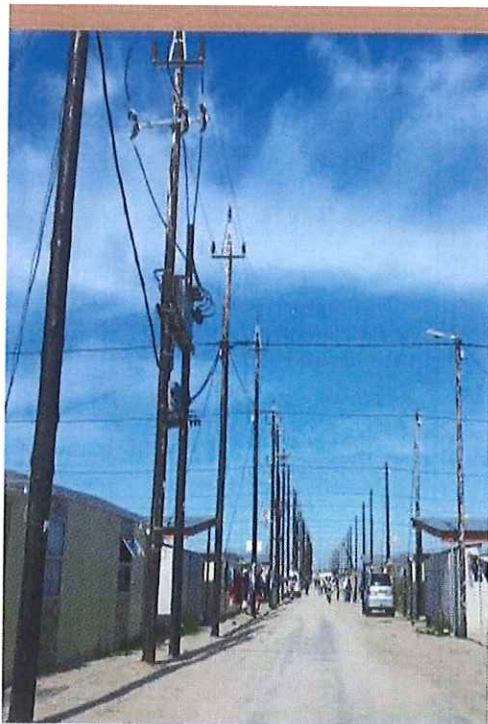




**NORTH WEST OPERATING UNIT
LAND DEVELOPMENT
ENVIRONMENTAL MANAGEMENT**

**ENVIRONMENTAL MANAGEMENT
PROGRAMME (EMPr) FOR
WOLMARANSSTAD EXT 15
ELECTRIFICATION PROJECT**



Environmental Officer:

Name: Rosina Ndou
Tel: 018 464 6992
Cell: 071 370 6017
Ndours@eskom.co.za

Project Name:

Wolmaransstad Ext 15

Project Number:

CN-EBC-1803-4413

Project Scope of Work:

Install new overhead MV & LV infrastructure and supply 122 stands with service connections by installing the following:

- 58 x 7mx120-139, 23 x 11mx160-179mm, 3 x 11mx180-199mm, 8 x 9mx160-179, 3 x 9mx180-199 and 5 x 12mx180-199mm wood poles.
- 23 x 2-way and 22 x 4-way P/T boxes.
- 1636m Fox ACSR conductor
- 1318m x 35sq 3ph ABC.
- 2 x 100kVA transformers.
- 122 x split meters
- 122 x ready-boards.
- 3138m x 6mm² concentric cables.
- 3 x 22kV 3ph offload fused, 1 x 22kV 3ph solid links, 6x125A LV fuses and 3 x 150A 3ph MCCBs.
- Relocate the existing 100kVA transformer to a new position.

EMPr Handover Date:

17 January 2019

Signature:



TABLE OF CONTENTS

PG

1. INTRODUCTION	5
2. SCOPE OF EMPr	5
2.2. EMPr Objectives	6
2.3. EMPr Compliance	6
2.4. Project Responsibilities	6
3. ENVIRONMENTAL LEGISLATION FRAMEWORK	7
4. ESKOM POLICIES AND PROCEDURES	7
5. GENERAL CONDITIONS AND CONTROL MEASURES	7

ACRONYMS

EMPr	Environmental Management Programme
EO	Environmental Officer
DWA	Department of Water Affairs
DEA	Department of Environmental Affairs
SAHRA	South African Heritage Resource Agency
PPE	Personal Protective Equipment
OHSA	Occupational Health and Safety Act
SAPS	South African Police Services
DAFF	Department of Agriculture Forestry and Fisheries
PM	Project Manager
PC	Project Co-ordinator
LD	Land Development
SS	Senior Supervisor

GLOSSARY

Environmental Authority: Statutory body that governs and prescribes the processes that needs to be undertaken for certain construction activities. They are also the decision making authority granting authorisation for specific projects.

Environmental impact: Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

Environmental Management Programme (EMPr): A plan that guarantees the desired end state of the environment and describes how activities, that could have a negative impact, will be managed and monitored and impacted areas rehabilitated.

Eskom Environmental Officer: An individual appointed by Eskom to implement and monitor compliance to the EMP.

Contractor: A person or company appointed by Eskom to carry out stipulated activities.

Environment: Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interactions.

Environmental issues (aspect): Elements of an organization's activities, products or services which can interact with the environment.

Mitigate: The implementation of practical measures to reduce adverse impacts or enhance beneficial impacts of an action.

