Eskom National Transmission Company South Africa ™	**Environmental Management Programme**	**Transmission**

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Compiled by	**Authorized by**
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Date: 09/02/2026	Date:

PROJECT DETAILS

Site Name:	Pembroke Substation
Project Title:	National Security Project
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1. Introduction

This project was initiated to ensure adequate upgrade of the security systems and infrastructure at Pembroke substation to comply with OHS Act, National Key Point and Eskom latest policies and standards. Existing access control building, perimeter lighting, fences and access gates will be refurbished to achieve the required quality of security systems and infrastructure

At Pembroke Substation the extension of the current Electric fence is required to ensure the safety of Eskom assets. All the Electric fence alarms will be monitored on site and at Zero control at Simmer pan.

The Civil scope of work includes but not limited to:

- Upgrade of the non-lethal electric fence to a 24-strand galvanized wire with concrete plinth on either side for the prevention of vegetation grown/interference.
- Energizers that provide 8 Joules of energy (Energizers as per Eskom Specifications) and alarm detection.
- The non-lethal fence design to be in accordance with 240-136739222 and 240-78980848.
- Upgrade the Perimeter Lighting along the fence; lights to be energy efficient and with day/night switch and sensors. Lighting to illuminate the prescribed area as set out in Standard 240-139282493.
- Upgrade the Access Gates; upgrade the current sliding gate at the entrance that provides the continuity of the electrified fence. Replace Inner gate to convert from swing gate to sliding gate.
- Refurbish the inner safety fence (making use of existing posts).
- New portion of outer barrier of high security welded mesh type to allow for 400kV extension.
- Additional Operating Lighting.

2. Supporting Clauses

2.1 Scope of the EMPr

NB: This EMPr document only caters for the scope of work contained in it. Any activities outside the given scope of work will need to be addressed through the correct process (i.e., method statements).

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2.1.1 Purpose

This EMPr has been compiled to address the potential environmental impact that might occur during the project. This document serves as the environmental specification to Eskom personnel and Contractors with regards to addressing the environmental issues identified prior to and during the construction phase. It is the responsibility of the Project Manager (PM), Contractors and the Environmental Practitioners to ensure compliance with all the environmental specifications in this document, Environmental Requirements for Contractors and/or Suppliers as well as the relevant compliance obligations.

This EMPr should also ensure the sustainable management of the environment whilst replacement works are undertaken. This EMPr must be viewed as a contract document to which all Eskom personnel and contractors involved should adhere to.

2.1.2 Applicability

This document shall apply to NTCSA Projects Delivery and Contractors appointed to work on the National Security Project.

2.1.3 Effective date

N/A

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] ISO 14001 Environmental Management System

[3] 240-47172520 (TRMSCAAC Rev.6) - The Standard for the Construction of Overhead Powerlines

[4] 240-180100134 Environmental Requirements for Contractors and /or Suppliers

These documents are indispensable for the application of this document, i.e., documents to be used together with this document.

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2.2.2 Informative

[5] National Environmental Management Act, 1998 (NEMA) (Act No 107 of 1998), and all amendments and supplementary listings and/or regulations.

[6] Environment Conservation Act, 1989 (ECA) (No 73 of 1989) and amendments.

[7] National Environmental Management: Waste Act, 2008 (NEMWA, Act 59 of 2008).

[8] National Environmental Management: Biodiversity Act, 2004 (NEM:BA) (Act No. 10 of 2004) and amendments.

[9] National Forest Act, 1998 (NFA) (No 84 of 1998).

[10] National Veld and Forest Fire Act, 1998 (Act No. 101 of 1998).

[11] Conservation of Agricultural Resources Act, 1983 (CARA) (Act No. 43 of 1983) and amendments.

[12] National Heritage Resources Act, 1999 (Act 25 of 1999).

[13] National Water Act, 1998 (Act 36 of 1998).

[14] The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).

[15] The National Fencing Act, 1963 (Act No 31 of 1963) as amended by Act 108 of 1991.

[16] The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) and it's Regulations.

[17] The National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004).

[18] South African National Standard (SANS) 10228 – The identification and classification of dangerous goods.

