Eskom	Scope of Work	Majuba Power Station

Title: **Majuba Power Station refilling of fire suppression gas and conducting integrity test**

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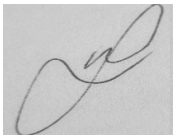		
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Date:	Date: 25/06/2025	Date: 2025/06/25

Content

Page

1. Introduction

Majuba Power Station's Unit 6 archive room fire gas(Argonite) suppression pressure are reading low and the station documentation centre suppression gas (Energen) are depleted thus risking the loss of a all documentation in a case of fire, this meant that the fire team needs to be on an alert I case of fire by implementing the station fire impairment procedure.

The scope of works includes refilling and pressure testing the gas cylinders. It should be noted that this scope of work also includes the integrity test to be conducted in all the rooms that have gaseous fire suppression system, which includes Main Building Document Centre, IT Server Room and Unit 6 Document Centre. The Door Fan Test needs to be conducted to determine the minimum hold time as per ISO.

2. Supporting Clauses

2.1 Scope

This serves to provide information to the *Contractor* for a complete works required for the refilling of Energen for the documentation centre and Argonite for unit 6 archive room and to conduct integrity test on all the rooms that have gas fire suppression system, which includes, Main Building Document Centre, IT Server Room and Unit 6 Document Centre. as per ISO, SANS and NFPA fire protection standards.

The Employer requires a packaged solution that is to be rapidly made available and deployed to site.

The supplier is also expected to do integrity test for all the documentation centre/archive rooms from which gas bottle are stored put out fire when it rises.

2.1.1 Purpose

The purpose of this document is to provide the scope of work for the refilling of the depleted fire suppression gases cylinders at archive room and documentation centre and also conducting integrity test on all the rooms that have gas fire suppression system, which includes, Main Building Document Centre, IT Server Room and Unit 6 Document Centre as per SANS and NFPA fire protection standards & codes recommendations/requirements.

2.1.2 Applicability

This document is applicable to Majuba Power Station.

2.1.3 Effective date

Document is effective from the authorised date.

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] 240-165911241:Basic Design Report for Majuba Power Station Basement and Workshop Stores Areas Fire Protection

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

[3] 374-MAJ-AABB-D00139-55 Stakeholder Requirements Definition for Majuba Power Station B and Workshop Stores Areas Fire Protection System Project

[4] ISO 9001 Quality Management Systems

2.2.2 Informative

[5] ISO 9001 Quality Management Systems.

[6] 240-48197042 Procedure for the Management of Technology Obsolescence

2.3 Definitions

Definition	Description
Employer	The Owner of the Power Station at which the inspections are to be done. Normally the *Employer* will be represented by the Power Station or Plant Engineer
Contractor	The Service provider contracted to provide a specific service to Eskom, Majuba Power Station.
Project Manager	Party responsible for managing the *Contractor* on behalf of the *Employer* for the execution of the *Works*
Plant Engineer	A person designated by the *Employer* as having engineering responsibility for a specific plant
Sub-*Contractor*	An individual or business which has a contract with a *Contractor* to provide some portion of the work or services on a project which the *Contractor* has agreed to perform

2.3.1 Classification

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

2.4 Abbreviations

Abbreviation	Explanation
PPE	Personal Protective Equipment
SANS	South African National Standards
SHE	Safety Health and Environmental
SOW	Scope of Work
P&ID	Pipe and Instrumentation Diagram
PS	Power Stations
SANS	South African National Standards

2.5 Roles and Responsibilities

2.5.1 Contractor

The *Contractor* will be responsible for:

I. Providing adequate resources including the provision of equipment for the required *Works*.

II. Managing cost and a scheduled time frame of work.

III. Ensuring that the scope is carried out in full.

IV. Providing regular feedback on the progress of the *Works*.

V. Ensuring that all site work is conducted by a competent person/s.

VI. Ensuring that prior to any fieldwork, all parties working on site have familiarized themselves with the *Employer*'s safety requirements.

