Eskom	Scope of Work	Technology

Title:	**Duvha Power Station: Maintenance Services on routine, non-routine on as and when required basis on Submersible Pumps and their Electrical Panels**	Unique Identifier:	**382-657B**
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1. INTRODUCTION

The Duvha Power Station uses Submersible pumps in areas around the station such as sumps to pump water out to avoid flooding. These pumps are being maintain by maintenance department. As part of maintenance, a contractor is required to carry out a scope of work for the repairs of the damages on these pumps and control panels.

The aim of this document is to define scope of work for repairs of the mobile mechanical pumps and electrical panels.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope of work covers the testing and repairing of the mobile mechanical pumps and electrical panels.

2..1 Purpose

The aim of this document is to define scope of work for repairs of the mobile mechanical pumps and electrical panels.

2..2 Applicability

This document shall apply to the Duvha Power Station only.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2..3 Normative

[1] SANS 10142-1: The wiring of premises Part 1: Low-voltage installations

[2] Occupational Health and Safety Act, (Act No. 85 of 1993)

2..4 Informative

[3] 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy

2..5 Disclosure Classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

2.3 ABBREVIATIONS

Abbreviation	Description
SANS	South African National Standards
LV	Low Voltage
V	Voltage
CoC	Certificate of Compliance
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan

2.4 INTERPRETATION AND TERMINOLOGY

Abbreviation	Meaning given to the abbreviation
PSR	Plant Safety Regulations
CM	Corrective Maintenance
LMI	Lifting Machinery Inspector
LME	Lifting Machinery Entity
ECSA	Engineering Council of South Africa
PM	Planned maintenance
QC	Quality control

2.5 ROLES AND RESPONSIBILITIES

The *Contracto*r ensures that the requirements of this scope are met. It is the role of the It is the role of the *Employer* that the scope is executed in accordance with this document.

2.6 RELATED/SUPPORTING DOCUMENTS

- 80SFG211 Tsurumi Pump Datasheet
- EL1204MSHH Pump Manual
- SHW Pumps Manual
- Submersible Slurry Pump Manual
- Submersible Slurry Pump Operation Instruction

3. SCOPE OF WORKS

3.1 GENERAL

The *Contractor's* provision includes the following:

- qualified labour to carry out work on the pumps.
- tools, spares, equipment, consumables and transport requirements to carry out the work.
- ensures the safety of own personnel, other contractors and Eskom employees in the vicinity of the works by complying to the OHS Act.
- performs quality control on own work as per pre-approved control plans.
- performs work within the specified period and to the acceptable quality and standards.

The *Contractor* shall provide a project co-ordinator to supervise, monitor, control and co-ordinate all activities during the execution of this contract and report to Eskom project manager or appointed supervisor.

The *Contractor* remains liable for complete repairs of damaged pump or panel as per the requirements of this scope and in compliance with the relevant standards.

The *Contractor* submits a comprehensive damage and repair report of a pump or panel to the *Employer* for the completion of the damage repairs.

The *Contractor* provides all tools, equipment and personnel required to execute and implement the *Contractor's* responsibilities detailed in this document.

The *Contractor* remains liable for all works conducted as per the requirements of this document.

The *Contractor* submits a fully detailed Quality Control Plan (QCP) to the *Employer* prior commencing of work, for review and acceptance.

Any discrepancy or ambiguity between the *Employer's* scope of work is immediately brought to the attention of the *Employer* for clarification.

3.2 MECHANICAL SCOPE

The *Contractor* is to carry out the scope to repair damages on the submersible pumps belonging to Duvha Power Station.

The scope includes:

- collecting the damaged pumps from Duvha Power Station,
- transporting them to the Contractors workshop,
- assessing a damage,
- submitting prices as per the price list for assessment,
- repairing the damage,
- transporting and delivering of the pumps to the Duvha Power Station workshop after repairs.

The *Contractor's* workshop must have proper pump bay for testing the pumps (pump curve, tank, flow meter).

The *Contractor* provides at least one Responsible Person as per the Eskom's Plant Safety Regulations within three months from the contract start date.

3.1 Requirements for Performing Work on the Pumps at Duvha Power Station

After receiving issued task order by the *Employer's* Representative: the *Contractor* must collect the damaged pump from the site, transport it to the Contractor's workshop, strip the pump and assess the damage. The *Contractor* must then compile a list of all the damaged items and work required to repair the damaged pump (with reference to the Price List). This list must then immediately be submitted to the *Employer's* Representative for assessment. Only after the *Contractor* has received the go-ahead from the *Employer's* Representative can he proceed with required repair work.

Standard of work - The *Contractor* must work according to each pump's manufacturing specifications and drawings. It is the responsibility of the *Contractor* to obtain the correct manufacturing specifications and drawings for each pump. Each pump that is repaired by the *Contractor* r must be guaranteed for at least six months.

Hold points - The Employer's Representative can from time to time visit the *Contractor's* workshop to inspect the repair work and progress without prior notice.

The *Employer's* Representative must be contacted at the following times in order to conduct quality control inspections:

- Once the pump has been stripped in order to verify the list of damaged parts compiled by the Contractor.
- Once new parts are ready to be assembled to the pump.
- When the pump is assembled and ready to be tested.
- The *Contractor* is not relieved of his responsibilities if the *Employer's* Representative chooses to waive the witnessing of any tests or hold points
- Test documentation and guarantees - Once a pump has passed all hold points and has been assembled it must undergo a test run. During the test the pump performance at various heads must be noted and documented in order to draw a pump performance curve.
- The following documentation must be supplied to the Employer's Representative before a pump will be accepted to site:
- Pump Performance Curve obtained during test run
- Calibration certificates of all instruments used during repair and testing of the pump
- Applicable guarantee

Below is a list of all submersible pumps at Duvha power station, The contractor may be required to inspect and refurbish other submersible pumps at Duvha Power Station that are not listed below:

Item no.	Description	Unit	Quantity
10	TSURAMI PUMP MODEL NO: 80SFQ211-52		
20	GOODWIN 100MM ANZE SUBMERSIBLE SLURRY PUMP		
30	HIPPO PUMP MODEL NO: DPS 032 TEMP-SM-026		

40	DRAGFLOW PUMP MODEL NO: EL1204MSHH		
50	WARMAN SUBMERSIBLE PUMP MODEL: SHW		

3.2 ELECTRICAL SCOPE

The *Contractor* provides six of five pin welding plug and installs them on the 6 x 380V Mobile Pump Control Panels in compliance with the SANS 10142-1.

The *Contractor* submits Certificate of Compliance (CoC) for each welding plu after the installation in compliance with the SANS 10142.

The *Contractor* tests and repairs the 12 x 380V Mobile Pump Control Panels. Whenever there is damages on these panels in compliance with the SANS 10142-1.

4. DRAWINGS ISSUED BY THE *EMPLOYER*

The *Contractor* uses the related supporting documents listed in section 2.6 of this document where applicable as a basis to conduct this scope of work..

5. ACCEPTANCE

This document has been seen and accepted by:

- Mechanical Engineering Department
- Electrical Engineering Department

6. REVISIONS

Date	Rev.	Compiler	Remarks
May 2021	0.0	Gugulethu Khumalo	First Draft

7. DEVELOPMENT TEAM

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

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