Eskom National Transmission Company South Africa ™	**Scope of Work**	**Central Grid**

Title: **Supply, deliver, and offload requested quantities of various light bulbs and light fittings to NTCSA Central Grid, HV Plant as per specifications on an "as and when required" basis.**

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1. Introduction

NTCSA Central Grid substations are equipped with various types of light fittings in different areas. These lights provide adequate illumination to ensure sufficient level of visibility in line with OHS Act. No. 85 of 1993 workplace regulations. Maintenance of these lights is critical to the safe and compliant operation of the organisation, due to the large number of substations and therefore lights, there are frequent light bulbs or light fitting components failures experienced within the Grid. Replacement of bulbs and light fittings requires adequate supply of spares. It has become difficult to meet the OHS Act requirements in some areas due to lack of replacement spares to timeously resolve defective lights. Inadequate lighting due to defective luminaires not only compromise personnel safety, it also increases substation security risk of equipment theft and compromised security of supply in relation to vandalism.

The Grid has been using LPO's and Petty Cash for procurement of spare bulbs and light fittings, however, this is not sustainable at a Grid level since all substations requires the same spares. As a result, Central Grid is required to establish a supply and delivery contract to ensure that adequate bulbs and light fittings are timeous availability to meet the Grid's luminaires maintenance demands and ensure compliance with OHS Act, and reduced substation security risk.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to outline the detailed scope of work for the supply and delivery of globes and light fittings in Central Grid.

2.1.2 Applicability

This document shall apply to National Transmission Company South Africa, Central Grid.

2.1.3 Effective date

This document is effective from the date of approval until thought the completion of the scope of the project.

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] The contractor to adhere to the National Road Traffic Act and Regulations Act 93 of 1996 (as amended from time to time).

2.2.2 Informative

[3] Occupational Health and Safety Act 85 of 1993.

[4] SABS 314

[5] IEC 60079

[6] IEC 60598

2.3 Definitions

Flame Proof: describes equipment, often in hazardous industrial settings like mines or chemical plants, built with reinforced enclosures and specific "flame paths" to contain internal sparks or explosions, preventing them from igniting flammable gases outside, essentially stopping a small internal event from becoming a big external disaster.

IP rating: System to indicate the degrees of protection provided by an enclosure against access to hazardous parts, ingress of solid foreign objects, ingress of water and to give additional information in connection with such protection.

Lamp base: The part where the light bulb (lamp) connects to receive electricity.

Luminous Flux: is the total amount of visible light emitted by a source, measured in lumens (lm), representing its overall brightness and power as perceived by the human eye, unlike wattage which measures energy

Zone 1 - Zone 2: refers to the hazardous location area classified by explosion risk from flammable gases/vapours

Zone 21 - Zone 22: refers to the hazardous location area classified by combustible dusts likely to occur occasionally in normal operation (moderate risk) and unlikely to occur in normal operation; if present, only for short periods (low risk).

2.4 Abbreviations

Abbreviation	Explanation
AC	Alternating Current
DC	Direct Current
HPS	High-Pressure Sodium
Hz	Hertz
IEC	International Electrotechnical Commission
ITP	Inspection and Test Plan
ISO	International Organization for Standardization
LED	Light-emitting diode
Lm	Lumen
NERSA	National Energy Regulator of South Africa

Abbreviation	Explanation
AC	Alternating Current
DC	Direct Current
HPS	High-Pressure Sodium
Hz	Hertz
IEC	International Electrotechnical Commission
NLED-Ex	Nordland Lighting's NLED-Ex
OHS	Occupational Health and Safety
QCP	Quality Control Plan
SABS	South African Bureau of Standards
V	Volts
W	Watt

2.5 Roles and Responsibilities

1. The employer (NTCSA) shall appoint the contractor capable to execute the scope of work stipulated in the documents.
2. Eskom appointed contract manager shall manage the contract and approve the site-specific task orders.
3. The contract manager shall ensure that the contractor is paid after the execution of the scope describe in such task orders.
4. The contractor shall accept the task order and execute the scope stipulated on such task orders.
5. The contractor shall provide transportation, some materials and resources (Labour, etc.) required to execute the scope of work.
6. The contractor shall provide all travel and accommodation of their staff whether permanent or temporary.
7. The contractor shall ensure the adherence of all Eskom NTCSA rules and regulations while executing the scope.