2.3 Definitions

Definition	Explanation
Construction work	The erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure
	The installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling
	The construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure

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Definition	Explanation
Contractor	The Contractor has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract, are in line with the Environmental Management Programme and that Method Statements are implemented as described
Works	The works to be executed in terms of the Contract

2.4 Abbreviations

Abbreviation	Explanation
CEO	Contractor Environmental Officer
EMPr	Environmental Management Programme
HCS	Hazardous Chemical Substance
IAPs	Interested an Affected Parties
NEMA	National Environmental Management Act,1998 (Act No. 107 of 1998)

2.5 Roles and Responsibilities

FUNCTION	ROLES AND RESPONSIBILITIES
Eskom Environmental Practitioner	To ensure that the EMPr for the project is compiled and approved. To ensure that all conditions stipulated in the EMPr are met. To conduct audit, monitor or provide assurance before, during and post construction
Eskom Project Manager/ Site Manager	Ensure that implementation of EMPr is executed as planned. Ensure that conditions in this EMPr are fulfilled before the contractor occupies the site.
Contractor Environmental Officer (CEO)	Ensures that all Sub-contractors (if any) working under the Principal Contractor abide by the requirements of the EMPr. Be on site throughout the duration of the project and be dedicated to the project. Ensure all staff are aware of the environmental requirements, conditions, and constraints with respect to all their activities on site.

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	Implementing the environmental conditions, guidelines and requirements as stipulated within the EMPr and Method Statements Attend and provide performance status at the project progress and Environmental site meetings. Facilitate and undertake corrective actions where non-compliances are registered within the stipulated timeframes. Assist the Eskom environmental practitioner in maintaining all the site documentation. Prepare site inspection reports and corrective action reports for submission to Eskom. Keep a "Site Daily Diary of activities happening on site" to Monitor and ensure that the receiving environment is suitably safeguarded against the identified potential impacts, and to ensure that the environmental management requirements are adequately implemented and adhered to during the execution of the project.
Contractor Project Manager/ Site Manager	To provide all necessary supervision during the execution of the project. He/ She should be available on site all the time. To appoint a competent Environmental Officer. To ensure that implementation is conducted in an environmentally acceptable manner. To fulfil all obligations as per the agreed contract. To inform and educate all employees about the environmental risks associated with the different activities that should be avoided during the construction process and lessen significant impacts to the environment.

2.6 Process for Monitoring

All documents shall be kept on site and be available for monitoring purposes. Site inspections by an Environmental Audit Team may require access to this documentation for auditing purposes. The documentation shall be signed by all parties to ensure that such documents are legal. Regular monitoring of site works by the CEO is imperative to ensure that all problems encountered are solved punctually and amicably. When the CEO is not available, the Site Supervisor shall keep abreast of all works to ensure no problems arise.

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The following documentation shall be kept on site:

- Complaints Register.
- Incidents and Non-Conformance Registers.
- Records of all remediation / rehabilitation activities.
- Copy of this Environmental Management Programme.
- Photographic records (before, during and post construction/ refurbishment).
- Project specific Method Statements / Procedures.
- Inspection and Audit (monitoring and evaluation) Records.
- Waste Records.

2.7 Related/Supporting Documents

This EMPr shall be read in conjunction with the project technical documents/ specifications that provide the details of the project scope and/or requirements.

- 240-170000192 Generic PTM&C NLEPDS SOW
- 240-134779125 Generic PTM&C NLEPDS evaluation criteria
- 240-78980848: Specification for Non-Lethal Energized Perimeter Detection System (NLEPDS) Electrical Components (excludes civil components)
- PTM&C Scope of work – Security(Ref:KO20P11-P-SE-S12) and all other documents mentioned in this report.

3. Document Content

3.1 Geographical Site Location and Environmental Conditions

Due to the constant changes in the risk profiles of Eskom assets and installations, the review of physical security measures is necessary to ensure that current threats are appropriately mitigated, through the implementation of suitable site-specific protection measures, systems and procedures.

Pembroke substation is situated in the Eastern Cape Province under the jurisdiction of Buffalo City Metropolitan Municipality. The adjacent land to the project is primarily owned by private landowners (notably in the eastern and western parts of the study area) and Traditional Authorities. The

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substation is located north of Ilitha, and it is accessed from the R102 to the east or the N2 from the immediate north.

