2017

DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE ENVIRONMENTAL AUTHORISATION AMENDMENT OF THE PROPOSED UPGRADE OF THE ESKOM FOSKOR MERENSKY TRANSMISSION POWER LINE FROM 275kV TO 400kV IN THE LIMPOPO PROVINCES

DEA REF: 12/12/20/2411

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NSOVO ENVIRONMENTAL CONSULTING

DOCUMENT CONTROL

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Quality Control		
Report	**Compiled By:**	**Peer Reviewed By:**
Construction Environmental Management Programme	M. Mahumela  _____	M. Rikhotso  _____

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ACRONYMS	
CARA	Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)
CEO	Contractor Environmental Officer
EMPr	Environmental Management Programme
DAFF	Department of Agriculture, Fisheries and Forestry
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EA	Environmental Authorisation
ECA	Environment Conservation Act, 1989 (Act 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
HSA	Hazardous Substance Act, 1973 (Act 15 OF 1973)
HIA	Heritage Impact Assessment
KM	Kilometres
NEMA	National Environmental Management Act, 1998 (Act 107 of 1998)
NEMWA	National Environmental Management Waste Act, 2008 (Act 36 of 2008)
NEMAQA	National Environmental Air Quality Act, 2004 (Act 39 of 2004)
NEMBA	National Environmental Management Biodiversity Act, 2004 (Act 10 of 2004)
NHRA	National Heritage Resources Act, 1999 (Act 25 of 1999)
NWA	National Water Act, 1998 (Act 36 of 1998)
OHSA	Occupational Health and Safety Act, 1993 (Act of 85 of 1993)
SACNASP	South African Council of Natural Scientist Profession
SAHRA	South African Heritage Resources Agency
Tx	Transmission
WULA	Water Use Licence Application

1 INTRODUCTION

The construction of power lines can have a major impact on the environment. It is therefore imperative that precautions are taken to ensure that environmental degradation is minimised while the project is undertaken. This will take a concerted effort from the project team and proper planning is of the utmost importance.

Nsovo Environmental Consulting (hereafter Nsovo) has been appointed by Eskom Holdings SOC Ltd (hereafter Eskom) to compile an Environmental Management Programmed (EMPr) which will be a guideline for the mitigation and management measures to be implemented during the construction phase of the project. This EMPr is a living document that guides the day to day activities throughout the lifecycle of the project; it may from time to time, require revisions as be dictated by the course of construction.

This EMPr has been compiled as part of the Environmental Authorisation amendment application. The purpose of this EMPr is to give effect to precautionary measures, which are to be put in place for controlling the activities that take place on site. It has been developed to ensure compliance with National legislative and regulatory requirements.

2 DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Nsovo is conversant with the definition and general requirements of an Environmental Assessment Practitioner (EAP) as defined in Section 1 of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA) and Regulation 13 of the Environmental Impact Assessment Regulations promulgated in December 2014. Nsovo is:

- Independent and Objective;
- Has expertise in conducting EIA's;
- Takes into account all relevant factors relating to the application; and
- Provides full disclosure to the applicant and the relevant environmental authority.

Table 1: Details of the EAP

Name of Company	Nsovo Environmental Consulting
Person Responsible	Munyadziwa Rikhotso
Professional Registration	Registered with: South African Council for Natural Scientific Professions (SACNASP)- Cert.Sci.Nat Institute of Waste Management of Southern Africa (10112085) International Association of Impact Assessment Association

Postal Address	Postnet Suite 697 Private Bag X29 Gallo Manor 2052
Telephone Number	011 041 3689
Fax Number	086 602 8821
Email	munyadzi@nsovo.co.za
Qualifications & Experience	• M.Sc. Environment and Society • B.Sc. Honours Geography and Environmental Studies • 13 years of experience
Project Related Expertise	In terms of project related expertise the EAP has completed the following projects: • Environmental Impact Assessment for the proposed Eskom Vryheid Network Strengthening in Swellendam Local Municipality. • Environmental Impact Assessment Procedure for the establishment of new filling stations upgrades, knock and rebuild. • Environmental Impact Assessment Process for the establishment of cemeteries at Florence Park. • Environmental Impact Assessment Process for the proposed Foskor Merensky 131km, 275kV transmission power line. • Environmental Impact Assessment Process for Tubatse Strengthenning. • EIA for the Wildebees Substation and loop in lines • EIA for the proposed Westgate DS 132Kv Randfontein Strategic Servitude • Basic Assessment for Simmerpan Strengthening • EIA for the proposed Wildebees infeed Station and associated power lines.