2.6 Process for Monitoring

1. The contractor after successfully bidding for the tender will be required to submit scope specific SHEQ requirements.
2. The SHEQ requirements will then be evaluated by the NTCSA SHEQ team.
3. The contractor will then be invited to the site for SHEQ induction.
4. The contractor will be required to submit QCP/ITP for quality checks.
5. All the defects identified will be addressed and corrected by the contractor before payment of the retention.
6. The contractor shall ensure that all the hand over, inspection and testing reports are signed by the accredited person who takes full responsibility.
7. The work is executed in accordance with good engineering practice and the relevant national standards, codes, and statutory requirements applicable to the satisfaction of the Employer.
8. The Contractor has, maintains, and demonstrates its use to the Technical Manager a documented Quality Management System to be used in the performance of the works

2.7 Related/Supporting Documents

Not applicable

3. Scope of Work

The *contractor* is required to perform the following scope of work but not limited to:

3.1 Supply and Delivery of Bulbs and Light Fittings to NTCSA Central Grid

Specification of Product or Goods

Suppliers are required to supply various light bulbs and light fittings in accordance with the following specifications per item.

1. Battery Rooms Lights

- **Type 1 Fitting - Light fitting:**
  - Type: NLED 5ft (1500mm), 230V AC, 350mA, 50Hz
  - Power factor >0,9
  - 67W
  - **Rated lifetime: 50 000 Hr.**
  - **Flame Proof, Zone 1 - Zone 2 (Gas) & Zone 21 - Zone 22 (Dust)**
  - >/= IP66
  - Luminous Flux: 6365lm
  - SABS 314 & IEC 60079 compliant

- **Type 2 Fitting – Emergency Light fitting:**
  - Type: NLED 5ft (1500mm), 230V AC, 350mA, 50Hz
  - Power factor >0,9
  - 67W
  - Rated lifetime: 50 000 Hr.
  - Flame Proof, Zone 1 - Zone 2 (Gas) & Zone 21 - Zone 22 (Dust)
  - >/= IP66
  - Luminous Flux: 6365lm
  - Factory converted to emergency mod
  - SABS 314 & IEC 60079 compliant
- **Type 3 Fitting - 230V 50Hz AC Lamps:**
  - 100W T1 E27 Elliptical Incandescent Lamp
  - 60W T2 E27 Elliptical Incandescent Lamp.
- **Type 3 Fitting - 24V DC Lamps:**
  - 100W T1 E27 Incandescent Lamp
  - 60W T2 E27 Incandescent Lamp

2. Control and Carrier Rooms Lights

- **Type 1 Fitting - Light fitting:**
  - Type: 230V AC, 50Hz
  - 40W G13 Lamp base, T8 & T12 compatible

- IEC 60598 compliant

- **Type 1 Fitting - 230V 50Hz AC Lamps:**
  - 40W T12 G13 Fluorescent Lamp
  - 36W T8 G13 Fluorescent Lamp

3. GIS Lights

- **Type 1 Fitting - Light fitting:**
  - Type: 230V AC, 50Hz
  - 400W HPS, E40 base
  - Fully equipped with Control Gear
  - IEC 60598 compliant

- **Type 1 Fitting - 230V 50Hz AC Lamps**:
  - 400W E40 HPS Elliptical Lamp

- **Type 2 Fitting (Old) - 230V 50Hz AC Lamps**:
  - 500W E40 MV Elliptical Lamp

4. Substation Flood Lights

- **Type 1 Fitting - Light fitting:**
  - Type: 230V AC, 50Hz
  - 400W HPS, E40 base
  - Fully equipped with switchgear & mounting bracket
  - >/= IP55
  - IEC 60598 compliant

- **Type 1 Fitting - 230V 50Hz AC Lamps**:
  - 400W E40 HPS Tubular Lamp

5. Substation Perimeter Lights

- **Type 1 Fitting - Light fitting:**
  - Type: 230V AC, 50Hz
  - 70W HPS, G29 Lamp base
  - >/= IP55
  - IEC 60598 compliant

- **Type 1 Fitting - 230V 50Hz AC Lamps**:
  - 70W G29 HPS Tubular Lamp

- **Type 2 Fitting - Light fitting (LED):**
  - Type: 230V AC, 50Hz
  - 60W LED
  - >/= IP66
  - IEC 60598 compliant

6. Emergency Lights

- **Type 1 Fitting - Light fitting:**
  - Type: 230V AC, 50Hz
  - 70W HPS, E40 Lamp base
  - IEC 60598 compliant

- **Type 1 Fitting - 230V 50Hz AC Lamps**:
  - 70W HPS E40 Elliptical Lamp

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Pulane Sereme	HV Plant Manager
Seruwe Ntsoane	HV Plant Engineer

5. Revisions

Date	Rev.	Compiler	Remarks
December 2025	0	LL Mulaudzi	New scope of work

6. Development Team

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

- Livhuwani Mulaudzi

7. Acknowledgements

- Matimba Simango
- Anton Naude.

Appendix A – TECHNICAL SPECIFICATIONS

A.1