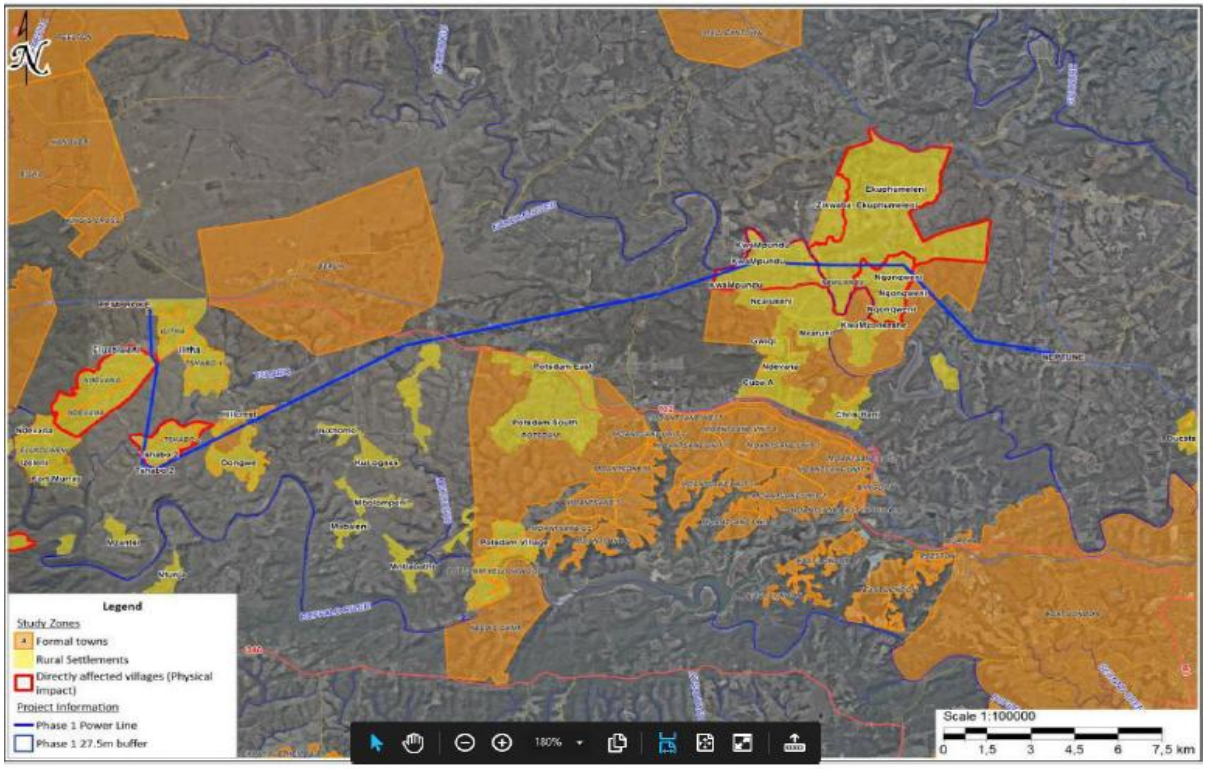

Figure 1:Latest Pembroke substation layout on the threat risk assessment.

3.2 Public Involvement/Participation Process

The potential environmental impacts associated with the proposed project are required to be considered in compliance with the Environmental Impact Assessment (EIA) Regulations of 2014 (As amended) published in Government Notice R982 to R985 on, in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act 107 of 1998) (as amended). The above scope of work was assessed against the Listing Notices of the EIA Regulations 2014 and the following is noted:

- That the Project does not trigger EIA process as per the above-mentioned regulations.
- The public may be involved if project/activity triggers the requirements for any related permits/agreements e.g., water use licenses or heritage permits.

All the required replacement works will be done directly on the existing substation footprint; therefore, the project would not trigger the EIA listed activities.

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3.3 Project Specific Scope of Work and Design

Access control building refurbishment

- Refurbishment of existing building
- Construction of new manhole and cable trench
- Construction of flexible cable sleeves with draw boxes for the gate and Fibre comms from the access control building to the control building.
- Replacement of existing flooring, wall finishes and ceiling
- Replacement of sanitaryware, kitchenette and counter
- Replacement of doors and windows
- Refurbishment of roof tiles, barge & fascia boards and gutters & downpipes
- Assessment of existing sewer plant and refurbishment/replacement of the plant to comply with latest Eskom standard requirements.
- Replace and install new lighting, air conditioning, Distribution boards, power points and light switches.

Perimeter fence lighting upgrade

- Refer to drawings PEM25P19-SE-E43 sheets 1-2
- New installation of 115 lighting poles, at 15m intervals.
- Installation of 115, 60W LED luminaires on top of the poles.
- Installation of two Security lighting distribution boards (SLDB) at positions shown on drawing.
- Install Supply cables from ACDB in control building to SLDB 1 & 2
- Install cables from SLDB to luminaires.
- Install control cables from SLDB's to access control building.
- Install 10mm DIA copper rod around the complete substation, 3 Km in total.
- Terminate, test and commission.