Monitoring: An activity which ensures that the requirements of the Environmental Management Plan is met.

1. INTRODUCTION

As part of Eskom's Integrated Environmental Management System (ISO14001), there is a commitment to the development & implementation of an Environmental Management Programme (EMPr) for all Eskom Projects.

PLEASE NOTE THAT THIS IS JUST AN EMPr FOR THE ELECTRIFICATION PROJECT. THIS EMPr DOES NOT INCLUDE ENVIRONMENTAL AUTHORISATION, GENERAL AUTHORISATION CONDITIONS AND TREE PERMIT CONDITIONS.

2. SCOPE OF EMP

The scope of this Environmental Management Programme (EMPr) for Wolmaransstad Ext 15 Electrification project is to give guidelines for environmental best practice, to the Contractor commissioned to construct the proposed distribution line. This document shall be seen as part of the contract. The document describes how activities that could have a negative impact on the environment will be managed and monitored and impacted areas rehabilitated.

Further, this document will subsequently be used by Eskom staff that will be in charge of maintenance of the substation. This Environmental Management Programme will ensure that all infrastructures is inspected and maintained correctly and effectively.

This Environmental Management Programme ultimately has a long-term objective to ensure that a cradle to grave approach is implemented through ensuring that environmental management considerations are implemented throughout the life-span of the project.

2.1. Purpose

This Environmental Management Programme (EMPr) for Wolmaransstad Ext 15 Electrification project describes how activities that could have a negative impact on the

environment will be mitigated, managed and monitored. This EMPr indicates if areas are impacted, how they should be rehabilitated. This maintenance EMPr will ensure that all power lines are inspected and maintained correctly and effectively.

2.2. EMPr Objectives

Its aim is to ensure that the following are in place:

- There is a process to identify existing or to predict potential negative environmental impacts;
- Objectives and targets are set to ensure negative impacts are mitigated and existing impacts rehabilitated;
- Resources and responsibilities are allocated to each target;
- Actions are implemented to mitigate the identified negative environmental impacts; and Monitoring programmes are developed to track the actions that have been implemented so as to ensure the effectiveness of the action.

2.3. EMP Compliance

The following are required for the compliance with the EMPr:

- Environmental Training to be given to all resources working on project to understand what the possible environmental impacts will be. This training to be given by contractor to their people or Eskom EO if requested to assist.
- An Environmental Register is to be kept on site at all times.
- The EMPr must be available at all time on the construction site.
- The contractor must read and understand the EMP before they commence with the project

2.4. Project Responsibilities

PROJECT CO-ORDINATOR	ESKOM ENVIRONMENTAL OFFICER	CONTRACTOR
The Project Co-ordinator is responsible for overall management of project and EMPr implementation. The following tasks will fall within his / her	The EO is responsible for the implementation of the EMPr during the construction phase as well as liaison and reporting to Eskom, Contractor, and Landowners. The	The Contractor is responsible for the overall execution of the activities in the construction phase including the implementation and compliance at all times with recommendations and

responsibilities:

- Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures.
- Monitor site activities on a daily basis for compliance.
- Conduct internal audits of the construction site against the EMPr.
- Confine the construction site to the demarcated area.
- Rectify transgressions through the implementation of corrective action.

following tasks will fall within his / her responsibilities:

- Be familiar with the recommendations and mitigation measures of this EMPr.
- Conduct during construction audits and compile reports.
- Educate about the management measures of the EMPr.
- Liaise with the construction team and the Project Manager.
- Recommend corrective action for non-compliance incidents on the construction site.

conditions of the EMPr as well as implementation of finding during audits by the EO. Maintain an environmental register which keeps a record of all incidents which occur on the site during construction. These incidents include:

- Public involvement / complaints
- Health and safety incidents
- Incidents involving Hazardous materials stored on site
- Non-compliance incidents