CV and qualifications attached as Appendix D.

3 PROJECT BACKGROUND

Foskor Main Transmission Substation (MTS) forms part of the Lowveld Customer Load Network (CLN) in the Northern Grid. The Lowveld CLN consists of industrial, residential and mining. Foskor and Acornhoek MTS interconnect directly with the North-East grid via three 275kV lines, i.e. 1 x Merensky-Foskor and 2 x Marathon-Acornhoek. Acornhoek MTS is supplied from the Mpumalanga Generation Pool through 2 x Marathon-Acornhoek 97km 132kV lines. Acornhoek is interconnected to Foskor MTS at 275kV level by a single 67km line and at 132kV level by 3x 67km lines, two direct and one indirectly through Mirage Distribution substation.

Currently, the Lowveld North CLN connects with the North-East Grid through three 275kV lines, i.e. 1 x 129km Merensky-Foskor and 2x 97km Marathon-Acornhoek. Foskor MTS consists of 2 x 250MVA 275/132kV and a single 20MVA 132/22kV transformers. The Foskor MTS is supplied from Acornhoek and Merensky MTS through two single 275kV lines. On the 132kV level, Foskor is linked directly to Acornhoek MTS through a 2 x Foskor-Acornhoek 132kV ''Wolf"' lines and via Mirage Distribution substation through a single 132kV line. Foskor 132kV load is predominantly mining and traction. At 132kV level Foskor supplies Foskor Turling Transfer Pumps (TTPS), Gravelotte, Chermie, Foskor Extension 8, Palmin 1 and 2 and PMC. At the 22kV level Foskor supplies Kruger Park 1, Mica and Waterboard. The Acornhoek MTS consists of 2 x 75MVA 275/132kV and 2 x 40MVA 132/22kV transformers. It is supplied by three 275kV lines, one from Foskor and two from Marathon MTS. At the 132kV level it supplies Klasserie, Acornhoek traction, Tintswalo Champagne, Blyderivier, Timbavati, Mariepskop, Nwarele and Boulders.

The Foskor 2 x 250MVA 275/132kV transformation is laden to its firm level of 250MVA and will not be able to accommodate the forecasted load growth. The existing Foskor-Merensky 275kV line contingency causes under voltages at the Foskor and Acornhoek substations, which will worsen in the coming years and deteriorate to voltage collapse as more load connect to the network.

Consequently in 2013 Eskom had planned to strengthen the existing network by constructing a second Foskor-Merensky 275kV approximately 131 kilometre (km) power line and associated substation works. The proposed project would then offer a solution that would add and strengthen the current supply to cater for current and future developments. The project was estimated to commence in 2018/19, however, new developments have emerged since the project was approved.

The load growth towards the northern direction of Foskor MTS includes Tzaneen area which is supplied by Spencer MTS has shown the need of additional transmission strengthening. The planned Nzhelele MTS will slightly de-load Spencer MTS; hence a new solution for Spencer MTS is required. To resolve the network constraints at Spencer MTS and to meet future load growth demand, six (6) options were identified and evaluated to strengthen Spencer MTS supply zone, and the option of introducing a 400kV Corridor between Spencer, Foskor and Merensky Transmission substations is the preferred solution.

Subsequently, to align with future projects and to phase out the dependency on 275kV network in Limpopo Province, Eskom proposes that the EA for the second Merensky-Foskor line be amended from 275kV to 400kV. The line will be built at 400kV and operated at 275Kv with plans to operate at 400kV in the future.