Inner fence upgrade

- The project will be responsible for upgrading the existing inner security fence.
- The contractor will be responsible for all fencing works, including excavation for fence posts, anti-tunnelling, installation of fence panels, gates, overhangs, etc.
- Replace inner fence as specified on drawings 0.54/5633 sheets 1-3.

Installation of access gates

- The access gates must be removed completely and spoiled,
- A totally new access gate must be installed according to drawings 0.54/10230 sheets 1-6,
- Complete with gate motors, gates and sleeves as shown on the drawing and,
- The contractor should also install a fiber optic sleeve pipe with draw boxes in accordance to drawing 0.53-2129.

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Non-Lethal fence

- The non-lethal fence complete with the protection slab must be removed and spoiled,
- A totally new non-lethal fence must be installed in accordance with Eskom's specification of 240- 78980848,
- The details according to the specification is drawing 0.54-8282.
- Existing stone verge shall remain.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Mawabo Sinyolo	Project Manager

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Table 1: Project Specific Environmental Controls

This section specifies standard mitigation measures to be followed by the parties responsible for environmental management during the construction of the project.

Note: An activity may have multiple aspects that might need to be looked at.

No.	Activity	Aspect	Impact	Management Objective	Mitigation Measure	Measurable Targets	Frequency of Action	Responsible Party
1.	Project Contract and programme	Tender Issuing/ Enquiry	Non-compliance to legal requirements and non-conformance to other requirements and conditions set out in the EMPr.	Contingencies for minimising negative impacts anticipated to occur during the construction/ refurbishment phase. Ensure environmental awareness and formalise environmental responsibilities and implementation.	The EMPr must be included as part of the tender documentation thereby making it part of the enquiry document to make the recommendations and constraints, as set out in this document, enforceable under the general conditions of contract. The contractor shall acknowledge or complete Declaration on Environmental Requirements Pro-forma before commencement of the works. A copy of this EMPr must be always available at the works site. The Contractor shall ensure that all the personnel on site, sub-contractors and their teams, suppliers, etc. are familiar with and understand the specifications contained in this EMPr.	Contract records signed Declaration on Environmental Requirements Pro-forma.	During tender stage During construction/ refurbishment	Project Manager/ Buyer/ Environmental Practitioner Project Manager CEO

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2.	Method Statements	Compilation of Project documents	Non-compliance to legal requirements and non-conformance to other requirements and conditions set out in the EMPr.	Contingencies for minimising negative impacts anticipated to occur during the construction/ refurbishment phase.	All activities which require method statements may only commence once the method statements have been approved by the PM and Eskom Environmental Practitioner. Where applicable, the contractor shall provide job-specific training on an ad hoc basis when workers are engaged in activities, which require Method Statements. It must be ensured that Eskom Policies, Guidelines and Standards are consulted to ensure that Method Statements meet requirements as set out in those documents.	Approved Method Statements and relevant documents. Training records	Before commencement of activities As and when required	Contractor Contractor
3.	Site demarcation and development	Allocation/ demarcation of site	Legal contravention, and damage to the environment	Contingencies for minimising negative impacts anticipated to occur during the construction/ refurbishment phase.	The Substation team (i.e., Environmental Department or Property Management Team) shall be consulted before site demarcations and development, including the camp site. All conditions contained in this EMPr must be adhered to and considered when site demarcation and development takes place. No activities will be allowed outside the demarcated area.	Activities to take place within the demarcated area.	Before commencement of construction/ refurbishment activities on site As and when required	Contractor
4.	Environmental Awareness Training	Conducting Environmental Awareness Training	Lack of understanding by workforce of the responsibilities in terms of this EMPr Legal contravention, damage to the	Environmental training and awareness of construction/ refurbishment staff contribute to minimisation of the occurrence of	All staff should receive environmental awareness/ training. All new staff coming onto site shall receive environmental awareness/training. Refresher environmental awareness/training shall be available as and when required.	Environmental impact because of construction/ refurbishment activities is minimised through the development of effective	On commencement of construction/ refurbishment activities. As and when required	CEO

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			environment and private property	environmental impact to the work area.	All staff shall be made aware of the conditions and controls linked to the EMPr. All staff are made aware of their individual roles and responsibilities in achieving compliance with the EMPr. The Contractor shall erect and maintain information posters at key locations on site. Environmental awareness/training should include as a minimum the following: • Description of significant environmental impacts, actual or potential, related to their work activities. • Mitigation measures to be implemented when carrying out specific activities. • Emergency preparedness and response procedures. • Procedures to be followed when working near or within sensitive areas. • Wastewater management procedures. • Water usage and conservation. • Solid waste management procedures. • Sanitation procedures. • Fire prevention; and • Disease prevention. -A record of all environmental awareness undertaken as part of the EMPr must be available.	environmental awareness training material and execution of environmental awareness training for all staff.		

