|  |  |  |
| --- | --- | --- |
| Drawing1 | Strategy | Engineering |

|  |  |  |  |
| --- | --- | --- | --- |
| Title: | **Kendal Power Station Skid Mounted Regeneration system Technical Evaluation Strategy** | Unique Identifier:  | 1038475 |
| Alternative Reference Number: | N/A |
| Area of Applicability: | Engineering |
| Documentation Type: | Strategy |
| Revision: | 0 |
| Total Pages: | 17 |
| Next Review Date: | N/A |
| Disclosure Classification: | CONTROLLED DISCLOSURE |
| Compiled by | Functional Responsibility | Authorised by | Supported by |
| ……………….**J. Lekalakala****Auxiliary Engineering** | ……………………**T. Gxota****Auxiliary Engineering Manager** | ……………………**M. Mabizela****Engineering Manager** | ……………………..**S. Sulliman****Gx. Asset Management** |
| Date: ……………… | Date: ………………… | Date: ……………… | Date: …………… |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

CONTENTS

Page

[1. Introduction 3](#_Toc97319287)

[2. Supporting Clauses 3](#_Toc97319288)

[2.1 Scope 3](#_Toc97319289)

[2.1.1 Purpose 3](#_Toc97319290)

[2.1.2 Applicability 3](#_Toc97319291)

[2.2 Normative/Informative References 3](#_Toc97319292)

[2.2.1 Normative 3](#_Toc97319293)

[2.2.2 Informative 3](#_Toc97319294)

[2.3 Definitions 4](#_Toc97319295)

[2.3.1 Classification 4](#_Toc97319296)

[2.4 Abbreviations 4](#_Toc97319297)

[2.5 Roles and Responsibilities 4](#_Toc97319298)

[2.6 Process for monitoring 4](#_Toc97319299)

[2.7 Related/Supporting Documents 4](#_Toc97319300)

[3. Tender Technicial EvalUation Strategy 4](#_Toc97319301)

[3.1 Technical Evaluation Threshold 4](#_Toc97319302)

[3.2 TET memberS 4](#_Toc97319303)

[3.3 Mandatory Technical Evaluation Criteria 6](#_Toc97319304)

[3.4 Qualitative Technical Evaluation Criteria 7](#_Toc97319305)

[TET Member Responsibilities 14](#_Toc97319306)

[3.5 Foreseen Acceptable / Unacceptable Qualifications 16](#_Toc97319307)

[3.5.1 Risks 16](#_Toc97319308)

[3.5.2 Exceptions / Conditions 16](#_Toc97319309)

[4. Authorisation 17](#_Toc97319310)

[5. Revisions 17](#_Toc97319311)

[6. Development team 17](#_Toc97319312)

[7. ACKNOWLEDGEMENTS 17](#_Toc97319313)

TABLES

[Table 1: TET Members 4](#_Toc97319314)

[Table 2: Mandatory Technical Evaluation Criteria 6](#_Toc97319315)

[Table 3: Qualitative Evaluation Criteria 7](#_Toc97319316)

[Table 4: TET Member Responsibilities 14](#_Toc97319317)

[Table 4: TET Member Responsibilities 14](#_Toc97319318)

[Table 5: Acceptable Technical Risks 16](#_Toc97319319)

[Table 6: Unacceptable Technical Risks 16](#_Toc97319320)

[Table 7: Acceptable Technical Exceptions / Conditions 16](#_Toc97319321)

[Table 8: Unacceptable Technical Exceptions / Conditions 16](#_Toc97319322)

# Introduction

This document is aimed at setting the standard technical evaluation criteria to be used when evaluating the tender submissions for the Kendal Power Station Mobile Regeneration Skid Project. The project entails the supply of a plant which can be used to bypass the existing plant while a multidisciplinary scope is being implemented on the main plant. This will assist to maintain the ability to produce high quality of demineralised water. This document was compiled in accordance with [2]

# Supporting Clauses

## Scope

This document covers the technical evaluation process and criteria for the supply of a Mobile Regeneration skid for Kendal Power Station.