Accordingly, an Environmental Impact Assessment (EIA) study was commissioned in 2012 for the proposed construction of the Eskom 275kV transmission powerline in terms of the National Environment Management Act, 1989 (Act No. 107 of 1998) (NEMA). The study presented various alternatives and included several specialist studies; as a result, an Environmental Authorisation (EA) was issued on 8 June 2013 with reference number 12/12/20/2411. Subsequently the current proposal is for the amendment of the Environmental Authorisation (EA) which approved the Foskor-Merensky power line from 275kV to 400kV power line within the approved corridor.

The proposed activities do not trigger any new listed activities apart from those already approved. It must be noted that the amendment will primarily entail an increase in capacity from 275kV to 400kV, which will imply an increase in the required servitude from 47m to 55m within the approved corridor as well as an increase on structural height.

The EMPr is prepared specifically for the 2nd Foskor Merensky 400kV transformation which will be built at 400KV and operated at 275kV. The EMPr will address mitigation measures for the identified aspects during the pre-construction and construction and phases of the proposed project.

4 PURPOSE AND SCOPE OF THE EMPR

The EMPr sets out general environmental specifications, which are applicable to the construction activities associated with the proposed project. This document serves as a guideline for the management of the site and provides specifications and regulations that must in all instances be adhered to. It is the responsibility of all parties, including Contractors and sub-contractors, involved in the project to commit themselves to the implementation of the Construction and Operation EMPr in all phases of the project.

The objectives of the EMPr are to:

- Ensure that the activity is undertaken in compliance with all statutory and regulatory requirements;
- Ensure that Eskom Transmission's Environmental Policy, TRMPBAAX3 Rev 3, is underwritten at all times;
- All Landowner special conditions are identified and taken into consideration as the proposed project is located within private properties;
- Ensure that all environmental conditions stipulated in the EA are implemented;
- Detail mitigation measures, time-frames and criteria for assessing the success or failure of each measure;

- Provide detailed monitoring programmes to ensure compliance;
- Provide input and strategies for environmental quality control and risk management;
- To preserve the natural environment by limiting destructive actions on site;
- Ensure appropriate restoration of areas affected by construction; and
- Prevent long term environmental degradation.

The purpose of the EMPr is to give effect to precautionary measures, which are to be put in place for controlling the activities that will take place on site. It has been developed to ensure compliance with the national legislative and regulatory requirements as well as Eskom's guidelines associated with projects of a similar nature.

This EMPr is a blueprint that guides the day to day activities throughout the lifecycle of the project; it may from time to time require revisions as may be dictated by the course of construction and operation. It should be borne in mind that the EMPr is a working document that should be updated on a regular basis and moreover it's legally binding.

5 DESCRIPTION OF LOCALITY

The proposed 400kV Foskor Merensky power line stretches a distance of approximately 130 kilometres across various farms between Phalaborwa and Steelpoort in the jurisdiction of Greater Sekhukhune, Capricorn and Mopani District municipalities in the Limpopo Province of South Africa. The line will transverse various farms, predominantly game farms that are privately owned as well as tribal authorities and council-owned land.