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					-Educate workers on the dangers of open and/or unattended fires -A staff attendance registers of all staff to have received environmental awareness training must be available -Course material must be available and presented in appropriate languages that all staff can understand			

5.	Site Establishment	Construction of a site camp	Damage to the environment by unnecessary clearing the surface/ ground. Land pollution/ contamination. Chemical pollution caused by vehicle oils, grease or solvents	Ensure that environmental issues are taken into consideration in the planning and construction of site establishment.	A site establishment method statement shall be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas, ablution facilities, waste and wastewater management; Location of construction camps must be carefully considered and approved by the Substation/ Grid Team and Tx. Projects Delivery to ensure that the site does not impact on sensitive areas. Sites should be located where possible on previously disturbed areas. The construction camp shall be fenced where necessary.	Impact to the environment during site establishment is minimised and the development footprint are kept to demarcated development area.	When the project commences	Contractor
6	Environmental emergencies	Response to all types of environmental emergencies.	Land, water pollution/ contamination.	Emergency procedures are in place to enable a rapid and effective	Compile an Emergency Response Plan prior to the commencement of the proposed project. The Emergency Plan must deal among other things with accidents harsh weather conditions, disasters,	All emergency situations are managed in accordance with	On commencement	Contractor/ CEO

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			Chemical pollution caused by vehicle oils, grease or solvents	response to all types of environmental emergencies.	wildlife interactions, potential spillages and fires in line with relevant legislation. All staff shall be made aware of emergency procedures as part of environmental awareness training. The relevant local authority shall be made aware of a fire as soon as it starts. In the event of emergency necessary mitigation measures to contain the spill or leak shall be implemented.	the emergency procedures. Rapid and effective response to all types of environmental emergencies.	As and when required	
7.	Hazardous Chemical Substances (incl. oil)	Storage, handling, use and disposal of hazardous substances	Chemical, land and water pollution/ contamination. Damage to the environment.	Prevention of pollution of the environment. Minimise chances of transgression of the acts controlling pollution.	The contractor must provide method statements for the “handling & storage of hazardous chemical substances”, “fire”, and “emergency spills procedures”. The substances must be confined to specific and secured areas within the contractor’s site, and in a way that does not pose a danger of pollution even during times of high rainfall. These areas must be imperviously bunded with adequate containment (at least 1.5 times the volume of the fuel) for potential spills or leaks. Drip trays (minimum of 10cm deep) must be placed under all vehicles, including plant and equipment that stand for more than 24 hours. Vehicles suspected of leaking must not be left unattended, drip trays must be utilised. The surface area of the drip trays will be dependent on the vehicle and must be large enough to catch any hydrocarbons that may leak from the vehicle/plant while stationery. All spilled hazardous substances must be contained in impermeable containers for removal to a licensed hazardous waste management facility/ site, (this includes contaminated soils, and drenched spill kit material). Safety Data Sheets (SDS) must be prepared for all hazardous substances on site and supplied by the	No pollution of the environment. No litigation due to transgression of pollution control Acts. No complaints from Interested & Affected Parties (I & APs). Method statements	Daily	Site Supervisor/ CEO/ SHE Represent ative

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					supplier where relevant. SDS's must be updated as required. Containers must be clearly marked to indicate contents, quantities and safety requirements. Materials such as fuel, oil, paint, herbicide and insecticides must be sealed and stored in bunded areas or under lock and key, as appropriate, in well-ventilated areas. All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet. No smoking must be allowed within the vicinity of the hazardous storage areas. Adequate fire-fighting equipment must be made available at all hazardous storage area. An appropriate number of spill kits must be available and must be in all areas where activities are being undertaken.			
8.	Eating Area	Management of eating areas	Incorrect handling and management of waste. Littering of waste.	Control potential influx of vermin and flies. Neat workplace and hygienic environment.	The Contractor shall, in conjunction with the Eskom Environmental Practitioner or PM designate restricted eating areas for eating during normal working hours. Adequate closed refuse bins must be provided and cleaned daily. Litter (even if originating outside the camp) and concrete bags etc. must be picked up daily and put into suitably closed bins.	No visual sign of vermin and flies. No complaints from I & AP's.	Daily	Contractor

