	<b>Scope of Work</b>	<b>Kusile Power Station</b>
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Title: **Kusile Power Station Warehouse Refurbishment and Repairs Scope of Works**

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## **1. Introduction**

Refurbishment and repair works are required at Kusile Power Station's current storage warehouse building. The building upgrades are required to ensure that it complies with all applicable Standards and Regulations and for the structure to be utilized as a permanent structure/asset for the station's life.

## **2. Supporting Clauses**

### **2.1 Scope**

#### **2.1.1 Purpose**

This document details the civil scope of works required for various refurbishment and repair works required at the storage warehouse at Kusile Power Station.

#### **2.1.2 Applicability**

This document applies to Kusile Power Station only.

#### **2.1.3 Effective date**

This document will be effective from the date of its authorisation.

### **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] ISO 9001 Quality Management Systems.
- [2] National Environmental Management Act (NEMA) 107 of 1998
- [3] Construction Regulations, 2014
- [4] 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy
- [5] Occupational Health and Safety Act No. 85 of 1993,

#### **2.2.2 Informative**

- [6] 32-421 - Eskom Life Saving Rules
- [7] 36-681 - Eskom Plant Safety Regulations

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## **2.3 Definitions**

<b>Definition</b>	<b>Description</b>
Contractor	Service provider contracted to provide a specific service to Eskom, Kusile Power Station.
Client/Employer	Eskom, Eskom Kusile Power Station or representative

## **2.4 Abbreviations**

<b>Abbreviation</b>	<b>Explanation</b>
ITP	Inspection, Testing Plan
QCP	Quality Control Procedure

## **2.5 Roles and Responsibilities**

### **2.5.1 Contractor**

- a) Responsible to execute the scope and provides all plant, equipment, materials and labour required.
- b) Submit a safety file for approval by the Safety Department
- c) Submit a method statement for approval by Engineering.
- d) Submit a quality control plan for approval by Engineering

### **2.5.2 Employer**

- a. Reviews and approves the Contractor's method statement procedure, QCP and ITP.
- b. Be present for all applicable points of the ITP and commissioning activities where possible.
- c. Provide Engineering support and information relevant to the scope of work.

## **2.6 Process for Monitoring**

Not Applicable

## **2.7 Related/Supporting Documents**

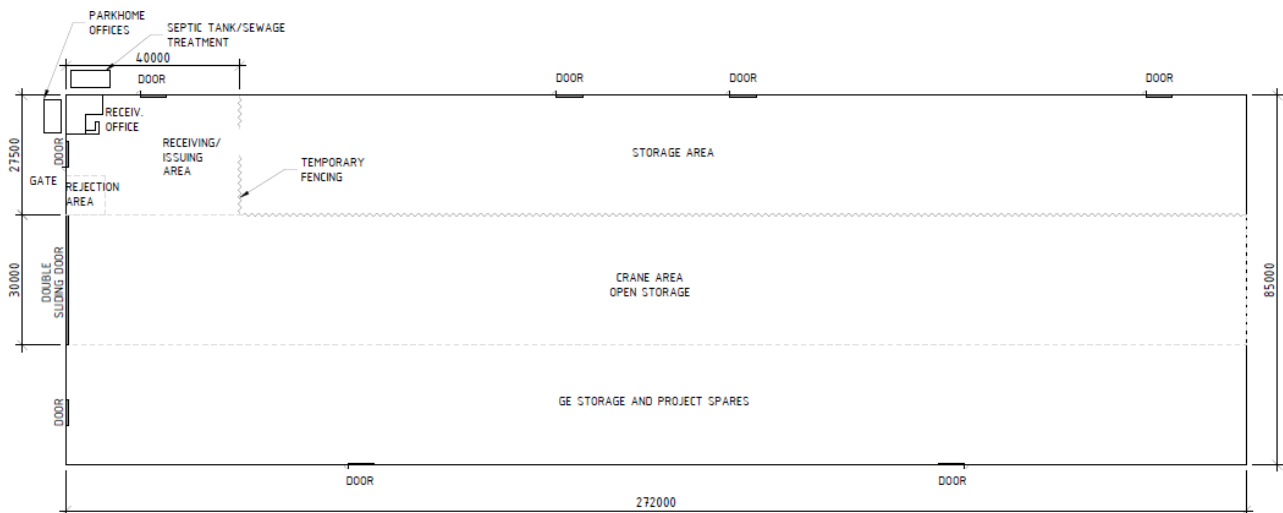
Not Applicable

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### 3. Repair and Refurbishment works

