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

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Project Tender Technical  
Evaluation Strategy**

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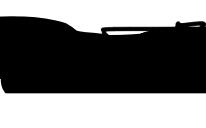
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## **1. INTRODUCTION**

The Duvha Power Station is situated approximately 15 kilometres from the town of Witbank in Mpumalanga. Access to the station is by road. The Power Station comprises of 5 x 600 MW turbo-generator boiler units. Each turbo-generator includes an HP, IP and LP turbine, which exhausts to a surface condenser.

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

This document covers the different aspects that will be evaluated by the multidisciplinary technical evaluation team (TET) to complete the technical evaluation of the removal of the old unit 2 and unit 5 HP Heaters 5A and 5B, unit 4 HP Heaters 6A as well as unit 6 HP heater 5B and installing new HP Heaters in their positions at Duvha Power Station.

Once the Technical evaluation strategy is authorised, no changed will be made to the evaluation criteria without appropriate authorisation.

#### **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 shall apply to Duvha Power station tender evaluation team for the removal of old HP heaters and installation of new HP heaters.

## **2.2 NORMATIVE/INFORMATIVE REFERENCES**

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

- [1] 240-48929482: Tender Technical Evaluation Procedure
- [2] 240-168966153: Generation Tender Technical Evaluation Procedure
- [3] 382-168996: Duvha New HP Heaters Installation Works Information

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[4] WORKS INFORMATION Definitions

| Definition        | Description                                                                                                                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feedwater Heater  | A feedwater heater is a power plant component used to pre-heat feed water before delivery to a steam generating boiler. Preheating the feedwater reduces the irreversibilities involved in steam generation and therefore improves the thermodynamic efficiency of the system. |
| Distillate System | All HP and LP heater distillate lines cascading to the downstream heater or back to the condenser or for specific heaters up to the deaerator depending on the design.                                                                                                         |
| Pipework          | Pipes and fittings are used for the conveyance of steam, water, gases or other fluids.                                                                                                                                                                                         |
| Valve             | A device for shutting-off or controlling the flow of a fluid through a pipe or duct.                                                                                                                                                                                           |
| Lagging           | Insulation used to prevent heat losses, such as from a pipe or pressure vessel.                                                                                                                                                                                                |
| Cladding          | Galvanised thin metal plate used to cover and protect the lagging.                                                                                                                                                                                                             |

### 2.2.1 Classification

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

### 2.3 ABBREVIATIONS

| Abbreviation | Description                   |
|--------------|-------------------------------|
| AIA          | Approved Inspection Authority |
| HP           | High Pressure                 |
| LP           | Low Pressure                  |
| TET          | Technical Evaluation Team     |
| QCP          | Quality Control Plan          |

### 2.4 ROLES AND RESPONSIBILITIES

As per 240-48929482: Tender Technical Evaluation Procedure

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### 3. TENDER TECHNICAL EVALUATIONSTRATEGY

#### 3.1 TECHNICAL EVALUATION THRESHOLD

The mandatory technical evaluation criteria are “must meet” criteria. These criteria shall not be weighed, but shall be assessed on a Yes/No basis as to whether the criteria are met or not. 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 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 weighed to reflect relevant importance of each criterion.

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                              |
|------------|------------------|------------------------------------------|
| ████       | ████████████████ | ████████████████████████████████████████ |
| ████       | ████████████████ | ████████████████████████████████████████ |
| ████       | ████████████████ | ████████████████████████████████████████ |
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### 3.3 MANADATORY TECHNICAL EVALUATION CRITERIA

**Table 2: Mandatory Technical Evaluation Criteria**

|    | <b>Mandatory Technical Criteria Description</b>                                                                                                                                                                                                   | <b>Reference to Works Information / Tender Returnable</b>                                 | <b>Motivation for use of Criteria</b>   |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------|
| 1. | The Contractor must provide a reference list with contactable details where similar rigging of more than 30 Tons per single lift was performed. Reference list to include short description of work done.                                         | Works Information: Installation Of New HP Heaters ( <i>Doc 382-168996 sections 9.1</i> )  | Ensuring safety                         |
| 2. | The Contractor shall provide proof of valid ISO 3834-2 certification. Complete certification (all pages) of the valid ISO 3834-2 certificate must be submitted and it must clearly indicate the following Design Codes (BS EN 13480; BS EN 13445) | Works Information: Installation Of New HP Heaters ( <i>Doc 382-168996 Sections 9.1,</i> ) | Required to Weld on Eskom Level 1 Plant |

### 3.4 TECHNICAL EVALUATION CRITERIA

**Table 3: Qualitative Technical Evaluation Criteria**

|    | Qualitative Technical Criteria Description                                                                                                                                                                                                                                                                                                                                                                                                   | Reference to Technical Specification / Tender Returnable                               | Criteria Weighting (%) | Criteria Sub Weighting (%) |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------|----------------------------|
| 1. | The Contractor shall provide at least one example of a QCP for similar installations done executed in the past. The QCP must include the detailed steps and that was signed off by the AIA and client.                                                                                                                                                                                                                                       | Works Information: Installation Of New HP Heaters (Doc 382-168996 <i>Section 9.2</i> ) | 20                     | N/A                        |
| 2. | The Contractor shall provide a method statement detailing the process to be followed according to the requirements of the works information done.                                                                                                                                                                                                                                                                                            | Works Information: Installation Of New HP Heaters (Doc 382-168996 <i>Section 9.2</i> ) | 30                     | N/A                        |
| 3. | <p>3. The Contractor must provide with tender a typical rigging study and indicate procedures where applicable that includes the following items:</p> <p>a. Rigging process / calculations / illustrations that were authorized by a level 5 Red seal certified rigger or professional registered mechanical engineer.</p> <p>b. Process of how the contractor controls his rigging equipment, inclusive of calibration / load testing /</p> | Works Information: Installation Of New HP Heaters (Doc 382-168996 <i>section 9.2</i> ) | 30                     | N/A                        |