VII. Applying his/her discretion in conducting tests in as close an area to the desired location as possible, should access to the testing areas be restricted and/or obstructed.

2.5.2 Employer

The *Employer* will be responsible for:

I. Providing access to the *Contractor* and review all *works* submitted by the *Contractor.*

2.6 Process for Monitoring

Review as required.

2.7 Related/Supporting Documents

N/A

3. Fire gas suppression refilling Scope.

3.1 System description

Majuba Power Station's Unit 6 archive room gas(Argonite) suppression pressure are reading low and the station documentation centre suppression gas (Energen) are depleted thus risking the loss of all documentations in a case of fire, this meant that the fire team needs to be on an alert I case of fire by implementing the station fire impairment procedure.

3.2 Mechanical Scope of Work

The *Contractor's* Scope of Work include but not limited to the refilling of fire gas suppression on documentation centre and unit 6 archive room and the integrity test to be conducted on on all the rooms that have gaseous fire suppression system, which includes main building document centre, IT server room and unit 6 document centre as per SANS, ISO and NFPA fire protection standards & codes recommendations/requirements. The scope of work includes the following.

- Conduct integrity test on the stipulated areas. -The Contractor must perform a Door Fan Test for determining of minimum hold time as per SANS, ISO and NFPA
- Strip/dismantles the suppression system.
- Repair or fix all components that will be damaged during stripping.
- The contractor will organise a truck to pick up the empty fire suppression empty cylinders refill, bring them to site and assemble the stripped units
- The units must be free form defects for the work to be considered for assessment
- The documentation centre has forty (40) cylinders of Energen gas 80litres at 200BAR mass 22.8kg each
- Unit 6 archive room has thirty-eight (38) cylinders of Argonite gas at 200BAR with a volume of 80 litres cylinders mass 22.8kg each
- The contractor is to make sure that proper installation is done to prevent premature pressure loss and in the event of such Eskom will require the refilling to be done if pressure dropped within three of no activation
- In a case of defects which may lead or cause pressure loss the contractor will be required to quote and fix the defect.
- The Contractor executes these works in accordance with the Employer's requirements, SANS and NFPA. Any deviations are for acceptance by the Project Manager.
- Commissioning the installed piping as per On Site Commissioning for LPS Standard 240-56356376

3.3 Operating and control philosophy

After the installation, commissioning and handover of the plant the *Contractor* is to ensure that the operating and control philosophy is as per the design.

3.4 Control and Instrumentation and Electrical Scope

N/A

3.5 Civil Works

3.5.1 Description of the Civil Works

Only applicable in case where there was damaged to civils works during and after removal and installation.

3.5.2 Survey of the Proposed Location

3.6 Safety

The *Contractor* shall ensure that prior to the commencement of any activities that all personnel shall be inducted by the Health and Safety representatives of Majuba Power Station. All employees of the *Contractor* shall heed these requirements throughout the execution of the *Works*.

3.7 Materials and Equipment required to be included in the Works

The *Contractor* is responsible for providing their employees with facilities and all equipment and materials required for the scope covered in this document. Any equipment must be registered before entry onto the site.

3.8 Documentation Requirements

3.8.1 Handover Documents

The Contractor shall provide the report consisting of original data and analysis of the data.

3.9 PLANT AND MATERIAL SUPPLY

- The *Contractor* provides all tools and equipment for the proper execution of the *Works*.
- The *Contractor* takes reasonable care to ensure that equipment used does not cause damage to any existing infrastructure. If such damages do occur to the surrounding infrastructures, the *Contractor* is responsible for repairing such damages and is liable for all costs associated with the repairs.