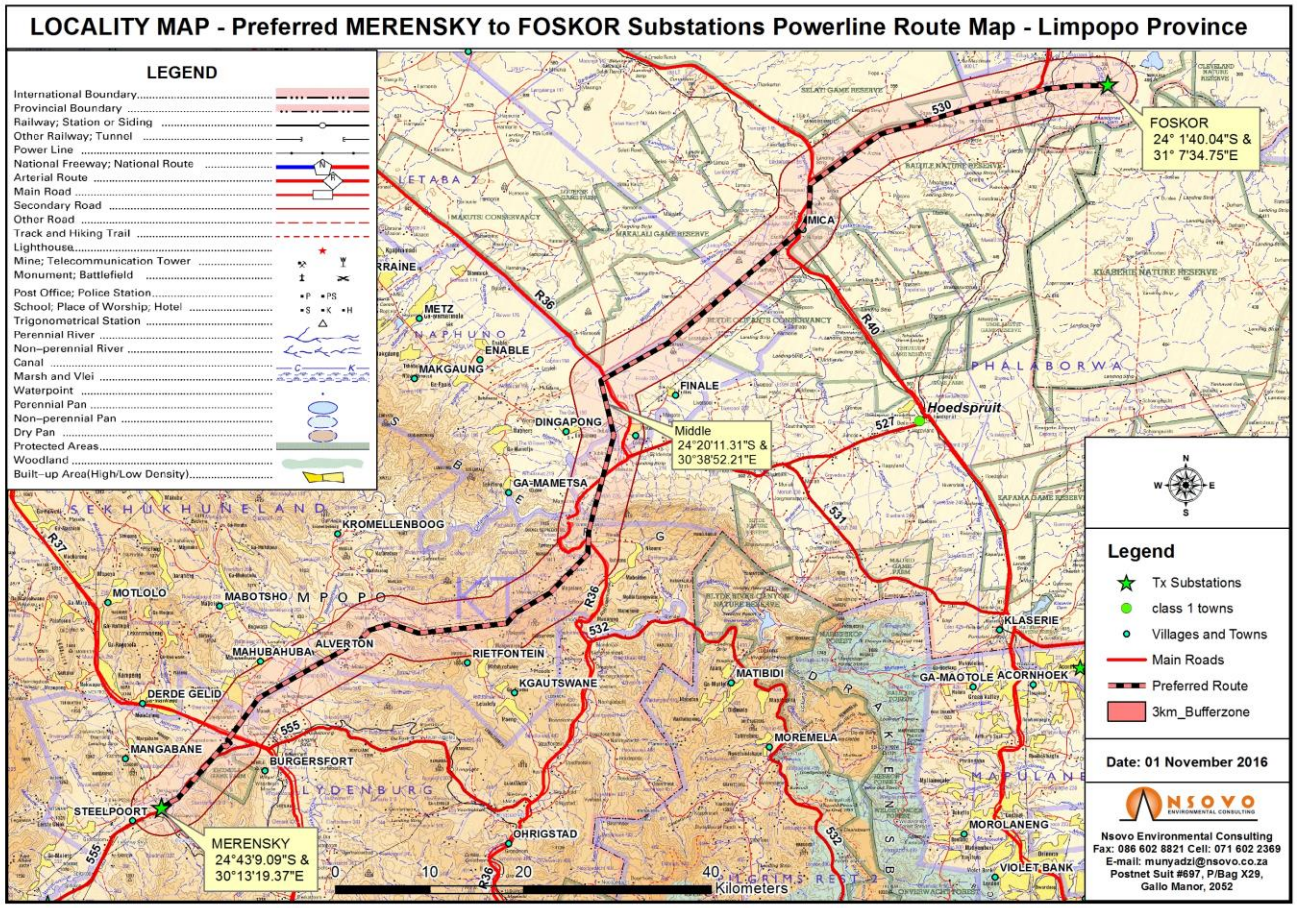

Figure 1: Locality Map – Proposed Foskor-Merensky 400kV Transmission Line

6 GENERAL ENVIRONMENTAL GUIDELINES FOR THE CONSTRUCTION PHASE

This EMPr has been compiled in fulfilment with the requirements of the National Environmental Management Act, 1998 (Act 107 of 1998). This document serves as a guideline for the management of the site by the Eskom and his/her Contractor and subcontractors, in order to minimise adverse environmental impacts. Eskom will be responsible for ensuring compliance of the Contractor with the EMPr and will rely on the Environmental Control Officer (ECO) to monitor compliance. The Contractor must in turn monitor his/her employees to ensure compliance with the provisions of the EMPr.

The main Contractor shall receive a copy of the EMPr from Eskom on which he/she will be given the opportunity to clear any misconceptions and uncertainties. The EMPr will form part of the contract and will therefore be a legally binding document. In the event of discrepancy with regard to environmental matters or environmental specifications this document shall take precedence.

7 APPLICABLE LEGISLATION

This list is not intended as an exhaustive analysis of the applicable environmental legislations but provides a guideline to the relevant aspects of each Act.

