



Scope of work

Technology

Title: **SCOPE OF WORK FOR THE
CENTRAL GRID
SUBSTATION BUILDINGS
CERTIFICATE OF
OCCUPANCY**

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1. INTRODUCTION

The initiation of this project is motivated based on Eskom's commitment to the compliance of National building regulation and building standards act that came into effect in September 1985 and was amended in October 2008. Eskom central grid business unit has identified 5 of their substations to have been designed and built on/after year 1985 but were never submitted to local council for approval, the contractor shall submit all relevant documents to the local council for approval and occupancy certification.

2. NORMATIVE / INFORMATIVE REFERENCES

- [1] SANS 1200 Standardized Specification for Civil Engineering Construction
- [2] SANS 204:2011 Energy efficiency in buildings.
- [3] SANS 10400 The application of the national Building Regulations
- [4] SANS 10400-XA:2011 Energy usage in buildings.
- [5] SANS 10114-1 Interior lighting Part 1 Artificial lighting of interiors.
- [6] SANS 10114-2 Interior lighting Part 2, Emergency lighting.
- [7] SANS 10142-1 The wiring of premises – Part 1: Low-voltage installations.
- [8] SANS 475, Luminaires for interior lighting, streetlighting and floodlighting –
Performance requirements
- [9] SANS 60598-1 Luminaires Part 1: General requirements and tests
- [10] EN 55015 Limits and methods of measurement of radio disturbance of electrical lighting or equipment.
- [11] SANS 10108, The classification of hazardous locations and the selection of equipment for use in such locations
- [12] 240-82172806 Air conditioning in transmission substation buildings and telecommunication sites
- [13] 240-56177186 Standard for Battery rooms
- [14] 240 – 83382122 – Emergency lighting in Transmission substations
- [15] 240-71062174 – Generic substation design
- [16] CGSBP-SE-E50 Functional specification for the central grid substation buildings certificate of occupancy

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3. SCOPE OF WORK

The scope of work entails the assessment of the existing 5 identified substations, compiling all relevant submission documents and submitting to local council for approval & obtaining occupancy certificates.

3.1 IDENTIFIED SUBSTATIONS

1. Brenner substation
2. Etna substation
3. Lepini substation
4. Lulamisa substation
5. Pelly substation

3.2 BUILDINGS TO BE ASSESSED PER SUBSTATION

3.2.1 BRENNER SUBSTATION

Location - Eskom Brenner substation, Trichardts St, Salfin, Boksburg, 1459

1. Control building – 575m²
2. Single quarters building – 173.5m²
3. Access control building – 34.5m²

3.2.2 Etna substation

Location – Etna substation, Wimbledon Rd, Roodepoort 302-lq, 1835

1. Control building – 600m²
2. Workshop & store – 38.9m²
3. Access control building – 83.2m²
4. Storage building – 123.7m² (no drawings available, contractor to do visual inspection and as-built drawings).

3.2.3 Lepini substation

Location – Eskom Lepini substation, Commercia, Midrand, 1685

1. Control building – 545.5m²
2. Existing Access control building – 34.5m² (to be demolished)
3. New Access control building – 31m²
4. Storage building - 123.7m² (no drawings available, contractor to do visual inspection and as-built drawings).

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3.2.4 Lulamisa substation

Location – Lulamisa substation, Diepsloot, 2069

1. Control building – 335m²
2. Workshop & store – 48m²
3. Access control building - 31m²

3.2.5 Pelly substation

Location – Eskom Pelly substation, Edison St

1. Control building – 491.4m²
2. Workshop - 38.9m²
5. Storage building - 123.7m² (no drawings available, contractor to do visual inspection and as-built drawings).
3. Access control building – Current access control building does not comply with Eskom and national building regulations standards; the contractor is required to submit for approval a copy of designs listed in section 4.2 but for the Pelly substation site. He/She shall take into consideration the orientation of the site and type of climate zone.

3.2.6 Architectural drawings and supporting documents

The contractor shall perform architectural drawings for Stages 1 to 6 as stipulated below according to South African Council for the Architectural Profession.

Stage – 1. Inception – Full

Stage – 2. Concept and viability (concept design) – Full

Stage – 3. Design Development – full

Stage – 4.1 Local council submission Documentation

Stage - 4.2 (Not Applicable) - Construction and tender documentation.

Stage - 5. Provide occupancy certificate.

Stage – 6. Close out – facilitate the project close-out with documentation, certificates, and approved drawings with the council stamp. PDF version

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4. DRAWINGS AND TITLE DEEDS LIST

4.1 EXISTING BUILDINGS DRAWINGS

Substation	Drawing number	Drawing title	Title deed
Brenner	0.18/15210-11	HV yard key plan	01020007
	0.18/15409-01	Control room	
	0.18/15564-02	Single quarters (12 blacks)	
	0.18/15565-01	Access control building type A3	
	0.18/15729-12	Control room layout	
	0.18/17998-02-01	Site layout & carport detail	
Etna	O-ST-46-05	Key plan	Not available
	O-ST-51-02	Access control building	
	O-ST-52-01	Contour site plan	
	O-ST-56	Access control building	
	O-ST-57	Workshop & store	
	O-ST-80-01	Control building	
Lepini	0.18/14958-11	Key plan	01020016
	0.18/15430	Control room	
	0.18/15569-01	Access control building type A3 (to be demolished)	
	LEP22P09-SE-E35	ACB General arrangement & setting out	
	LEP22P09-SE-E50	ACB plan, sections, elevations & details	
Lulamisa	0.18/17975-05	Key plan	00230005
	0.18/18372-01-04	Control building	
	0.18/18381	Workshop & store building	
	0.18/33287-03	ACB general arrangement & setting out	
	0.18/33572	Water supply & cable sleeve layout	
	0.54/7515-1A-03	Access control building 2011	
	0.54/7515-03-01	Window & door schedule	
	0.54/7515-04-01	Sanitaryware specification	
	0.54/7515-05-00	Panel room access floor	
Pelly	O-WT-21-00-05	Key plan	01020015
	O-WT-/25	Workshop	

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	O-WT-28	Control building	
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4.2 ESKOM STANDARD DRAWINGS

Access control building		
1	0.54-7515-01-06	Access control building 2011
2	0.54-7515-1A-03	Access control building 2011
3	0.54-7515-1B-02	Access control building 2011
4	0.54-7515-1C-0	Access control building 2011
5	0.54-7515-1D-0	Access control building 2011
6	0.54-7515-02-03	Finishes schedule
7	0.54-7515-03-02	Window & door schedule
8	0.54-7515-04-01	Sanitaryware specification
9	0.54-7515-06A	Concrete roof slab at small porch (no QC decking)
10	0.54-7515-06-01	Concrete roof slab at porch (no QC decking)
11	0.54-7515-06-00	Concrete roof slab at porch (with QC decking)
12	0.54-7515-07-01	Window steel awning
13	0.54-7515-08-00	Ablution window burglar bars
14	0.54-7515-09-00	Operating room worktop counter

5. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
Dawie Naude	Snr. Advisor - Architecture
Andile Maneli	Middle manager – Civil Engineering

6. REVISIONS

Date	Rev.	Compiler	Remarks
14-06-2023	0	S. Sibiya	

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Date	Rev.	Compiler	Remarks

7. DEVELOPMENT TEAM

Sibonelo Sibiya – Prof. Senior Architectural Technologist

Dawie Naude – Prof. Architectural Technologist

Anton Naude – Prof. Eng Technologist

8. ACKNOWLEDGEMENTS

None

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