|    |                                                                                                                                                                                                                                                                                          |                                                                                |     |     |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----|-----|
|    | <p>periodic rigging inspection records as well as daily inspections of rigging equipment such as slings, hooks, spreader beams.</p> <p>c. Access control to area below suspended weights during lifting activities.</p>                                                                  |                                                                                |     |     |
| 4. | Should Contractor have any exclusions or different options as per the details defined in this scope of work it must be clearly listed. Should contractor accept all criteria as defined in this scope of work, a formal letter signed by tenderer to be included in offer to state such. | Works Information: Installation Of New HP Heaters (Doc 382-168996 section 9.2) | 20  |     |
|    |                                                                                                                                                                                                                                                                                          | Total                                                                          | 100 | N/A |

The following table is used in qualitative criteria scoring.

**Table 4: Qualitative Evaluation Criteria Scoring Table**

| Score                                                                                                                                                                                                                                                             | (%) | Definition                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5                                                                                                                                                                                                                                                                 | 100 | <b>COMPLIANT</b> <ul style="list-style-type: none"> <li>Meet technical requirement(s) AND;</li> <li>No foreseen technical risk(s) in meeting technical requirements.</li> </ul>                                                                      |
| 4                                                                                                                                                                                                                                                                 | 80  | <b>COMPLIANT WITH ASSOCIATED QUALIFICATIONS</b><br>Meet technical requirement(s) with; <ul style="list-style-type: none"> <li>Acceptable technical risk(s) AND/OR;</li> <li>Acceptable exceptions AND/OR;</li> <li>Acceptable conditions.</li> </ul> |
| 2                                                                                                                                                                                                                                                                 | 40  | <b>NON-COMPLIANT</b> <ul style="list-style-type: none"> <li>Does not meet technical requirement(s) AND/OR;</li> <li>Unacceptable technical risk(s) AND/OR;</li> <li>Unacceptable exceptions AND/OR;</li> <li>Unacceptable conditions.</li> </ul>     |
| 0                                                                                                                                                                                                                                                                 | 0   | <b>TOTALLY DEFICIENT OR NON-RESPONSIVE</b>                                                                                                                                                                                                           |
| <p><b>Note 1:</b> The scoring table does not allow for scoring of 1 and 3.</p> <p><b>Note 2:</b> Foreseen acceptable and unacceptable risk(s), exceptions and conditions shall be unambiguously defined in the relevant Tender Technical Evaluation Strategy.</p> |     |                                                                                                                                                                                                                                                      |

### 3.5 TET MEMBER RESPONSIBILITIES

**Table 5: TET Member Responsibilities**

| <b>Mandatory<br/>Criteria<br/>Number</b>   | <b>TET 1</b> | <b>TET 2</b> | <b>TET 3</b> | <b>TET 4</b> |
|--------------------------------------------|--------------|--------------|--------------|--------------|
| 1                                          | X            | X            | X            | X            |
| 2                                          | X            | X            | X            | X            |
| <b>Qualitative<br/>Criteria<br/>Number</b> | <b>TET 1</b> | <b>TET 2</b> | <b>TET 3</b> | <b>TET 4</b> |
| 1                                          | X            | X            | X            | X            |
| 2                                          | X            | X            | X            | X            |
| 3                                          | X            | X            | X            | X            |

### 3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

#### 3.6.1 Risks

**Table 6: Acceptable Technical Risks**

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

**Table 7: Unacceptable Technical Risks**

| Risk | Description                            |
|------|----------------------------------------|
| 1.   | ISO 3834-2 certification not available |
| 2.   | Inadequate Rigging Experience          |
| 3.   | Inadequate tender returnable.          |

#### 3.6.2 Exceptions / Conditions

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

| Risk | Description                                                                          |
|------|--------------------------------------------------------------------------------------|
| 1.   | Alternative amended/methodology that is acceptable and inline with the scope of work |

**Table 9: Unacceptable Technical Exceptions / Conditions**

| Risk | Description                                                                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | All requirements must be adhered to. Any exception / exclusion that will cause plant damage, or integrity of installation and / or personnel safety is deemed an non acceptable exception. |

#### 4. AUTHORISATION

This document has been seen and accepted by:

| Name       | Designation |
|------------|-------------|
| [REDACTED] | [REDACTED]  |
| [REDACTED] | [REDACTED]  |
| [REDACTED] | [REDACTED]  |
| [REDACTED] | [REDACTED]  |
| [REDACTED] | [REDACTED]  |

#### 5. REVISIONS

| Date        | Rev. | Compiler   | Remarks                                                                                                                                                 |
|-------------|------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| August 2020 | 0    | [REDACTED] | First Draft                                                                                                                                             |
| May 2023    | 1    | [REDACTED] | Updated TET members<br>Update referencing of document 240-168966153<br>Update information referenced from 382-168996: Duvha New HP Heaters Installation |

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