Table 2: **Legislation pertaining to the proposed project**

Aspect	Relevant Legislation	Brief Description
Environment	National Environmental Management: Act 1998, (Act No. 107 of 1998)	The overarching principles of sound environmental responsibility are reflected in the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), The principles set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereafter, referred to as NEMA, apply to all listed projects. Construction and operation have to be conducted in line with the generally accepted principles of sustainable development, integrating social, economic and environmental factors.
Biodiversity	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The purpose of the National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed.
Protected Areas	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes.
Heritage Resources	National Heritage Resources Act, 1999 (Act No. 25 of 1999)	The National Heritage Resources Act, 1999 (Act No. 25 of 1999) legislates the necessity for cultural and heritage impact assessment in areas earmarked for development, which exceed 0.5 ha. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).
Air quality management		The object of the Act is to protect the environment by providing

Aspect	Relevant Legislation	Brief Description
and control	National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)	reasonable measures for the protection and enhancement of the air quality and to prevent air pollution. Section 32 of The National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) deals with dust control measures in respect of dust control. Whilst none are promulgated at present, it provides that the Minister or MEC may prescribe measures for the control of dust in specified places or areas, either in general or by specified machinery or in specified instances, the steps to be taken to prevent nuisance by dust or other measures aimed at the control of dust.
Noise Management and Control	Noise Control Regulations in terms of the Environmental Conservation, 1989 (Act 73 of 1989)	The assessment of impacts relating to noise pollution management and control, where appropriate, must form part of the EMPr. Applicable laws regarding noise management and control refer to the National Noise Control Regulations issued in terms of the Environment Conservation , 1989 (Act 73 of 1989).
Water	National Water Act, 1998 (Act 36 of 1998)	This Act provides for fundamental reform of law relating to water resources and use[1]. The preamble to the Act recognizes that the ultimate aim of water resource management is to achieve sustainable use of water for the benefit of all users and that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water users.
Agricultural Resources	Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	The Act aims to provide for control over the utilization of natural agricultural resources in order to promote the conservation of the soil, water resources and vegetation and to combat weeds and invader plants. Section 6 of the Act makes provision for control measures to be applied in order to achieve the objectives of the Act.

Aspect	Relevant Legislation	Brief Description
Human	The Constitution of South Africa, 1996 (Act No. 108 of 1996	The Constitution of South Africa, 1996 (Act No. 108 of 1996) provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state is obliged to respect, promote and fulfill the rights in the Bill of Rights. The environmental right states that: "Everyone has the right - a) To an environment that is not harmful to their health or well-being; and b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that - -Prevent pollution and ecological degradation; -Promote conservation; and -Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

7.1 STANDARD ESKOM POLICIES TO BE COMPLIED WITH

In addition to the approved EMPr, the EA and other permits and licenses, the construction activities must also comply with the standard Eskom documents listed below. It is the responsibility of all parties involved in the implementation of the EMPr to ensure that the **most recently updated** Eskom policies/documents are used.

- Standard for bush clearance and the maintenance of overhead power lines (ESKASABG3);
- Eskom Procedure for Vegetation Clearance and Maintenance within overhead Power line Servitude and on Eskom owned Land (EPC 32-247);
- Oil spill clean-up and rehabilitation (ESKAGAAD7);
- Eskom Environmental Waste Management Procedure (EPC 32 – 245);
- Eskom Environmental Liaison Committee (ELC) Performance Indicator Reporting Procedure (EPC 32 -249);
- Transmission Environmental Management System Manual (TMN 41 – 417);
- Transmission Emergency Preparedness and response procedure. In accordance with ISO 14001:2004 clause 4.4.7 (TPC 41 – 460);

- Transmission Environmental Aspects and Management Programmes / Plans requirements procedure (TPC 41 – 213);
- Transmission Environmental Legal, other requirements and evaluation of compliance procedure (TPC 41 -505);
- The Standard for the construction of overhead power lines (TRMSCAAC5);
- Transmission Environmental monitoring and measurement procedure (TPC 41 – 118); and
- Transmission Vegetation Management Guideline (TGL 41 – 334).