#### 3.1 Overview

The Warehouse is an open plan steel framed building which is approximately 85 m wide and 272 m long. The structure is clad with metal sheeting around its entire perimeter. Eight roller shutter doors are provided for access purposes as well as a large double sliding door at the main entrance. Two rows of columns along the length of the building serve to support the roof trusses and divide the floor area into three areas. One of these areas is fenced off and used for storage of various material items.

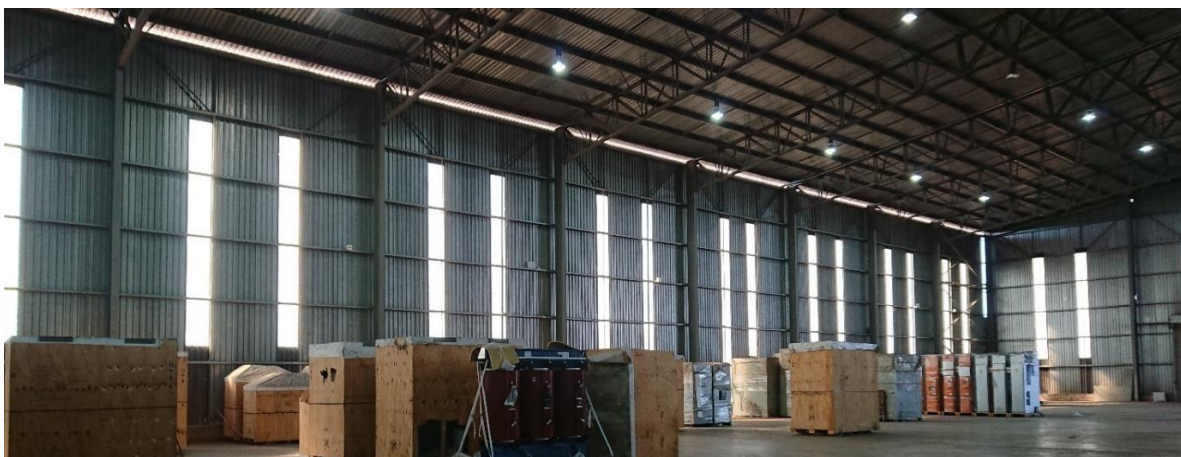


**Figure 1: Existing Layout**

Several deficiencies were noted with the building and repair works are required. The required repair and refurbishment works for the building are detailed below:

#### 3.2 Bird Proofing

The eaves of the building at the roof and side sheeting interface has a gap (see **Figure 2** below). This allows entry of birds inside the building, which is not desirable.



**Figure 2: Gap at Building Eaves**

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The Contractor is required to install a bird proof mesh to close the openings around the building. The mesh shall be galvanised and allow for natural ventilation.

In addition to the closing of openings, the Contractor is required to install wind operated “eagle eye” type bird deterrent devices on the roof structure around the perimeter of the building.

The devices shall be weather resistant and spaced at intervals as recommended or specified by the manufacturer.

### **3.3 Sealing of Roller Shutter Doors**

Eight roller shutter doors are provided around the building. These doors allow ingress of rain water/water runoff as there are gaps at the bottom of the doors (see **Figure 3**).

The Contractor is required to install rubber seals or similar at the bottom of all roller doors to prevent ingress of water into the building.



**Figure 3: Gap under Roller Door**

### **3.4 Exit Door Upgrades**

Five single exit doors are provided around the building which serve as emergency exit doors for personnel.

These doors are to be upgraded as follows:

- a) Refurbishment of doors
  - i.) Prepare and re-coat 4 x steel doors and frames. The original paint colour coating shall be used for the doors.

