Eskom National Transmission Company South Africa ™	**Scope of Work**	**Substation Engineering**

Title: **SCOPE OF WORK FOR THE PTM&C LABS REFURBISHMENTS IN THE ENGINEERING BUILDING AT SIMMERPAN COMPLEX**

Document Identifier:	**SIMCO25-P02-SE-D89**
Alternative Reference Number:	**N/A**
Area of Applicability:	**National Transmission Company South Africa SOC Ltd**
Functional Area:	**Engineering**
Revision:	**0**
Total Pages:	**12**
Next Review Date:	**N/A**
Disclosure Classification:	**Controlled Disclosure**

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1. Introduction

The National Transmission Company of South Africa (NTCSA) seeks to provide workshops & equipments for both training & testing purposes.The facility/Project manager was instructed to upgrade the Labs in the engineering building at Simmerpan Complex,namely Protection and Control equipment room(Phase 6), the Legacy equipment room, the Telecoms equipment and the Metering Equipment, test, and training workshops. This document covers the construction work that will be done at the Engineering building Labs in Simmerpan Complex.

To address these concerns, NTCSA Real Estate Project Managers has tasked the Engineering Department with inspecting and specifying upgrades for Phase 2 of these project, which is a follow up refurbishment project to Phase 1 that has already been done.

2. Supporting Clauses

2.1 Scope

Upgrades to the Labs in the Engineering building at Simmerpan Complex are required to meet functional requirements and for compliance. Designs and construction are in accordance with [1] – [11]. All construction is to be carried out in accordance with Eskom's Safety, Health and Environmental Specification. During construction all necessary safety procedures must be strictly adhered to. This document should be referenced in conjunction with the relevant drawings.

The scope of work entails the full development of the project definition to enable the following high-level tasks at Simmerpan Complex, this includes, but is not limited to, the following activities:

2.1.1 Purpose

To carry out refurbishments in the Labs that meets NTCSA standards & norms. To ensure compliance with the National Building Regulations, Eskom standards, and the Occupational Health and Safety Act (Act 85 of 1993),as well as ensuring that the upgrades to the Labs are of world class quality.

2.1.2 Applicability

The scope shall be applicable to PTM & C Lab Refurbishment (Phase 2) in the engineering building at Simmerpan complex

2.1.3 Effective date

This document is effective from the authorisation 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] Occupational health and safety act (OHS Act) 85 of 1993

[2] OHSA act (Act 85 of 1993)

[3] SANS 10400 – The application of the national Building Regulations

[4] National Building Regulations and Building Standards Act No. 103 Of 1977

[5] SANS 204:2011 Energy efficiency in buildings.

[6] SANS 10400-XA:2011 Energy usage in buildings.

[7] 240-103414344 - Summary of corporate identity manual

[8] Policy ESK PB AAQ 3 - Interior Specifications for Eskom

[9] (32-1205) - Eskom Maintenance Management Policy

[10] (32-727) - Eskom Safety, Health, Environment and Quality policy

[11] (SANS 1200) – General Civil

2.2.2 Informative

Not applicable

2.3 Definitions

Definition	Description
Draftsperson	A person responsible for the creation and updating of drawings, in accordance with this standard.
Designer	The designer is the Architectural professional/Engineer/Technician or Consultant responsible for the design of the Substation project.
DGN File	A DGN file is a Micro station file which contains the models, level structure and line style library of the project.
Documentation Management System	An agreed NTCSA system (Bentley Project Wise) to manage all drawings of the business, like revision control, workflow, redlining, and Internet accessibility, respectively.
Approve	The functional responsible person determines if the document is fit for purpose and approves the document content and therefore takes responsibility and accountability for the document content.
Authorise	The document authoriser authorises the release and application of the document and is accountable for document implementation.
Check Print	Drawing which is printed and utilized for verification of a drawing

2.4 Abbreviations

Abbreviation	Explanation
NTCSA	National Transmission Company South Africa
CAD	Compute Aided Drafting
dxf or dwg	AutoCAD Drawing File Extension
TL	Terrace Level
TOC	Top of Concrete
SACAP	South African Council for the Architectural Profession
COE	Centre of Excellence
DGN	Bentley MicroStation Drawing File Extension
ECSA	Engineering Council South Africa
PDF	Adobe Portable Document Format
SoW	Scope of Work
TIFF	Tagged Image File Format

2.5 Roles and Responsibilities

Design Stakeholders involved in this project shall ensure that the designs produced conform to NTCSA standards

2.6 Process for Monitoring

Not applicable.