### Purpose

The purpose of this tender technical evaluation strategy is to define the Mandatory Evaluation Criteria, Qualitative Evaluation Criteria and Technical Evaluation Team (TET) member responsibilities for tender technical evaluation. The technical evaluation strategy serves as basis for the tender technical evaluation process.

### Applicability

This document applies to Kendal Power Station.

## Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

### Normative

1. 32-1034 – Eskom procurement and supply chain management
2. 240-48929482: Tender Technical Evaluation Procedure
3. 240-53716712: Tender Technical Evaluation Results Form Template
4. 240-53716726: Tender Technical Evaluation Scoring Form Template

### Informative

1. 1038405 Technical Specification for the Kendal Power Station Mobile Demin Plant Project

## Definitions

### Classification

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

## Abbreviations

| Abbreviation | Description |
| --- | --- |
| OEM | Original Equipment Manufacture |
| TET | Technical Evaluation Team |

## Roles and Responsibilities

Roles and responsibilities are as per 240-48929482: Tender Technical Evaluation Procedure

## Process for monitoring

N/A

## Related/Supporting Documents

None

# Tender Technicial EvalUation Strategy

## Technical Evaluation Threshold

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

## TET memberS

Table 1: TET Members

|  |  |  |
| --- | --- | --- |
| **TET number** | **TET Member Name** | **Designation** |
| TET 1 | Jack Lekalakala | Kendal PS: Chemical Engineer |
| TET 2 | Dheneshree Lalla | Asset Management: Corporate Specialist (Chemical) |
| TET 3 | Sumayyah Sulliman | Asset Management: Chief Engineer (Chemical) |
| TET 4 | Sidwell Muthavhine | Asset Management: Chief Scientist (Chemistry) |
| TET 5 | Christo van der Vyver | Kendal PS: Chemistry Supervisor |
| TET 6 | Nathi Mkhize | Kendal PS: Electrical Engineer |
| TET 7 | Teboho Moheli | Kendal PS: C&I Engineer  |
| TET 8 | Anasen Pillay | Asset Management: Senior Engineer (Mechanical) |
| TET 9 | Redz Pillay | Kendal PS: Civil Engineer |
| TET 10 | Morongwe Mogale | Kriel Power station: Senior Engineer |

## Mandatory Technical Evaluation Criteria

Table 2 defines all the Mandatory Evaluation Criteria to be used as well as the reference to the specification and motivation for Criteria use. These criteria will not be scored. Each tender will be assessed on a yes/no basis.

Table 2: Mandatory Technical Evaluation Criteria

|  |  |  |  |
| --- | --- | --- | --- |
| **No.**  | **Mandatory Technical Criteria Description** | **Reference to Technical Specification / Tender Returnable** | **Motivation for use of Criteria** |
|  |

|  |
| --- |
| ISO 3834-2 Certification (both pages)  |
| Both pages of the ISO 3834-2 certificate. The name of the Contractor or sub-contractor is the registered name on the ISO 3834-2 certificate that is submitted. The group of material welded as per the required PQR is indicated on the ISO 3834-2 certificate. |

 | The Contractor submits proof of BS EN ISO 3834-2 certification with the tender. | This criterion is required to ensure that the contractor is competent to do welding on the required scope of work  |
|  | The system offered is mobile. Either containerised/Skid/trailer mounted with no civil construction / earthworks required  | Information in tender must stipulate that it meets this requirement | To ensure that no EIA listed activity is triggered |
|  | Professional registration of engineersEach of the lead disciplines (Mechanical, Chemical, C&I and Electrical design engineers are required to be a professionally recognised/registered engineer/technologist with ECSA. | Each of the lead disciplines (Mechanical, Chemical, C&I and Electrical design engineers are required to be a professionally recognised/registered engineer/technologist with ECSA. | This is a level one plant and it is required that staff be registered to ensure design is done by competent engineers. |

## Qualitative Technical Evaluation Criteria

During the tender evaluations the following table shall be used by the TET members to score each criterion on a scale of 0 to 5 as per Table 3.