3. ENVIRONMENTAL LEGISLATION FRAMEWORK

LEGISLATION	SECTION	RELATES TO
The Constitution of South Africa	Chapter 2 Section 24 Section 25	Bill of Rights. Environmental rights. Rights in property.
National Environmental Management Act No. 107 of 1998 (NEMA)	Section 2 Section 24 (a), (d) & (5) Section 28	Defines the strategic environmental management goals and objectives of the government. Applies throughout the Republic to the actions of all organs of state that may significantly affect the environment. Listed activities and Regulations The developer has a general duty to care for the environment and to institute such measures as may be needed to demonstrate such care.
Conservation of Agricultural Resources Act No. 43 of 1983.	Section 6	Implementation of control measures for alien and invasive plant species.
National Heritage Resources Act No. 25 of 1999	The general principles for governing heritage resources in South Africa	Provides general principles for governing heritage resources management throughout South Africa including national and provincial heritage sites, burial grounds and graves; archaeological and paleontological sites, and public monuments and memorials
National Water Act No. 36 of 1998	Section 19 Section 14	Pollution prevention and Water use
National Environmental Management: Air Quality Act No. 39 of 2004	Sections 26-27 Section 32	Control of fuels. Control of dust.
Occupational Health & Safety Act No. 85 of 1993	Section 8 Section 9	General duties of employers to their employees. General duties of employers and self-employed persons to persons other than their employees.
Noise Control Regulations of the Environmental Conservation Act No. 73 of 1989.	Section 25	Control of noise
Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947	Sections 3-10.	Control of the use of registered pesticides, herbicides (weed killers) and fertilizers. Special precautions must be taken to prevent workers from being exposed to chemical substances in this regard.
Nature Conservation Ordinance (Transvaal) Act No. 12 of 1983	Section 98	Identification of any specially protected or rare and endangered species. If these are to be affected by the proposed project, a permit from the Director General, Nature

			Conservation should be obtained prior to removal. Prohibits the picking of all indigenous plants on public roads and nature reserves without a permit.
National Forest Act No. 84 of 1998	Section 11 Section 15		Prohibits the destruction/removal of protected trees
Hazardous Substances Act 15 of 1973	Section 4		To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products; To provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith.
Fencing Act 31 of 1963	Section 17 Section 22		Any person erecting a boundary fence may clean any bush along the line of the fence up to 1,5 metres on each side thereof and remove any tree standing in the immediate line of the fence Any person who opens and leaves a gate open or unfastened or finding a gate open on passing through, neglects to shut and fasten a gate shall be guilty of an offence and liable for conviction.
National Roads Act 54 of 1971	Section 16		Prohibits the dumping of material on or near a national road
National Environmental Management Biodiversity Act 10 of 2004			Provides for the provisions of the protection of South African flora, fauna and microorganisms.

4. ESKOM POLICIES AND PROCEDURES

PROCEDURE	DESCRIPTION
EPC 32-95	<i>Reporting, Recording, Investigating, Costing and Following up of Incidents/Accidents</i>
EPC 32-303	<i>Requirements for the Safe Processing, Storing, Removing and Handling of Asbestos or Asbestos containing material.</i>
DISASAAAT8	<i>Provision and Use of Personal Protective Equipment (PPE)</i>
EPC32-245	<i>Environmental Procedure: Waste Procedure</i>
EPC32-247	<i>Environmental Procedure: Procedure for vegetation clearance and maintenance within overhead power line servitudes and on Eskom owned land.</i>
DST34-440	<i>Selection Purchase and Storage of Hazardous Material.</i>
EPC 727	

5. GENERAL CONDITIONS AND CONTROL MEASURES

Management of construction activities should be controlled by adhering to the Environmental control measures outlined below:

5.1 Environmental Control Measures (Pre Construction Phase, Construction Phase and Operational Phase)

PRE-CONSTRUCTION PHASE		
Aspect and Impact	Applicable Legislation	Applicable Eskom Standards
LANDOWNERS	The Constitution (Act No 108 of 1996) – Chapter 2, 24 and 25.	Wayleave Agreements Servitudes
	<ul style="list-style-type: none"> The Eskom project manager or co-ordinator shall be responsible for ensuring that the land owners have been informed before any work is carried out on site. Contractors shall find out if the land owners have been informed before moving onto site, this maybe done during kick off meeting. The project manager must coordinate with other parties working on site regarding: site management, timing of works, clearing the site, materials ordering, waste management, access, deliveries and construction areas 	
CONSTRUCTION CAMP	National Environmental Management Act (No 107 of 1998)	EPC 32 94
	<ul style="list-style-type: none"> Choice of site for the Contractor's camp requires the EOs permission and must take into account location of local residents and / or ecologically sensitive areas, including flood zones and slip / unstable zones. Construction camp site must be clearly demarcated and visible by putting necessary board and signs indicating that the area is a construction camp site and access is denied. No materials will be left onsite after the construction of the project and failure to rehabilitate the site may lead to NCR. 	

