engineer |
| TET 6 | Thabiso Khumalo | Senior Engineer Mechanical |

## 3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

**Table 2 below identifies the requirements for the mandatory evaluation. These requirements are "must meet" criteria. They are assessed on a "yes/no" basis. An assessment of "no" against a criterion shall technically disqualify the tenderer.**

**Table 2: Mandatory Technical Evaluation Criteria**

| | **Mandatory Technical Criteria Description** | **Reference to Technical Specification / Tender Returnable** | **Motivation for use of Criteria** |
|---|---|---|---|
| 1. | CIDB Rating: Grade 7 EP (Minimum) | Provide valid proof and up to date CIDB grading | The work is classified as construction work as per the construction regulations. |
| 2. | Traceable proof that a Control System has been successfully installed, commissioned, and made operational by the Contractor/Supplier in at least two Industries | Provide valid proof for two (2) completed Control System projects in a form of Contract/Order numbers and contactable reference numbers of the Project Managers. | To ensure the proposed system is currently operational and its proven technology. |
| 3. | Professional Engineers who will sign off the design and installation once commissioned and completed.<br>[1] One ECSA Registered Engineer/ Technologist for C&I<br>[2] One ECSA Registered Engineer/Technologist for Electrical<br>[3] One ECSA Registered Engineer/Technologist for Mechanical | Submit One (1) CV for Each Discipline with Certified ECSA registration Certificate:<br>[1] Control and Instrumentation,<br>[2] Mechanical, and<br>[3] Electrical Engineering with ECSA registration Certificates | Mechanical heating ventilation and air conditioning systems are to be designed and signed off by a professional ECSA registered Engineer/Technologist.<br>The control system as per scope requirements is to be designed and signed off by a professional ECSA registered Engineer/ Technologist.<br>The LV Switchgear as per scope requirements is to be designed and signed off by a ECSA registered Engineer/Technologist |
| 4. | SARACCA Membership (for the Company) | Proof of SARACCA Membership to be attached | To ensures companies comply with regulations governing refrigeration and air conditioning installations maintenance and repairs |

## 3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

These are weighted evaluation criteria and are used to identify the highest technically ranked tenderer. The weighting reflects the relevant importance of each criterion.

As per the Tender Engineering Evaluation Procedure [1], the minimum weighted final score (threshold) required for a tenderer to be considered from a technical perspective is 70%**.**