Table 3: Qualitative Evaluation Criteria

|  |  |  |
| --- | --- | --- |
| **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** |
| **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 indicates the qualitative technical evaluation criteria that shall be used by the technical tender evaluation team.

Table 4: Qualitative Technical Evaluation Criteria

| **Qualitative Technical Criteria Description** | **Reference to Technical Specification / Tender Returnable** | **Criteria Weighting****(%)** | **Criteria Sub Weighting (%)** | **Floor** **(0)** | **Kick in****(2)** | **Average****(4)** | **Ceiling****(5)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. **CONTRACTORS EXPERIENCE**
 |
| 1.1 | CONTRACTOR EXPERIENCEThe main contractor and/or intended subcontractor(s) as applicable and listed in the Invitation to Tender, Annexure B - Tenderer's Particulars, that will be performing the greater quantity of the site work must have experience in water treatment related plant refurbishment and/or installation and commissioning projects.  | At least four (4) previous or current projects that meet the minimum requirements should be referenced and submitted. For each project that is referenced the following must be included in the summary as a minimum: 1. Title with short description of the project scope of work (1%)2. Contract or order number (1%)3. Signed agreement page(s) or signed completion certificate(s) (1%)4. Client name(s) and contact details (1%)5. Start date and end date of contract (1%) | **20** | 20 | No proof of work experience in water treatment related plant refurbishment and/or installation and commissioning projects.  | One (1) water treatment related refurbishment and/or installation and commissioning project. | Three (3) water treatment related refurbishment and/or installation and commissioning project. | Four (4) water treatment related refurbishment and/or installation and commissioning project. |
| 1.2 | COMPANY ORGANOGRAMCompany organogram must reflect the current status of company. Organogram should indicate as a minimum the site supervisor, site artisans, welding staff, quality, safety, mechanical, chemical, C&I and electrical engineers, draughtsman | Submission of Organogram indicating the office staff and site staff. The Contractor clearly indicates in the submitted organogram who the appointed site manager is, as well as other key positions. | 20 | No organogram or an organogram not with the required skills as per list in CV's |   |   | Clear distinguish of site and office personnel. |
| 1.3 | PERSONNEL CV’sCompany must provide CV's showing number of experience and references. The CV containing proof of qualifications with copies of certificates, diplomas, degrees, etc. are submitted.CV containing details of work experience and valid references are submitted as proof of experience.  | 1. Shall indicate professional staff with more than 5 years’ experience in work related environment. Shall include proof engineering qualifications (BSc Eng or B.Eng or B-tech).This staff must include chemical /mechanical, C&I and Electrical engineers who will do the commissioning and performance tests. (5%)2. Shall indicate management / supervisory staff with more than 2 years experience in work related environment (5%) The supervisor must have a ND.3. Shall indicate the safe and quality supervisor. (5%)4. Shall indicate all the staff involved in welding as well (5%) | 20 | CV's submitted for 1 out of the 4 requirements or not submitted | CV's submitted for 2 out of the 4 requirements | CV's submitted for 3 out of the 4 requirements | CV's submitted for all staff as per requirements |