7.2 METHOD STATEMENTS FOR THE ACTIVITIES TO BE CARRIED OUT

The following Method Statements (MS) must be prepared and signed by Eskom's construction team, ECO and the Contractor prior to commencement of activities on site:

- Vegetation clearing;
- Fauna and flora management;
- Excavations for installation of pylons;
- Chemical/hazardous substance storage;
- Cement/concrete use;
- Logistics of the environmental awareness training;
- Fire management;
- Emergency Response;
- Storm water and soil erosion management;
- Waste management;
- Access road(s);
- Contaminated water management;
- Site establishment and site layout plan;
- Use of herbicides/pesticides;
- Temporary site closure;
- Site Rehabilitation;
- Blasting;
- Alien plants removal and use of herbicides and pesticides; and
- Dust suppression.

This list has not exhausted all the activities/aspects that may require MS prior to commencement of the work. The Environmental Control Officer (ECO) may require more MSs to be submitted as the project progresses.

8 PROJECT TEAM

8.1 ROLES AND RESPONSIBILITIES OF THE PROJECT TEAM

8.1.1 Environmental Control Officer

An independent ECO must be appointed to assist the Contractor(s) on site regarding environmental matters and should be on site during the entire construction phase. The primary role of the ECO is as follows:

- To provide an on-site environmental management service to Eskom to ensure effective implementation of EA, EMPr and landowner conditions.
- To ensure implementation and compliance with any Eskom site procedures and requirements.
- Be responsible for the planning and management of all environmental activities for this position, but more specifically the following:

8.1.1.1 Communication Services

- To liaise closely with the Eskom and Contractor's Environmental Officer (CEO)
- To ensure that the landowners agreed General and Special Conditions are implemented.
- To negotiate the Access Plan between landowners and Contractor and to ensure its implementation, so as to provide timeous servitude access to the Contractor to carry out its duties with as little interference/objections as possible.
- ECO must identify if any large turning circles are required for large machinery, before this access is negotiated.
- To agree with landowners where gates are to be installed at fence crossings, before the Contractor gains entry to the properties for construction activities.
- To agree with landowners on the bush clearing method.
- To assist the CEO in conflict resolution.
- Measuring and evaluating crop damage and other related claims, resulting from the construction activities, in conjunction with the landowner and submitting the relevant forms to the Project Manager for payment to the landowner (but not where the Contractor was negligent). This to be done equitably and timeously.
- To ensure that the Contractor rehabilitates any damage caused during construction.
- To indicate where bird guards, bird diverters, bird lights and aviation warning spheres are to be installed as specified in the EMPr, EA conditions and or the line profile.
- After the final rehabilitation has been completed on a property, to obtain the immediate release from the landowner.

8.1.1.2 Environmental Management

- Monitoring of site environmental progress in respect of time, deliverables and quality.

- Liaison between Project Manager, SHEQ/SHE/Environmental Manage, Senior Environmental Advisor, Site Supervisor, CEO, affected and interested parties, authorities and stakeholders on environmental matters.
- Recommending EMPr modifications to the Project/SHEQ/SHE/Environmental Manager as and when the particular site conditions warrant it.
- Communicating changes of the EMPr to all relevant parties.
- Maintaining climatic data on an ECO register using Eskom/Contractor EO readings.
- Issuing Contractors Communications and Site Instructions via the Site Supervisor or delegated person as delegated by the Project Manager.
- Monitoring performance of Contractor and sub-contractors to ensure compliance with environmental and statutory requirements.
- Validating the regular site inspection reports prepared by the CEO.
- Checking the CEO's record of environmental incidents (spills, impacts, legal transgressions, etc.) as well as corrective and preventive actions taken.
- Checking the CEO's complaints register in which all complaints are recorded, as well as actions taken.
- Assisting in the resolution of environmental related conflicts.
- Compiling and completing the environmental management related component of the handing-over documentation and any other related documents.
- Timeously identifying any sensitive site issues which may affect environmental aspects and the reporting of this to the Project/SHEQ/SHE/Environmental Manager.
- Monitoring that good housekeeping practices are followed and maintained by the Contractor.
- Monitoring that the ground rehabilitation is initiated on time, complying with the EA, EMPr and to the satisfaction of the landowner.
- Assisting the Contractor and Eskom EO with the environmental awareness training course to all site staff, targeted at the level of the workers so that they have a basic understanding of the environment that they are working in. The Contractor will provide an interpreter if needed.
- Monitoring that sensitive areas are demarcated within or alongside the construction areas i.e. sites identified in the EMPr, EA. All personnel are to be informed of such sites and the reason the site is demarcated.