**Table 3: Qualitative Technical Evaluation Criteria**

| | **Qualitative Technical Criteria Description** | | **Reference to Technical Specification / Tender Returnable** | **Scoring** | | | | |
|---|---|---|---|---|---|---|---|---|
| **Levels of Criteria** | | | | | | | | |
| 1. | **Technical (20%)** | | | % | 0 | 40 | 80 | 100 |
| | 1.1 | Traceable Evidence of Projects Completed | At least (1-3) Similar Projects/ Contracts that have been completed, involving installation and commissioning of HVAC | 20 | None Provided | One Project with proof of completion-completion certificates, contact person at the company where the work was carried out. | Two Projects with proof of completion-completion certificates, contact person at the company where the work was carried out. | Three Projects with proof of completion-completion certificates, contact person at the company where the work was carried out. |
| | 1.2 | | At least (1-3) Similar Projects/ Contracts that have been completed, involving retrofitting and commissioning of LV Switchgear and control gear assemblies' outgoing functional units (feeders) and Electrical Switchgear Protection Schemes | 40 | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1.3 | | At least (1-3) Similar Projects/ Contracts that have been completed, involving design, installation, and commissioning of the Control Systems | 40 | | | | |
| 2. | **Resources (30%)** | | | % | 0 | 40 | 80 | 100 |
| | 2.1 | **Mechanical Engineer** with experience in HVAC System | Submit One CV with Proof of Qualification the qualifications certificates must be certified and have HVAC design, installation, maintenance, and commission experience.<br><br>[1] BSc Eng or BTech in Mechanical Engineering<br>[2] HVAC Experience | 10 | Nonresponsive or No qualification and experience <2 years | CV detailing experience with qualification and meeting Criteria 1&2 with 1 to 2 years' experience in HVAC | CV detailing experience and qualification. and meeting Criteria 1&2 with 2 to 3 years' experience in HVAC | CV detailing experience and qualification and meeting Criteria 1&2 with ≥ 4 years' experience in HVAC |
| | 2.2 | **Electrical Engineer** years' Experience in LV switchgears. | Submit One CV with Proof of Qualification. The qualifications and certificates must be certified and have LV switchgear design, installation, maintenance, and commission experience<br>[1] BSc Eng or B-Tech in Electrical Engineering<br>[2] LV Switchgears Experience | 20 | Nonresponsive or No qualification and experience <2 years | CV detailing experience with qualification and meeting Criteria 1&2 with 1 to 2 years' experience in LV Switchgear | CV detailing experience and qualification and meeting Criteria 1&2 with 2 to 3 years' experience in LV Switchgear. | CV detailing experience and qualification and meeting Criteria 1&2 with ≥ 4 years' experience in LV Switchgear. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2.3 | **Engineer/Technician with a National or Technical Diploma or Degree in Electrical/Electronics/Control and Instrumentation Engineering** experience in design, installation and commissioning of PLC and SCADA systems. | Submit One CV with Proof of Qualification. The qualifications and certificates must be certified and must have a Control System design, installation, maintenance, and commission experience.<br><br>[1] Engineer/Technician with a National or Technical Diploma or Degree in Electrical/Electronic/Control and Instrumentation Engineering<br>[2] Experience in design, installation and commissioning of PLC and SCADA systems. | 20 | Nonresponsive or No qualification or experience <2 years | CV detailing experience and qualification and meeting Criteria 1&2 plus 2 to 3 years' experience | CV detailing experience and qualification and meeting Criteria 1&2 plus 3 years' experience. | CV detailing experience and qualification and meeting Criteria 1&2 with ≥ 4 years' experience |
| | 2.4 | **Artisan/Technician with a Trade Test for Industrial Refrigeration or Air Conditioning** registered with SAQCC minimum Cat B and experience. | Submit One CV and Proof of Qualification with Trade Test for Industrial Refrigeration or Air Conditioning with experience. The qualifications and certificates must be certified.<br><br>[1] Artisan/Technician with a Trade test for Industrial Refrigeration or Air Conditioning<br>[2] Registered with SAQCC minimum Cat B | 10 | Nonresponsive or No qualification or experience <2 years | CV with qualification meets criteria 1&2 plus 1 to 2 years' experience. | CV with qualification meets criteria 1&2 plus 2 to 3 years' experience. | CV with qualification meets criteria 1&2 plus ≥ 4 years' experience. |
| | 2.5 | **Master Installation Electrician (MIE)** registered with | Submit One CV and Proof of accreditation certification. The qualifications and certificates must be certified. | 10 | Nonresponsive or No qualification or | CV detailing experience and qualification with 1 to 2 | CV detailing experience and qualification with 2 to 3 | CV detailing experience and qualification |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | the DOL' experience | | | experience <2 years | years' experience. | years' experience. | with ≥ 4 years' experience. |
| | 2.6 | **Quality inspector/Engineer** (QC) - Must have QC Certification and experience. | Submit One CV and proof of qualifications. The qualifications and certificates must be certified and valid within 3 months. | 10 | Nonresponsive or No qualification or experience <2 years | CV detailing experience and qualification with 1 to 2 years' experience. | CV detailing experience and qualification with 2 to 3 years' experience. | CV detailing experience and qualification with ≥ 4 years' experience. |
| | 2.7 | **Site Manager** - To be in possession of Minimum National Diploma (Engineering) or Grade 12 with supervisory/project management certification (NQF level 6) AND experience. | Submit One CV and proof of qualifications. The qualifications and certificates must be certified. | 10 | No qualification and CV detailing experience provided | CV detailing experience and qualification with 1 to 2 years' experience | CV detailing experience and qualification with 2 to 3 years' experience. | CV detailing experience and qualification with ≥ 4 years' experience |
| | 2.8 | **Safety Officer**<br>**With SAMTRAC certificate and Incident Investigation training.** | Submit One CV and proof of qualifications, SAMTRAC certificate, incident investigation training. The qualifications and certificates must be certified. The CV must meet the below criteria:<br><br>[1] Grade 12 plus SAMTRAC Experience<br>[2] Incident Investigation Training | 10 | Non-Responsive or No certificates attached or does not meet criteria 1 | CV Submitted meets Criteria 1 with 2 to 3 years' experience as a Safety Officer | CV Submitted meets Criteria 1 & 2 with 2 to 3 years' experience as a Safety Officer | CV Submitted meets criteria 1 & 2 with ≥ 4 years' experience as a Safety Officer |
| 3. | **Methodologies (50%)** | | | % | 0 | 40 | 80 | 100 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 3.1 | Submit a detailed method statement on how the tasks will be executed for the CONTROL SYSTEM. Note: The list of topics is in chronological order because of the order of importance. | Submit method statement on how the works will be executed covering the below different topics:<br>1. Change-over methodology **Section 4 of the scope of work**<br>**(50 points)**<br>2. Redundancy of the system **Section 7.3.22 & 6.4 of the scope of work**<br>**(15 points)**<br>3. Plant information (Historian) **Section 7.3.7 of the scope of work**<br>**(15 points)**<br>4. Plant information Storage **Section 7.3.8 of the scope of work**<br>**(10 points)**<br>5. Interface to existing/ new systems **Section 7.3.6 of the scope of work**<br>**(10 points)** | 35 | Nonresponsive or scored **less than 50 points** | Method Statement Scored between **50** to **60** points | Method Statement Scored between **70** to **80** points | Method Statement Scored between **90** to **100** points |
| | 3.2 | Submit a detailed method statement on how the Heating, Ventilation and Air Conditioning works will be executed | Submit method statement on how the works will be executed covering the below different topics:<br>1. Installation and commissioning of packaged a/c units.<br>**(30 points)**<br>2. Installation of ducting inclusive of pressure test, insulation.<br>**(30 points)**<br>3. Installation & commissioning of electrical panel (MCC), inclusive of cabling to field equipment.<br>**(20 points)** | 30 | Nonresponsive or scored **less than 50 points** | Method Statement Scored between **50** to **60** points | Method Statement Scored between **70** to **80** points | Method Statement Scored **100** points |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 4. Installation and commissioning of C&I panel (for automatic control of the system) inclusive of cabling to field equipment and interface to fire detection system.<br>**(20 points)** | | | | | |
| | 3.3 | Submit a detailed method statement on how the tasks will be executed. For the ELECTRICAL SYSTEM. The list is in chronological order because of the order of importance | Submit method statement on how the works will be executed covering the below different topics:<br>1. Change-over methodology **Section 4 of the scope of work**<br>**(30 points)**<br>2. Proposed Design of switchgear functional units and protection scheme.<br>**(30 points)**<br>3. Installation and commissioning methodology.<br>**(20 points)**<br>4. Ensure internal arc compliance<br>**(20 points)** | 35 | Nonresponsive or scored **less than 50 points** | Method Statement Scored between **50** to **60** points | Method Statement Scored between **70** to **80** points | Method Statement Scored **100** points |