9.	Waste Management	Handling and management of waste	Inappropriate storing, handling and unsafe disposal of at a unrecognised/ unregistered waste facility.	To avoid, manage and mitigate potential impacts to the environment caused by the incorrect	All measures regarding waste management shall be undertaken using an integrated waste management approach. Sufficient, covered waste collection bins (scavenger and weatherproof) shall be provided. A suitably positioned and clearly demarcated waste collection site shall be identified and provided.	Solid waste management is undertaken in accordance with relevant national and provincial legislation and local by-laws.	Daily	Contractor

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				storage, handling and disposal of general and hazardous solid waste.	The waste collection site shall be maintained in a clean and orderly fashion. Waste shall be segregated into separate bins and clearly marked for each waste type. Staff shall be trained in waste segregation. Recycling of waste types shall be maximised. Bins shall be emptied regularly. General waste shall be disposed of at recognised and registered waste disposal sites/ recycling company. Hazardous waste shall be disposed of at a registered waste disposal site. Certificates of disposal for general, hazardous, and recycled waste shall be maintained. Under no circumstances shall any waste be disposed of, burned, or buried on site.			
10.	Sanitation	Management of ablution facilities	Risk of diseases and contamination/ pollution to the environment.	An abundant supply of suitably located clean and well-maintained toilet facilities are available to all staff to minimise the risk of disease and impact to the environment.	Mobile chemical toilets shall be made available onsite if no other ablution facilities are available. Ablution facilities and or mobile toilets shall be always used and no indiscriminate use of the veld for the purposes of ablutions shall be permitted under any circumstances. Ablution facilities shall be located within 100 m of any workplace and shall be numerous enough to accommodate the workforce (minimum requirement of 1:15 workers on site). Where mobile chemical toilets are required, the following shall be ensured: a) Toilets are located no closer than 100 m to any watercourse or water body. b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause. c) No spillage occurs when the toilets are cleaned or emptied, and the contents are managed in accordance with the EMPr.	No pollution or disease arises on-site because of sanitation facilities or lack thereof.	Daily	Contractor

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					d) Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out. e) Toilets are emptied before long weekends and workers holidays and shall be locked after working hours. f) Toilets are serviced regularly, and a copy of the waste disposal certificates shall be maintained.			
11.	Dust Management	Management of dust emission	Generation of dust emissions.	To reduce dust emissions during construction activities.	Take all reasonable measures to minimise the generation of dust because of construction. Removal of vegetation shall be avoided until such time as soil stripping is required and similarly exposed surfaces shall be re-vegetated or stabilised as soon as is practically possible. Excavation, handling and transport of erodible materials shall be avoided under high wind conditions or when a visible dust plume is present. During high wind conditions, the responsible person will evaluate the situation and make recommendations as to whether dust-damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level. Where possible, soil stockpiles shall be in sheltered areas where they are not exposed to the erosive effects of the wind. Where erosion of stockpiles becomes a problem, erosion control measures shall be implemented at the discretion of the responsible person.	Minimal occurrence of dust due the adherence of EMPr requirements.	Daily	Contractor
12.	Noise Management	Management of noise levels	Unnecessary high noise levels	To prevent unnecessary noise to the environment by ensuring that noise from construction	All construction vehicles must be in a good working order to reduce possible noise pollution. Noise reduction is essential, and Contractors shall endeavour to limit unnecessary noise, especially loud talking, shouting or whistling, radios, sirens or hooters, motor revving, etc. The use of silent compressors is a specific requirement.	Noise management is undertaken in accordance with SANS 10103 and	Daily	Contractor

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				activity is mitigated	Noisy activities shall take place only during normal working hours. The surrounding Eskom management and landowners must be informed in writing within 24 hours prior to any planned activities that will be unusually noisy or any other activities that could reasonably have an impact on the adjacent sites. These activities could include, but are not limited to, blasting, piling, use of pneumatic jackhammers and compressors.	requirements of the EMPr. No complaints from surrounding landowners.		
13.	Water Management	Stormwater and wastewater management	Pollution and contamination of the watercourse environment and or estuary	To avoid, manage and mitigate potential impacts to the environment caused by wastewater discharge during construction.	Appropriate pollution control facilities necessary to prevent discharge of water containing polluting matter or visible suspended materials into watercourses or water bodies shall be designed and implemented. All watercourses must be protected from direct or indirect spills of pollutants such as solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash and contaminated water or organic material resulting from the Contractor's activities. In the event of a spill, prompt action must be taken to clear the polluted or affected areas. There must not be any impact on the long-term morphological dynamics of watercourses or estuaries. When working in or near any watercourse or estuary, the following environmental controls and consideration must be taken: a) Water levels during the period of construction. No altering of the bed, banks, course or characteristics of a watercourse b) During the execution of the works, appropriate measures to prevent pollution and contamination of the riparian environment must be implemented e.g., including ensuring that construction equipment is well maintained.	Wastewater management is undertaken in accordance with relevant national and provincial legislation and local by-laws.	Daily	