8.1.1.3 Monitoring

- Validating the site environmental monitoring plan.
- Validating the "Punch List/daily pre-warning" and reporting all defects and non-conformances as per the Control of Nonconformity Procedure.
- Carrying out environmental surveillances.
- Validating and recording of certificates proving the legal disposal of waste streams.

8.1.1.4 Reporting

- To complete a daily diary, bi-weekly and monthly (completed by the 24th of each month) reporting to Land and Rights and the Project/SHEQ/SHE/Environmental.
- To prepare monthly monitoring reports for submission to the DEA, Environmental Compliance Section as and when required.
- Manager on the compliance of the Contractor according to the environmental authorization, environmental management plan and landowner conditions. The reports are to include photographic images of special occurrences taking place during the reporting period.
- To attend site meetings as required.
- To inform Land Development and Management and the Project/SHEQ/SHE/Environmental Manager of any activity that is not in accordance with the EA and respective Conditions, the EMPr and Landowners' agreed general and special conditions or detrimental to the environment.

8.1.1.5 Administration

- To assure a proper site ECO administration function to cater for all environmental site related correspondence.
- To execute your environmental responsibilities as per Eskom's Risk Management System.
- To promote and maintain sound relationships with landowners, community, contractors and suppliers.

8.1.2 Contractor

- To provide all necessary supervision during the execution of the project. He/ She must be available on site at all times.
- To appoint a competent Contractor Environmental Officer (CEO).
- To implement the projects as per the approved project plan.
- To ensure that implementation is conducted in an environmentally acceptable manner.
- To fulfil all obligations as per the agreed contract.
- To comply with special conditions as stipulated by landowners during the negotiation process.
- To inform and educate all employees about the environmental risks associated with the different construction activities and lessen significant impacts to the environment.
- Eskom Environmental Representative to implement and integrate environmental management systems by ensuring compliance to ISO 14001 & monitoring performance.
- Report environmental incidents.
- Provides environmental training.
- Ensures compliance with pertinent environmental legislations and other legally binding documents.

8.1.3 Authorising Department

The role of the Authority is to enforce compliance with the EA and associated amendments as well as the EMPr.

9 DESCRIPTION OF MITIGATION MEASURES

This section of the EMPr serves to prescribe mitigation measures to prevent, reduce, eliminate or compensate for impacts, to acceptable/insignificant levels.

10 PRE- CONSTRUCTION MANAGEMENT PROGRAMME

The pre-construction management programme is to be used as a guide during the planning, design and detailing of the development components. This part of the programme is to be referenced by all involved in decision making during the planning and design phases.

10.1 NEGOTIATIONS WITH AFFECTED LANDOWNERS

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
To ensure that landowners are aware of activities taking place within their properties.	• Ensure that all affected landowners are negotiated with prior to construction. • Ensure that landowner special conditions are recorded and implemented.	• Signed landowner consent forms.	Eskom	Prior commencement of construction activities

10.2 COMMISSIONING OF TENDER

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
Ensure that proper environmental conditions are established prior to commencing with construction by informing all parties of appropriate environmental protection measures.	• The successful tendering Contractors will be made aware of the contents of this EMPr and any penalties arising from noncompliance prior to the commencement of work. • All tendering Contractors will be made aware of the audit and monitoring requirements as stipulated in this EMPr. • Appoint an Environmental Control Officer (ECO) who will be responsible to monitor compliance to the EMPr. • Inform the department of the appointment of the ECO and provide the candidate's contact details.	• Signed Declaration by contractor. • Appointment Letter • Proof of submission to DEA.	• Eskom • Contractor	Prior commencement of construction activities