2.7 Identified Building

2.7.1 SIMMERPAN COMPLEX'S ENGINEERING BUILDING (NTCSA):

2.7.1.1 Protection and Control equipment room (Phase 6),

2.7.1.2 The Legacy equipment room,

2.7.1.3 The Telecoms equipment and the Metering Equipment, test, and training workshops.

3. Detailed Scope of works

3.1 The architectural scope of works involves the following design aspects:

- Ptm & C (Phase 6) Lab refurbishment
- Legacy Lab refurbishment
- Telecoms Lab refurbishment

3.1.1 PTM&C (Phase 6) Training facility

- Building works: wall improvements (paint), window modifications (floor to ceiling window), signage, emergency exits.
- Infrastructure: HMI desks, fire safety (extinguishers, smoke detectors)
- Install new aluminium curtain wall in the front, from FFL. - Wall height
- Install new aluminium door
- Build new steps for easy access between labs
- Install single galv steel barrier along the curtain wall inside the facility to protect the aluminium curtain wall against any moving equipment

3.1.2 LEGACY PROTECTION TRAINING FACILITY

- Install new raised computer flooring as per SIMCO25P02-SE-D50-06
- Structural: replace doors/windows, build ramps, remove outdated fixtures.
- Furniture: new chairs and desks, first aid kits.
- Install new aluminium curtain wall in the front, from FFL.-Wall height
- Install new aluminium and timber doors
- Build new steps for easy access between labs
- Install single galv steel barrier along the curtain wall inside the facility to protect the aluminium curtain wall against any moving equipment

3.1.3 TELECOMS GROUND FLOOR TRAINING FACILITY

- Install new raised computer flooring as per SIMCO25P02-SE-D50-06
- Structural: replace doors/windows, build ramps, plaster and paint
- Install new aluminium curtain wall in the back, from FFL.-Wall height
- Install new aluminium doors
- Install single galv steel barrier along the curtain wall inside the facility to protect the aluminium curtain wall against any moving equipment
- Build new storage room and create a fire escape route

3.1.4 TELECOMS TRAINING ROOM

- Install new aluminium window with glazing that blocks heat
- IT/AV: Install smart board, projector
- Safety and structural: trip hazard mitigation, reinforced walls.
- Furniture: desks, chairs, and training laptops.

3.1.5 IDEA TRAINING FACILITY

- Building improvements :Paint & carpet
- install aluminium windows with glazing that blocks heat

3.1.6 STOREROOM (PHASE 6 & LEGACY) TELECOMS TRAINING ROOM

- Install timber doors, wall-mounted shelving
- Install new walls in certain areas :refer to SIMCO25P02-SE-D50-02

3.2 THE CIVIL SCOPE OF WORK INVOLVES THE FOLLOWING DESIGN ASPECTS:

- Ptm & C ramps
- Telecoms building ramps
- Drainage

3.2.1 PTM&C Ramps

There is an existing ramp providing access to the PTM&C Building. The current slope of the ramp is excessively steep and does not comply with SANS 10400-S, the South African National Building Regulations that address accessibility for persons with disabilities.

The ramp will be modified to achieve a maximum slope of 1:12, measured along the centreline.

The proposed modification will include the following:

- Scabbling of the top section of the existing ramp to prepare the surface.
- Dowelling Y10 L-bars into the existing ramp to a minimum embedment depth of 40 mm.
- Installation of reinforcement mesh in accordance with Drawing No. Simco25P02-SE-D67.
- Casting of new concrete to form the modified ramp.

In addition, a new ramp will be constructed at the other entrance of the PTM&C Building. This ramp will be designed and constructed in accordance with Drawing No. Simco25P02-SE-D67.

3.2.2 TELECOMS BUILDING RAMP MODIFICATION

Currently, access to the Telecoms Building is difficult. The access door is positioned 380 mm above the top of the existing concrete floor. The existing ramp does not rise to the level of the door threshold, which makes access to the building challenging. As a result, it is proposed that the ramp be modified.

The proposed works include the following:

- Demolition of the existing ramp.
- Construction of a new ramp in accordance with Drawing No. Simco25P02-SE-D69.
- Installation of a 120 mm HDPE pipe within the ramp to allow for the flow of stormwater, as detailed on Drawing No. Simco25P02-SE-D69.
- Installation of a softboard joint between the existing floor and the new ramp to prevent cracking of the new ramp.