CONSTRUCTION PHASE

Aspect and Impact	Applicable Legislation	Applicable Eskom Standards
SANITATION AND ABLUTION FACILITIES	Occupational Health and Safety Act 85 of 1993	EPC 32-245.
	<ul style="list-style-type: none"> • The contractor can make use of the existing pit toilet within the village. • Chemical/portable toilets can be provided if the contractor cannot have access to the existing pit toilets and such facilities shall, Comply with Eskom standards and shall have the approval of the land owner. Portable toilets must be available to staff. Staff shall be sensitised to the fact that they should use these facilities at all times. • These facilities shall be within 100m from workplaces but not closer than 50m from any natural water bodies. • The toilets must be discharged and cleaned every week. Cleaning of the toilets must be done through the certified service provider and proof of every discharge must be filled appropriately. 	
STORAGE OF MATERIALS (HAZARDOUS AND NON-HAZARDOUS)	Occupational Health and Safety Act 85 of 1993, Hazardous Substances Act	DST34-440
	<ul style="list-style-type: none"> • Storage of equipment and facilities should be designed to ensure safety of goods. • All hazardous materials must be stored on a non-permeable surface. 	
HEALTH AND SAFETY	Occupational Health and Safety Act 85 of 1993	EPC 32-95
	<ul style="list-style-type: none"> • It is the responsibility of Eskom to ensure that all construction and operational processes and procedures are compliant with the relevant health and safety regulations. • A health and safety officer must be appointed. 	
CLEARING/REMOVAL OF VEGETATION	NEMA	EPC 32- 247
	<ul style="list-style-type: none"> • Site clearing must take place in phased matter, as and when required. The area to be cleared must be clearly demarcated and this footprint strictly maintained. • Removal of vegetation or vegetation management must be done in accordance with Eskom Vegetation Management Standard Procedure and the servitude dimensions must be adhered to. • No cutting of protected trees is permitted without the tree cutting permit and guidance from the Eskom EO • Contractor must contact Eskom EO for advice if they are not sure about the protection status of the tree that needs to be cut. 	

CONSTRUCTION PHASE

Aspect and Impact	Applicable Legislation	Applicable Eskom Standards
ENVIRONMENTAL TRAINING	NEMA	SHEQ Policy EPC 727
	<ul style="list-style-type: none"> Ensure that all site personnel have a basic level of environmental awareness training. The Contractor must monitor the performance of construction workers to ensure that the points relayed during their introduction have been properly understood and are being followed. Environmental Awareness Training must be conducted prior to construction by the contractor or Eskom EO if requested to do by the contractor. 	
FIRES	Occupational Health and Safety Act 85 of 1993, National Veld and Forest Act No. 101 of 1998	EPC 32-245
	<ul style="list-style-type: none"> No open fires are permitted on private property, on site or in the veld. In the event that equipment that might pose a fire hazard is used in the construction process, suitable fire fighting equipment is to be made available at the construction site and in the construction camp. Emergency preparedness for different incidents e.g. fire, oil spill incidents should be in place and be implemented if and when the need arises (see Annexure A). 	
WASTE MANAGEMENT	NEMA: Waste Act	EPC32-245
	<ul style="list-style-type: none"> A Waste Management Plan must be developed and adhered to or implement the waste management plan form Eskom. The Contractor is responsible for developing the Waste Management Plan. Waste disposal methods will depend upon the location of the construction camps. This entails that sufficient waste bins are available on site and in the construction camp. Waste bins must be clearly marked to indicate the type of waste to be disposed off. The waste must be disposed of at an appropriate licensed waste disposal site. No containers, scrap metal, conductor etc. may be left on site. Such scrap must be removed and taken to an appropriate disposal site. NO BURNING OF WASTE AT ALL SITES. IT IS A LEGAL OFFENCE. The contractor will be issued with a non-conformance 	
HAZARDOUS SUBSTANCES	Hazardous Substances Act	EPC 32-245, EPC 32-95
	<ul style="list-style-type: none"> No oil, diesel or other chemicals may be spilled or discarded anywhere. If an accidental spill occurs, it must be reported immediately (Annexure A) and cleaned to the satisfaction of Eskom and the landowner. All hazardous waste must be suitably enclosed, labelled, stored and removed as per legal guidelines. 	