| 1.4 | PROJECT PROGRAMThe main contractor outlines their proposed project programme which fits within the proposed contract period stipulated in the Employer's enquiry document. | A detailed project programme is submitted that indicates all major activities and milestones and includes the following as a minimum:1. Project Start date (+4%)2. Procurement lead times targeting 12 weeks (+4%)3. Major milestones including installation and commissioning for each section as outlined on the Employer's enquiry document (+4%)4. Project Completion date (+4%)5. In Microsoft (MS) Projects format (+4%) | 20 | Programme not submitted. | Project programme submitted, however, up to 3 out of the 5 requested information is submitted and lead time is 14-16 weeks. | Project programme submitted, however, up to 4 out of the 5 requested information is submitted and lead time is 12-14 weeks. | A project programme submitted in line with all the requirements and lead time is 12 weeks. |
| 1.5 | SCOPE OF WORK COMPLIANCEThe contractor fully complies with the NEC3 ECC contract conditions and with the technical scope as set out in the enquiry document. If deviations are listed - the deviations will be evaluated to determine if it is a risk to the project. | Letter stating no deviations or what the deviations are – which will be evaluated | 20 | Detrimental, technically unacceptable Deviations or Exclusions. |  | No definitive statement that there are any Deviations or Exclusions OR AcceptableDeviations or Exclusions which may be mitigated by the contractor. | A definitive statement that there are no Deviations or Exclusions. |
| **PROCESS REQUIREMENTS** |
| 2.1 | PROCESS DESIGN COMPLIANCE**Cation regeneration:**1. 0.5 - 6% sulphuric acid strength2. Motive water flow: 5 - 60m3/hr3. Motive pressure: 400kPa4. Bulk Chemical supply from ground level**Anion regeneration**1. NaOH of 0.5 - 8% strength2. Motive water flow: 5 - 60m3/hr3. Motive pressure: 400kPa4. Bulk Chemical supply from ground level**Mixed bed regeneration**1. Sulphuric acid of 1 - 8.6% strength2. NaOH of 1 - 8% strength3. Motive water flow: 5 - 30m3/hr4. Motive pressure: 400kPa5. Bulk Chemical supply from ground level | Process design must stipulate that it can meet these requirements | **25** | 30 | Plant does not achieve these requirements |   |   | Plant achieves all the parameters |
| 2.2 | BUNDING REQUIREMENTSAll chemical storage containers must be equipped with chemical bunds (110% of the tank contents) to ensure containment in the event of spillages. The containment of possible leaks across interconnecting pipework as well as in the operating vessels must be implemented by the Contractor.  | Process design must stipulate that it can meet these requirements | 20 | No allowance is made for this requirement |   |   | Allowance is made for this requirement |
| 2.3 | SCREENING REQUIREMENTSThe plant will have screens installed in the event of a leak.  | Process design must stipulate that it can meet these requirements | 20 | No allowance is made for this requirement |   |   | Allowance is made for this requirement |
| 2.4 | MATERIALS REQUIREMENTSMaterials of construction must be compatible with acid and caustic | Process design must stipulate that it can meet these requirements | 30 | Materials are not compatible |   |   | Materials are compatible |
| **MECHANICAL REQUIREMENTS** |
| 3.1 | MECHANICAL REQUIREMENTSHigh level construction method statement, the method statement clearly demonstrates the Tenderer’s compliance with the full mechanical scope of work as detailed in the works. The following is addressed: 1. Schedule including mobilisation to site (2%) 2. Sample Process Flow Diagrams, Piping and Instrumentation (2%)3. Mechanical Equipment (2%) 4. FATS/SATS (2%) 5. Sample QCP’s for mechanical scope of work (2%) | Contractor submits a method statement which details theThe following is addressed:1. Schedule2. Piping & Instrumentation 3. All Mechanical Equipment and Interfaces4. FAT/SAT’s5. QCP’s | **10** | 100 | Non responsive | 2 Criteria Met | 4 Criteria Met | Fully Comprehensive  |
| **ELECTRICAL REQUIREMENTS** |