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ii.) Replace 1 x wooden door with a steel door. The steel door shall be suitable to install into the existing doorframe.

iii.)

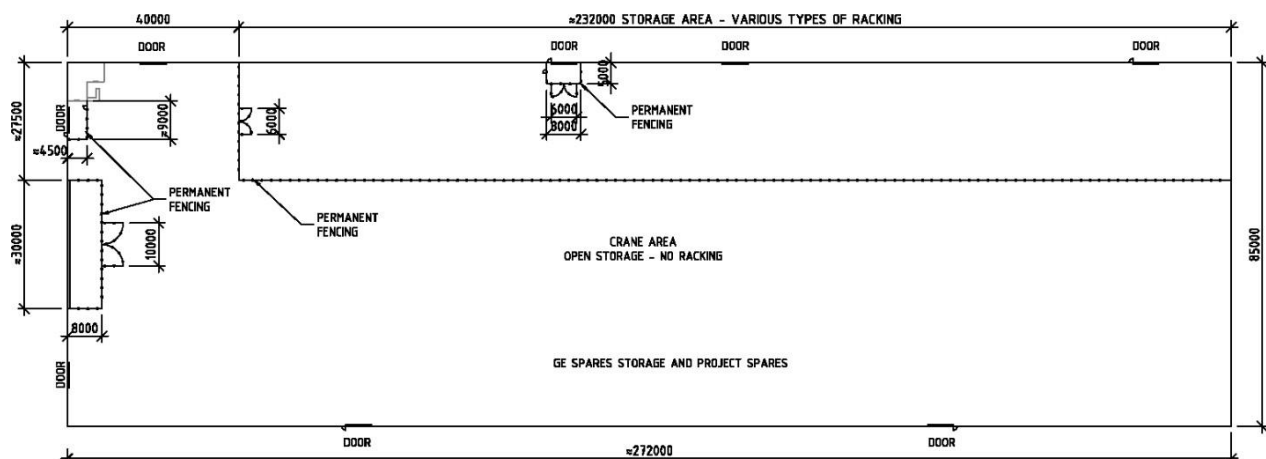
b) Installation of panic hardware and ironmongery

The ironmongery on all doors is to be replaced as follows:

- Outside/inside door lock – install Euro profile mortice deadlock with a lever on the outside and inside.
- Inside the door – install push bar panic latch.
- Doors shall be lockable from the outside and inside with a key. The doors shall open from the inside, even when locked, using a panic latch for exiting the building in the event of an emergency.

### 3.5 Fencing Installation

To control access within the building, four sections of permanent fencing will be required as indicated in the figure below:



**Figure 4: Proposed Fence Layout**

Three of the enclosed areas as indicated in **Figure 4** will have a double swing gate with each leaf fitted with a support wheel.

In addition, at the roller shutter door entry points, a single pedestrian gate shall be fitted with an Electrical Lock System, which will allow personnel to unlock the gate from the receiving/issuing desk/office at the press of a button.

The specifications for the fence are as follows:

- c) Minimum fence height shall be 1.8 m
- d) The fence shall be galvanised. Welded mesh fencing shall have openings not greater than 50 x 50 mm.
- e) Fence support posts shall be provided. The fence supports shall be anchored to the concrete floor slab with mechanical anchor bolts. The fence may be attached to the existing building columns provided that the corrosion protection at the interface points on the columns is reinstated if damaged.

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- f) Double swing gates shall be provided. These shall be lockable using a padlock.

### **3.6 Park Home Refurbishment**

The Contractor shall quantify and repair all damages noted in a park home structure that is located outside of the warehouse building.



**Figure 5: Park Home Structure**

### **3.7 Addition of Windows in Office Area**

Two viewing windows are required to be installed in the walls of a masonry office that is located within the warehouse building (see **Figure 6**).



**Figure 6: Proposed Window Positions on Office Walls**

The Contractor shall cut openings in the brickwork and install a prestressed concrete lintel above the opening that extends to at least 300 mm beyond the width of the opening on either side. The Contractor shall ensure that the wall is temporarily supported during these works.