- The storage area must be properly demarcated and cordoned.
- Drip trays must be used for stationary trunks.
- These hazardous materials may not be disposed of with regular domestic waste. All excess material must be removed upon completion of any work performed and disposed of in a suitable manner by the respective Contractor.

NEMA: Waste Act

EPC 32-245

SCRAP

- All scrap steel shall be stacked neatly and any disused and broken insulators shall be stored in containers.
- Once material has been scrapped and the contractor has been placed for removal, the contractor shall ensure that any equipment containing substances causing pollution is removed

National Environmental Management Biodiversity Act 10 of 2004

EPC

BIRD FRIENDLY STRUCTURE

- Only bird friendly structures must be used during contraction. Should a non-bird friendly structure be used on site, Non Conformance Report must be raised against the contractor and PC immediately.
- The contractor must build according the design.

Occupational Health and Safety Act 85 of 1993

DISASAAT8

PERSONAL PROTECTIVE EQUIPMENT

- Employees shall take reasonable care of their own health and safety.
- Employees shall cooperate with the employer to ensure that the requirements as set out in the **Occupational Health and Safety Act and the Regulation** fulfilled.
- Employees shall maintain each item of personal protective equipment provided to them and keep it clean and hygienic and in good state of pair.
- All the PPE purchased shall be in accordance with the Distribution Specification on PPE.

Occupational Health and Safety Act 85 of 1993

**EPC 32- 95
EPC 32- 245**

DUST CONTROL

- Drive at moderate speed on site access roads to minimise or avoid dust pollution.
- If there is dust due to loose soil, the contractor must mitigate by spraying with water.
- Water must not be obtained from and natural water resource, it must be water from the communal taps or municipal water.

		<p>Occupational Health and Safety Act 85 of 1993</p> <p>EPC 32-95</p>
<p>COMMUNITY ISSUES</p>	<ul style="list-style-type: none"> • Property owners and local residents shall be treated with respect at all times. • The contractor must be extra vigilant while driving around to avoid collision with domestic animals around. • All complaints shall be reported, recorded (Public complaints register) and investigated in compliance with the relevant BU procedure (EPC 32-95). • All the closed gates must be kept closed at all times during construction 	
<p>HERITAGE</p>	<p>National Heritage Resources Act No. 25 of 1999</p> <p>EPC 32-95</p> <ul style="list-style-type: none"> • There is a graveyard onsite and the houses to be electrified are in a close vicinity to them. SAHRA will be notified and the project construction may not commence before getting a response from SAHRA. • All the mitigation measures from SAHRA shall be followed • Before the project construction commences the graveyard must be demarcated • Should any artefacts and graves be found please report to the EO and all construction activities be stopped immediately. • EO to monitor the project throughout construction. 	
<p>OIL MANAGEMENT</p>	<p>Occupational Health and Safety Act 85 of 1993</p> <p>EPC32-245</p> <ul style="list-style-type: none"> • Oil spill mop up kits must be kept on site and used in the case of an oil spill. • In incidences where the spill is too large to treat with the Oil spill mop kits, an oil spill contractor must be contacted (Annexure A) and the incident must be reported to the EO. • All spills to be recorded on the Environmental Incidences register and a Non Conformance Report must be raised against the contractor. 	
<p>MATERIALS STORAGE</p>	<p>Occupational Health and Safety Act 85 of 1993, Hazardous Substances Act 15 of 1973</p> <p>DST34-440, EPC 32-247</p> <ul style="list-style-type: none"> • Storage of equipment and facilities should be selected and designed to ensure Safety of goods. Equipment shall be tested according to the Occupational Health and Safety Act 85 of 1993 and Hazardous Substances Act 15 of 1973 and shall be maintained so as to avoid Safety Risks. • Specific Storage areas shall be clearly marked and demarcated. 	

EROSION

NEMA

EPC 32 247, EPC 32 95

- Reasonable measures to prevent soil erosion shall be implemented at all times.
- Contractor must use existing road tracks in a way of avoiding new tracks that can be susceptible to erosion.
- Storm water run-off must be efficiently managed and must not cause erosion or damage to surrounding property.