| 4.1 | Submission of Load list | Technical Specification | **10** | 20 | No submission |  |  | Load list submitted |
| 4.2 | Method statement for cabling and racking works for plant for interfacing requirements | Technical Specification | 30 | No method statement submitted | Method statement submitted and it is unacceptable | Method statement submitted but can be optimised | Method statement submitted and it is acceptable |
| 4.3 | Method statement for Earthing and lightning protection | Technical Specification | 20 | No method statement submitted | Method statement submitted and it is unacceptable | Method statement submitted but can be optimised | Method statement submitted and it is acceptable |
| 4.4 | Method statement for Terminations submitted | Technical Specification | 30 | No method statement submitted | Method statement submitted and it is unacceptable | Method statement submitted but can be optimised | Method statement submitted and it is acceptable |
| **WELDING REQUIREMENTS** |
| 5.1 | WELDING CONTRACORS WELDING QUALIFICATIONSComplete/Updated list of the welding contractor’s welders qualifications, qualified to BS EN 9606. | Complete/Updated list of the welding contractor’s welders qualifications, qualified to BS EN 9606. | **20** | 35 | no information provided |   |   | 1 Sample to be submitted of the welding contractor’s welder qualification, qualified to BS EN 9606 |
| 5.2 | WELDING CONTRACTORS IWT/IWE CERTIFICATEProof of the welding contractor’s IWT/IWE certificate. If subcontracted, proof of the arrangement between the IWT/IWE and the company. | Proof of the welding contractor’s IWT/IWE certificate. If subcontracted, proof of the arrangement between the IWT/IWE and the company. | 30 | no information provided |   |   | Proof of the welding contractor’s IWT/IWE certificate |
| 5.3 | Proof of the welding inspector’s qualifications, i.e. SAIW Welding and Fabrication Inspector Level 2 or IIW International Welding Inspector: Comprehensive (IWI- C) or IIW International Welding Inspector: Standard (IWI- S). | Proof of the welding inspector’s qualifications, i.e. SAIW Welding and Fabrication Inspector Level 2 or IIW International Welding Inspector: Comprehensive (IWI- C) or IIW International Welding Inspector: Standard (IWI- S). | 35 | no information provided |   |   | Proof provided |
| **CONTROL AND INSTRUMENTATION REQUIREMENTS** |
| 6.1 | ANALYSER REQUIREMENTSThe following continuous online analysers are provided on the final dilution streams:1. Conductivity2. Flow |  Process design must stipulate that it can meet these requirements | **10** | 35 | Not all on-line analysers provided as required |   |   | All on-line analysers provided as required |
| 6.2 | TESTING OF ANALYSERS AT ESKOM RT&D The analysers that will be supplied must have been tested, evaluated, and approved by Eskom Research, Testing and Development (RT&D). | Proof must be submitted that all of the proposed Conductivity analyser have been tested, evaluated, and approved by Eskom RT&D. | 35 | Analysers not tested at Eskom RT&D |   |   | The proposed analyser has been tested, evaluated, and approved by Eskom RT&D. |
| 6.3 | Method statement for emergency protection of the dosing system | Proposal must stipulate how the system will be protected if the requirements of conductivity and flow are not met | 30 | No method statement submitted | Method statement submitted and it is unacceptable | Method statement submitted but can be optimised | Method statement submitted and it is acceptable |
| **Civil Requirements** |
| 7.1 | Civil loading provided to indicate weight distribution within the container/skid/trailer | Weight distribution calculations provided | **5** | 100 | No loads provided | Loads provided and distribution is unacceptable | Loads provided and distribution can be optimised | Loads provided and distribution is acceptable |
| 6.5 |  | **TOTAL:**  | **100** |  |  |  |  |  |