## 3.5 TET MEMBER RESPONSIBILITIES

**Table 4: TET Member Responsibilities**

| Mandatory Criteria Number | TET 1 | TET 2 | TET 3 | TET 4 | TET 5 | TET 6 |
|---|---|---|---|---|---|---|
| 1 | X | X | X | X | X | X |
| 2 | X | X | X | X | X | X |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | X | X |
| 5 | X | X | X | X | X | X |
| 6 | X | X | X | X | X | X |
| **Qualitative Criteria Number** | **TET 1** | **TET 2** | **TET 3** | **TET 4** | **TET 5** | **TET 6** |
| **1.Technical** | | | | | | |
| 1.1 | | | | | X | X |
| 1.2 | | | X | X | | |
| 1.3 | X | X | | | | |
| **2. Resources** | | | | | | |
| 2.1 | | | | | X | X |
| 2.2 | | | X | X | | |
| 2.3 | X | X | | | | |
| 2.4 | | | | | X | X |
| 2.5 | | | X | X | | |
| 2.6 | X | X | X | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.7 | X | X | X | X | X | X |
| 2.8 | X | X | X | X | X | X |
| **3. Methodologies** | | | | | | |
| 3.1 | X | X | | | | |
| 3.2 | | | | | X | X |
| 3.3 | | | X | X | | |

## 3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

From the lessons learnt and past experience gained on other Eskom projects, the following tables have been populated regarding the acceptable/unacceptable risks/exceptions/conditions. it should however be noted, that due to the technical nature of the project certain exceptions/risks are only identified during tender evaluation and can only be addressed then.

### 3.6.1 Risks

**Table 5: Acceptable Technical Risks**

| Risk | Description |
|---|---|
| 1. | Contractor/ Tenderer that has not supplied previously to Eskom. |
| 2. | |

**Table 6: Unacceptable Technical Risks**

| Risk | Description |
|---|---|
| 1. | As per the mandatory requirements, set forth above. |
| 2. | |

### 3.6.2 Exceptions / Conditions

**Table 7: Acceptable Technical Exceptions / Conditions**

| Risk | Description |
|---|---|
| 1. | |

**Table 8: Unacceptable Technical Exceptions / Conditions**

## 4. AUTHORISATION

This document has been seen and accepted by:

| Name | Designation | Signature |
|---|---|---|
| Katlego Mangope | C&I Engineering Manager | |
| Lindokuhle Ngobese | Engineering Manager | |

## 5. REVISIONS

| Date | Rev. | Compiler | Remarks |
|---|---|---|---|
| 06 December 2022 | 0 | K Skosana | Original document |

## 6. DEVELOPMENT TEAM

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

- Khumo Skosana
- Lindani Zwane
- Bonginkosi Mathe

## 7. ACKNOWLEDGEMENTS

Sylvester Mhlongo