3.2.3 DRAINAGE

There is a drainage issue in front of the PTM&C Building and adjacent to the Telecoms access door. During periods of rainfall, water ponds in these areas. A solution to address this drainage problem will be implemented in accordance with Drawing No. Simco25P02-SE-D70.

The scope of works includes the following:

- Regrading the existing concrete floors by casting new concrete to achieve the required falls, in accordance with the drawing details.
- Installation of a drainage channel in front of the PTM&C Building.
- Installation of a 150 mm PVC pipe to connect the new drainage channel to the existing manhole, as detailed on Drawing No. Simco25P02-SE-D70.

3.3 THE HVAC/LIGHTING SCOPE OF WORK INVOLVES THE FOLLOWING DESIGN ASPECTS :

- Ptm & C lighting & Ventilation
- Legacy building lighting & ventilation
- Telecoms building lighting & ventilation

3.3.1 PTM&C

- Electrical works: DB rewiring, underfloor AC/DC cabling, new plugs.
- Air-conditioning: Install new cassette-type units and remove old ducts.
- Infrastructure: fire safety (extinguishers, smoke detectors), access control, Wi-Fi, GPS antenna brackets.

3.3.2 LEGACY PROTECTION TRAINING FACILITY

- Reconfigure panel orientation and install raised computer flooring.
- Electrical: new DB, MCBs, plugs, and earth leakage protection.
- HVAC: install and certify air conditioning.
- Safety: fire systems, access control, PA system, GPS antennas.

3.3.3 TELECOMS GROUND FLOOR TRAINING FACILITY

- AC/DC cable trays, extension of cable trenches
- Electrical and HVAC: new DB, aircons, external lights, UPS
- Install UPS, network cabling, Wi-Fi, PA system, signage.

3.3.4 TELECOMS TRAINING ROOM

- Air conditioning and lighting.
- IT/AV: install smart board, projector, Wi-Fi, ethernet points.

3.3.5 IDEA TRAINING FACILITY

- Install power outlets and lighting.
- Add Wi-Fi booster and portable relay racks.

3.3.6 STOREROOM (PHASE 6 & LEGACY)

- Install lighting & plugs

4. List of drawings

Table 1 below shows the list of drawings applicable to the design.

Drawing Number	Description
SIMCO25P02-SE-D50 Sheet 01	DEMOLITION PLAN
SIMCO25P02-SE-D50 Sheet 02	PLAN,ELEVATION AND DETAILS
SIMCO25P02-SE-D50 Sheet 03	SECTIONS & DETAILS
SIMCO25P02-SE-D50 Sheet 04	WINDOWS & DOOR SCHEDULE
SIMCO25P02-SE-D50 Sheet 05	DRYWALL SPECIFICATIONS

SIMCO25P02-SE-D50 Sheet 06	ACCESS FLOOR SPECIFICATIONS
SIMCO25P02-SE-D50 Sheet 07	FIRE PROTECTION & SAFETY SIGNS
SIMCO25P02-SE-D50 Sheet 08	FINISHES SCHEDULE
SIMCO25P02-SE-D67 Sheet 01	PTM&C LAB RAMPS
SIMCO25P02-SE-D68 Sheet 01	JB SUPPORT-CONCRETE BASE
SIMCO25P02-SE-D69 Sheet 00	TELECOMMS RAMP MODIFICATION
SIMCO25P02-SE-D70 Sheet 00	STORMWATER DRAINAGE
SIMCO25P02-SE-E64 Sheet 01	VENTILATION INSTALLATION LAYOUT
SIMCO25P02-SE-E64 Sheet 02	PHASE 6 -SCHEMATIC DIAGRAM LAYOUT
SIMCO25P02-SE-E64 Sheet 03	LEGACY -SCHEMATIC DIAGRAM LAYOUT
SIMCO25P02-SE-E64 Sheet 04	TELECOMMS -SCHEMATIC DIAGRAM LAYOUT
SIMCO25P02-SE-E64 Sheet 05	STORAGES -LIGHTING INSTALLATION LAYOUT
0.54-5578	REMOVABLE HANDRAILS (TO APPLY ONLY FOR HANDRAILS INSIDE THE LABS)

5. Revisions

Date	Revision	Compiler	Remarks
05 January 2026	0		First issue

6. Acceptance

This document has been seen and accepted by:

Name	
Senior Advisor Architecture	

Middle Manager	

7. Acknowledgements

None