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					c) Where earthwork is being undertaken in close proximity to any watercourse, slopes must be stabilised using suitable materials, i.e., sandbags or geotextile fabric, to prevent sand and rock from entering the channel; and d) Appropriate rehabilitation and re-vegetation measures for the watercourse banks must be implemented timeously. In this regard, the banks should be appropriately and incrementally stabilised as soon as development allows.			
14.	Dismantling of old equipment	Storing and handling of old equipment	Damage to the environment Chemical Pollution/ contamination (i.e., release of oil) Improper disposal of the equipment	Impact to the environment to be minimised during the dismantling, storage, and disposal of old equipment commissioning.	All old equipment removed during the project must be stored in such a way as to prevent pollution of the environment. Oil containing equipment must be stored to prevent leaking or be stored on drip trays. All scrap steel must be stacked neatly, and any disused and broken insulators must be stored in containers. Oil to be drained /decanted shall be contained in such a way that it does not leak to the ground. Once material has been scrapped and the contract has been placed for removal, the disposal Contractor must ensure that any equipment containing pollution causing substances is dismantled and transported in such a way as to prevent spillage and pollution of the environment. The Contractor must also be equipped to contain and clean up any pollution causing spills. Disposal of unusable material must be at a registered waste disposal site and a certificate of safe disposal must be obtained. Asset disposal team shall be contacted to see if there are any material that may not need to be disposed immediately.	All assets and scrap material to be disposed of accordingly.	When dismantling takes place	Contractor

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15.	Workshop, equipment maintenance and storage (If applicable)	Management of workshop and storage area	Damage to the environment Chemical Pollution/ contamination	The control operation, maintenance and storage of equipment prevents soil, surface water and groundwater contamination.	Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area. During servicing of vehicles or equipment, especially where emergency repairs are affected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. Leaking equipment must be repaired immediately or be removed from site to facilitate repair. Workshop areas must be monitored for oil and fuel spills and such spills. Appropriately sized spill kit kept on site relevant to the scale of the activity taking place shall be available. The responsible operator of equipment must have the required training to make use of the spill kit in emergency situations. The workshop area shall have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil / water separator where maintenance work on vehicles and equipment can be performed.	Soil, surface water and groundwater contamination are prevented as due to adherence of EMPr requirements.	Daily	Contractor
16.	Heritage Resources Management (If applicable)	Heritage Resources Management	Destruction of the heritage resources	Limit the destruction of the country's heritage resources. The preservation and appropriate management of new archaeological finds should these be discovered	In terms of the National Heritage Act, 1999 (Act No. 25 of 1999), construction personnel must be alert and must inform the local authorities should they come across any findings of heritage resources within 24 hours if the area has been removed. Should any archaeological artefacts be exposed during construction activities, work on the area where the artefacts were found shall cease immediately and the South African Heritage Resources Agency shall be notified within 24 hours. Under no circumstances shall archaeological artefacts be removed, destroyed, or interfered. Any archaeological sites exposed during construction activities must not be disturbed prior to authorisation by the South African Heritage	No destruction of or damage to known archaeological sites.	Daily	Contractor

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				during construction.	Resources Agency or the appropriate provincial heritage resource agency. • No building, structure or fitting on the site older than 60 years shall be removed or demolished without the appropriate license from SAHRA. Identify, demarcate and prevent impact to all known sensitive heritage features on site.			
17.	Access Roads	Management and maintenance of access roads	Damage to the environment through the unplanned and unrestricted movement of vehicles on site	Minimise loss of topsoil and enhancement of erosion. Minimise fauna and flora displacement by destruction of natural habitats.	• Existing roads and services within the Substation and/ or servitude must be utilised as far as possible. • No unauthorised access is permitted. • Any damage or degradation will be investigated, and fines issued, the affected areas must be immediately rehabilitated. No driving off from the marked roads is permitted and designated parking areas must be identified and demarcated with applicable signage. Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads.	No erosion on access roads after completion of construction/ refurbishment works. No loss of topsoil due to runoff water on access roads.	Daily	Contractor
18.	Fauna/Animal Management	Fauna/Animal Management	Disturbance to fauna	Minimise disturbance to animals. Minimise interruption of breeding patterns of birds. Minimise destruction of habitat,	Focus on animals such as snakes and other reptiles that often generate fear by telling the labour force how to move safely away and to whom they report the sighting of such animals. The labour force should also be informed where snakes most often hide so that they can be vigilant when lifting stones etc. Employees must be trained on how to deal with fauna species as intentional killing will not be tolerated as well as not to disturb wildlife within the working area precinct.	No measurable or visible signs of habitat destruction.	Daily	Contractor
19	Flora/ Vegetation	Maintenance and management of vegetation	Damage to protected or endangered species	Minimal disturbance to vegetation	Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species.	The footprint has not exceeded the	As and when required.	Contractor