## TET Member Responsibilities

In Table 4 identify the TET members allocated to review/evaluate each Qualitative criterion (minimum 2 evaluators per criteria / sub-criteria)

Table 4: 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** | **TET 10** |
| 1 |  |  | X |  |  |  |  |  |  | X |
| 2 | X | X | X | X | X |  |  |  |  | X |
| 3 | 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** | **TET 10** |
| **General Requirements** |
| 1.1 | X | X | X | X | X | X | X | X |  |  |
| 1.2 | X | X | X | X | X | X | X | X |  |  |
| 1.3 | X | X | X | X | X | X | X | X |  |  |
| 1.4 | X | X | X | X | X | X | X | X |  |  |
| 1.5 | X | X | X | X | X | X | X | X |  |  |
| **Process Requirements** |
| 2.1 | X | X | X | X | X |  |  |  |  |  |
| 2.2 | X | X | X | X | X |  |  |  |  |  |
| 2.3 | X | X | X | X | X |  |  |  |  |  |
| 2.4 | X | X | X | X | X |  |  |  |  |  |
| **Mechanical Requirements** |
| 3.1 | X |  | X |  |  |  |  | X |  |  |
| **Electrical Requirements** |
| 4.1 |  |  |  |  |  | X |  |  |  |  |
| 4.2 |  |  |  |  |  | X |  |  |  |  |
| 4.3 |  |  |  |  |  | X |  |  |  |  |
| 4.4 |  |  |  |  |  | X |  |  |  |  |
| **Welding Requirements** |
| 5.1 |  |  |  |  |  |  |  |  |  | X |
| 5.2 |  |  |  |  |  |  |  |  |  | X |
| 5.3 |  |  |  |  |  |  |  |  |  | X |
| **Control and Instrumentation Requirements** |
| 6.1 | X | X | X | X | X |  | X |  |  |  |
| 6.2 | X | X | X | X | X |  | X |  |  |  |
| 6.3 | X | X | X | X | X |  | X |  |  |  |
| **Civil Requirements** |
| 7.1 |  |  |  |  |  |  |  |  | X |  |

## Foreseen Acceptable / Unacceptable Qualifications

### Risks

Table 6: Acceptable Technical Risks

|  |  |
| --- | --- |
| **Risk** | **Description** |
|  | **The system does not comply will all Eskom requirements within the containerised/skid/trailer mounted system**  |

Table 7: Unacceptable Technical Risks

|  |  |
| --- | --- |
| **Risk** | **Description** |
|  | **The risk of dosing chemicals which is not as per required concentrations is unacceptable.**  |
|  | **The emergency trip protection from the minimum required online analysers must be provided.**  |

### Exceptions / Conditions

Table 8: Acceptable Technical Exceptions / Conditions

|  |  |
| --- | --- |
| **Risk** | **Description** |
|  | **Chemical on-line analysers are not as specified in the tech spec but proof is provided that they have been evaluated and approved for this application by Eskom RT&D**  |

Table 9: Unacceptable Technical Exceptions / Conditions

|  |  |
| --- | --- |
| **Risk** | **Description** |
|  | **A plant that is not containerised and requires civil preparation in the form of earthworks** |
|  | **A plant without online analysers on final diluted chemical concentration** |
|  |  |

# Authorisation

In the table below, list all TET members, project manager

This document has been seen and accepted by:

| Name | Designation | Signature |
| --- | --- | --- |
| Nathi Mkhize | Kendal PS: Electrical Engineer |  |
| Teboho Moheli | Kendal PS: C&I Engineer  |  |
| Redz Pillay | Kendal PS: Civil Engineer |  |
| Christo van der Vyver | Kendal PS: Chemistry Supervisor |  |
| Dheneshree Lalla | Asset Management: Corporate Specialist (Chemical) |  |
| Sumayyah Sulliman | Asset Management: Chief Engineer (Chemical) |  |
| Sidwell Muthavhine | Asset Management: Chief Scientist (Chemistry) |  |
| Morongwa Mogale | Kriel Power station: Senior Engineer |  |
| Anasen Pillay | Asset Management: Chief Engineer (Mechanical) |  |

# Revisions

| Date | Rev. | Compiler | Remarks |
| --- | --- | --- | --- |
| March 2021 | 00  | J Lekalakala | Tender evaluation strategy for skid mounted regeneration system |

# Development team

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

Dheneshree Lalla

# ACKNOWLEDGEMENTS