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The windows shall be fitted with aluminium frames and a safety glass. The windows shall be 1200 mm wide and 750 mm high. The exact position of the windows shall be confirmed on site with the Client.

A wooden sill shall be installed at the bottom of the windows. The two vertical cut faces of the openings shall be plastered and painted to match the brickwork. The window opening shown on the right in **Figure 6** is not required to be openable. The window on the left shall be split into two halves – one half of the window shall slide open. A locking mechanism shall be provided for the openable window – the window shall be lockable from the inside of the office area.

### **3.8 Replacement of Sheeting**

The building is clad with galvanised steel IBR sheeting. Vertical strips of transparent sheeting panels on the building have also been installed at regular intervals to increase natural lighting in the building area (see **Figure 7**).

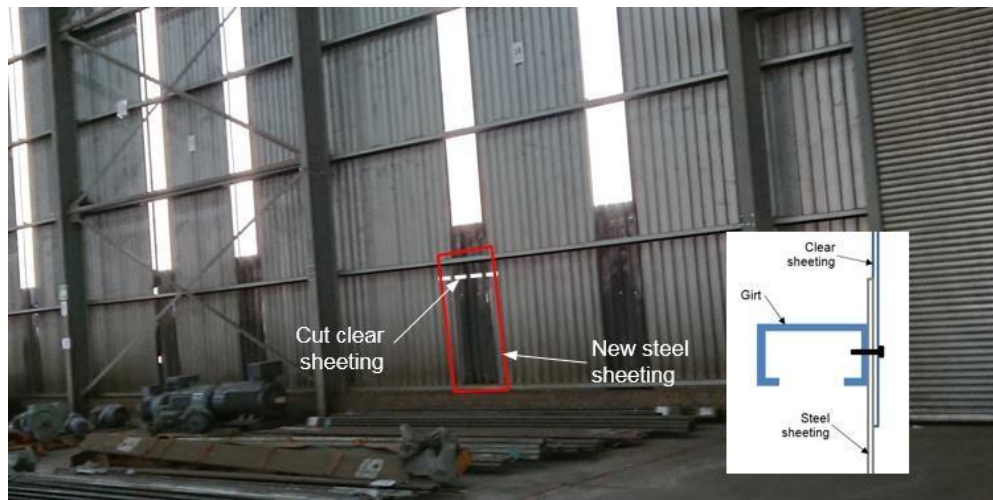


**Figure 7: Transparent Sheeting Panels**

Steel sheeting panels are installed on the lower section of the transparent sheeting around the perimeter of the building. The material has corroded and needs to be replaced.

The Contractor is required to remove the corroded sheeting panels and cut the transparent sheeting to the level just below the side girt of the building as indicated in the figure below:

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**Figure 8: Sheeting Repair Detail**

The *Contractor* installs new galvanised steel IBR sheeting panels which are fixed to the girts and overlap with the existing sheeting. The transparent sheeting will overlap the steel sheeting to prevent water ingress.

The Contractor shall install new galvanised steel IBR sheeting panels which are fixed to the girts and overlap with the existing sheeting. The transparent sheeting shall overlap the steel sheeting to prevent water ingress.

### **3.9 Construction/Installation**

The Contractor is required to:

1. Design (where applicable), supply, deliver, install/erect, construct and commission the specified works.
2. Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 for all *works*.
3. Submit a comprehensive method statement of the works to the Project Manager for acceptance within one week after award of the contract.
4. Submit a project specific safety file to the Employer for comments / acceptance within one week after contract award.
5. Submit a detailed level 4 schedule for the *works* to the Project Manager for acceptance after contract award.
6. Take all necessary precautions to ensure that none of the existing plant that is not in the scope of works is damaged during demolition.
7. Manage his access to the working areas and the Site.
8. Manage his activities on Site to ensure that no interference takes place between his work and that of others.
9. Complete "Contract Activities Daily Reports".
10. Liaise with the Supervisor regarding the location of waste disposal sites and rubbish dumps,

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11. Maintains and promotes labour harmony on the Site and in the working environment.
12. Immediately report any potential labour disharmony to the Supervisor.