- The *Contractor* is to supply, deliver, offload, and temporarily store (as may be required) all materials needed to carry out the *Works*.
- The *Contractor* provides the following to the *Project Manager* for review and acceptance before conducting any *Works*.
- The *Contractor* is responsible for supply of all materials. This includes consumables required, bolts and nuts that will be damaged during the works.
- It is the responsibility of the *Contractor* to provide crane, where it will be required to perform the *Works.*

a) Comprehensive method statements detailing the following as a minimum, where required:
   - Methodology and sequence of activities taking into consideration any access restrictions and safety requirements.
   - Materials and machinery/equipment to be used.
   - Risk assessments

b) Quality Control Plans
   - As a minimum, QCP for approval prior to work starts.

c) Detailed Level 3 Programme encompassing all *Works*, showing float and logical links/ sequence/ relationships that connect the various activities together.

d) All deliverables as specified in the above sections of the scope.

3.9.1 Risk Assessment

A risk assessment must be conducted prior to carrying out the works to identify any hazards and risks that may be encountered during work activities.

3.9.2 Follow-Up

The *Contractor* must submit to the *Employer* remedial actions to be taken regarding all identified safety related findings in a report.

3.9.3 Modifications and Deficiencies

The *Contractor* shall inform the *Employer* of any deficiencies identified in the plant that may affect plant performance. The *Contractor* shall also advice on changes or modifications should these be necessitated.

3.10 *Employer*'s Site entry and security control, permits, and Site regulations

3.10.1 Site Entry and Security Control

For temporary access, the *Contractor* and his/her employees are required to provide their identification numbers and vehicle registration numbers (if vehicle is to enter site), before date of access. Arrangements must also be made with the *Employer*, well in advance, to allow access to Sub-*Contractor*s on site, where applicable. The *Contractor* shall be assisted to gain permanent access on site. Only work vehicles with an approved permit will be allowed on site. The *Contractor* must apply for a vehicle access permit. The *Contractor* must apply for a laptop permit and produce this as and when required by security personnel. All personnel entering the Majuba site are tested for substance abuse and if found to be positive the personnel will go through the disciplinary process. The *Contractor* shall register all equipment and declare all belongings at the security gate upon arrival. Unregistered belongings upon arrival will not be allowed to be removed off site.

3.10.2 Restrictions to access on site, roads, walkways and barricades

a) The *Contractor*'s Employees shall follow all road signs upon entry to the site and adhere to the speed limits.

b) Parking on site is strictly reverse parking.

c) The *Contractor*'s employees or agent may be refused entrance if found to have violated any of the Eskom Life Saving Rules and face disciplinary actions.

i). Open, isolate, test, earth, bond, and/or insulate before touch.

ii). Hook up at heights.

iii). Buckle up.

iv). Be sober.

v). Ensure that you have a permit to work.

3.11 People restrictions on Site; hours of work, conduct and records

a) The Majuba Generation group's normal working hours are from 07:00am to 16:15hrs from Mondays to Thursdays.

b) The normal working hours on Fridays are from 07:00am to 12:00pm.

The *Contractor* is required to align their working hours to those stipulated above.

3.12 Health and safety facilities on Site

The Medical Station is available on site during normal working hours. The Fire Fighting department is also available on site.

3.13 Photographs on site

Taking photographs of the site and distribution or publishing thereof is prohibited. Non- compliance to this requirement may lead to a disciplinary action.

3.14 Management and Reporting

a) The methods and frequency of reporting shall be mutually agreed by the *Employer* and the *Contractor*

b) Meetings shall be held between the *Employer* and the *Contractor* as and when required to discuss matters relating to the plant.

3.15 General

a) All works performed by the *Contractor* will be subject to inspection at any time without prior notice by the *Employer.*

b) The *Contractor* shall ensure that the work area is kept clean on completion of any work done.

4. Acceptance

This document has been seen and accepted by:

Name & Surname	Designation
Nqobizizwe Shange	Fire system engineer
Given Madela	Fire system technician
Ntobeko Mthembu	Mechanical Maintenance Line Manager
Bongani Msimango	Senior Supervisor Mechanical Maintenance

5. Revisions

Date	Rev.	Compiler	Remarks
January 2025	1	Bongani Msimango	First issue

6. Development Team

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

- Bongani Msimango

7. Acknowledgements

Not applicable.