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	Management (if applicable)			where such vegetation does not interfere with construction/ refurbishment in terms of approvals from the relevant authority.	The contractor must rehabilitate the construction camp and any other disturbed areas once construction/ refurbishment activities have terminated. Compacted areas will be ripped and mulched to ensure recovery of the natural vegetation cover. Once construction/ refurbishment is complete, rehabilitation of un-built areas must be undertaken to restore the aesthetic & ecological value of the area. Active re-vegetation must take place with indigenous vegetation and as prescribed by the client and/or property owner.	agreed boundaries. All damaged areas successfully rehabilitated.	On completion of the project construction activities.	
20.	Fire Management	Management of fires	Spread of uncontrolled/ unattended fires	To minimise the risk of fire during construction.	• Designate smoking areas where the fire hazard could be regarded as insignificant. • Educate workers on the dangers of open and/or unattended fires. • No open fires shall be allowed on site under any circumstances. • Firefighting equipment shall be available on vehicles located on site. • Contact numbers for the Fire Prevention Agency (FPA) and emergency services must be communicated in environmental awareness training and displayed at a central location on site.	Fire prevention measures are carried out in accordance with the National Veld and Forest Fire Act, 101 of 1998. Emergency Preparedness and Response Plan.	Throughout the construction/ refurbishment phase When necessary	Contractor

21.	Installation of Equipment	Storage, installation, and handling of equipment	Improper installation, handling and storage	Impact to the environment to be minimised during the installation of equipment.	Management of dust shall be conducted in accordance with Dust management section. Management of equipment used for installation shall be conducted in accordance Workshop equipment maintenance and storage section. Management hazardous substances and any associated spills shall be conducted in accordance with Hazardous substances section.	Impact to the environment is minimised through adherence to EMPr requirements.	Daily	Contractor

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22.	Rehabilitation	Rehabilitation of the construction site	Failure to rehabilitate disturbed areas. Improper/ inadequate rehabilitation. Incorrect use of rehabilitation techniques.	Areas disturbed during construction/ refurbishment are returned to a state that approximates the state which they were before disruption.	All areas disturbed by construction/ refurbishment activities shall be subject to landscaping and rehabilitation. Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping. Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition. Where required, re-vegetation including hydro-seeding can be enhanced using a vegetation seed mixture as described below. A mixture of seed can be used provided the mixture is carefully selected to ensure the following: a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be indigenous to the area with the seeds used coming from the area; d) Root systems must have a binding effect on the soil; e) The final product must not cause an ecological imbalance in the area.	Landscaping and rehabilitation are undertaken in accordance with the approved rehabilitation plan/ specification. Areas disturbed during the development phase are returned to a state that approximates the original condition.	On completion of construction/ refurbishment During rehabilitation phase	Contractor
23	Prevention of Disease	Health and wellness of the workforce	Spread of diseases	Prevent litigation due to infestation of livestock/ game.	The Contractor shall take all the necessary precautions against the spreading of disease, especially under livestock/ game. The workforce shall also be sensitised to the effects of sexually transmitted diseases, especially HIV AIDS. The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area. Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable.	No complaints from Stakeholders/ IAP.	Daily As and when required	Eskom and Contractor

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					Medical support must be made available. Provide access to Voluntary HIV Testing and Counselling Services.			
24	Social interaction	Servitudes through crop fields / farm areas	Access to the substation may be affected should there be any incidents like dust generation, disturbances of livestock.	Ensure that identified access road has minimal dust generation. All farm gates shall be kept and closed as they are found.	By conducting risk assessments prior to the start of projects relates to access. To obtain written consent from property owner, stipulating any specific requirements from the property owner. Avoid interaction with landowners' activities. No fires to be made anywhere. use of existing access road.	No Legal Contraventions / lawsuits / claims	Duration of the project	Project Manager / Contractor

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