### **3.10 Process for Monitoring**

- The Contractor must submit a safety file for approval before the commencement of works.
- Method statements must be accepted and approved prior to the start of works
- Quality control documentation shall be signed off and submitted to the Employer

### **3.11 Handover**

The Contractor shall compile a data package of the relevant drawings, test certificates etc. to the Project Manager for acceptance. These shall include, but not limited to the following:

- Material certificates
- Coating/corrosion protection certificates
- As-built drawings
- Guarantee certificate
- Operating/maintenance manuals
- Design criteria and specifications

## **4. Acceptance**

This document has been seen and accepted by:

<b>Name</b>	<b>Designation</b>

## **5. Revisions**

<b>Date</b>	<b>Rev.</b>	<b>Compiler</b>	<b>Remarks</b>
September 2021	0.1		First Issue

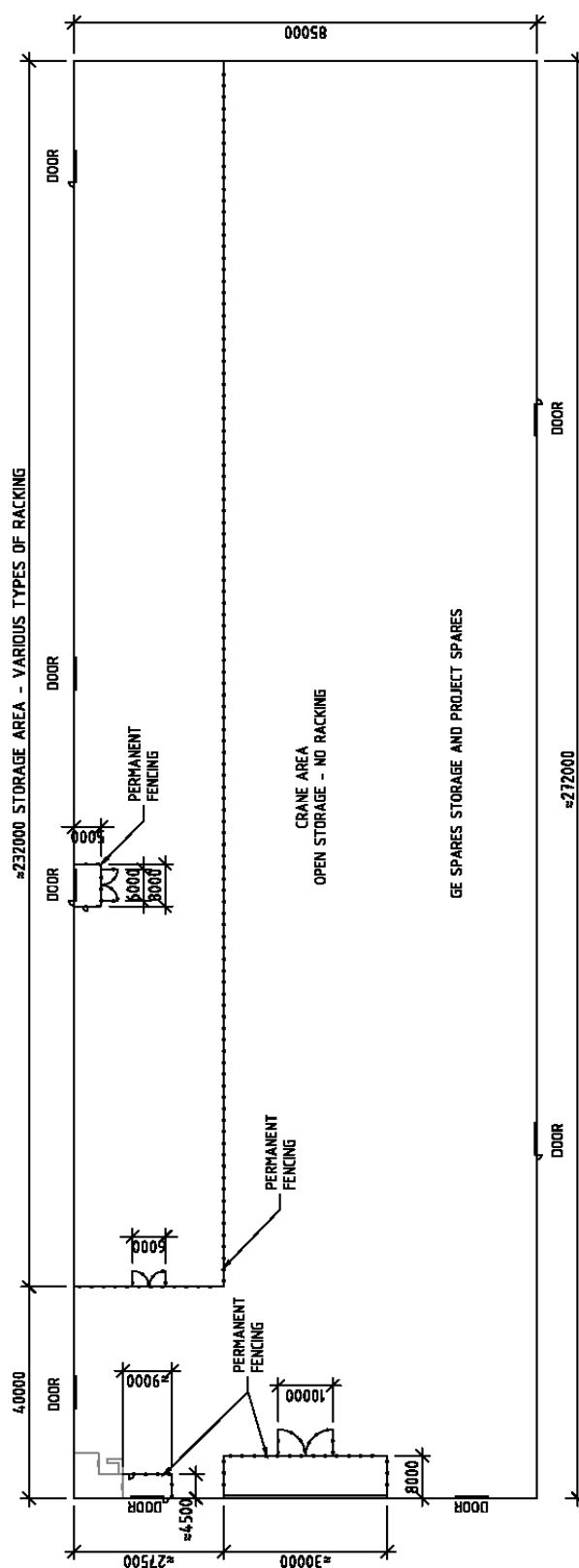
## **6. Development Team**

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

## **7. Acknowledgements**

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## Appendix A – Proposed Fencing



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