10.3 SEARCH AND RESCUE OFSPECIES OF CONCERN

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• To conserve protected and other species.	• Application for all the necessary plant removal /relocation permits form the responsible authorities must be undertaken accordingly. • Search and rescue of all identified species of conservation concern that will be disturbed should be undertaken. • Suitable safe receiving areas should be identified prior to search and rescue commencing. • Search and rescue should take place in late winter (i.e. no earlier than mid-July and no later than mid-September).	• Permits • Agreements with safe receiving placing and associated receipts.	• Eskom • Contractor	Prior commencement of construction activities

11 CONSTRUCTION MANAGEMENT PROGRAMME

11.1 SITE ESTABLISHMENT

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
To ensure minimal disturbance of the environment during the site establishment.	Construction camps on the site must be established on least sensitive locations preferably within already disturbed areas. After completion of the contract, these areas have to be rehabilitated. **11.1.1 Site Plan:** Documentation for the proposed camp site must be prepared by the Contractor prior to the commencement of construction activities, and must be submitted to Eskom for approval. This documentation must include, but not limited to the following: • Site access (including entry and exit points). • All material and equipment storage areas including storage areas for hazardous substances. • Construction offices and other structures. • Security requirements including temporary and permanent fencing, and lighting. • Solid waste management facilities. • Storm water control measures. • Provision of potable water and mobile chemical ablution facilities. Throughout the period of construction, the Contractor shall restrict all activities to within the designated areas as per the construction layout plan. Any relaxation or modification of the construction layout plan is to be approved by the ECO.	• Observation • Site Plan • Landowner agreements	• ECO • Contractor • CEO	Prior to site establishment

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	11.1.2 Site Camps: The following restrictions shall be placed on the site camp for the construction staff in general: • The use of water courses for washing of clothes. • The use of welding equipment, oxy-acetylene torches and other bare flames where veld fires can be a hazard. • Collection of firewood. • Poaching of any form. • Use of surrounding veld as toilets. **11.1.3 Vegetation clearing:** • The natural vegetation encountered on site is to be conserved and left intact as much as possible. • Only flora within the construction footprint must be cleared. Clearance must be as per the approved Method statement in line with Eskom policies. • Search and rescue should be done by a Specialist in accordance with the permit requirements from the responsible authorities and in consultation with the ECO. **11.1.4 Water for human consumption:** Water for human consumption must be available at all times. **11.1.5 Sewage Treatment:** • Given the remoteness of the site, chemical toilets must be supplied (1 per 15 persons) and must be regularly cleaned and maintained by the Contractor. • The Contractor must arrange for regular emptying			

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	of toilets and will be entirely responsible for enforcing their use and for maintenance. • The ablution facilities must be at least 100m away from the watercourses and associated buffers. • All ablution facilities must be anchored to prevent them from being toppled by the wind. Only rigid material such as steel wires and droppers will be used for anchoring of toilets. No conductors or rope may be used for this purpose.			

11.2 SENSITIVE ECOLOGY

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• To ensure that the sensitive area is not disturbed. • To ensure minimal or if all possible no disturbance to the vegetation on and around the site.	The proposed power line will encroach on sensitive environments including Critical Biodiversity Areas (CBA). • It is recommended that search and rescue be done on the affected towers and permit applications made to Authorities for removal and relocation. • Construction in high sensitive areas must take place during the dry season (November to May) to minimise impacts on bulbs and annuals. • No laydown areas may be located within identified areas of high ecological sensitivity. • Creation of new access tracks should be minimised in all areas of natural vegetation. • Fitting of bird diverters is strongly recommended in most parts of this route due to the known regular presence of at least five threatened bird species. • Point out and/or demarcate all ecologically "sensitive" areas to the contractors (e.g. red data habitats & species, water courses, sensitive soils, steep slopes and areas	• Observation • ECO to monitor • Site plan	Eskom Contractor	Prior to construction

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	susceptible to erosion). • Demarcate and create a DWS approved buffer for the area near the wetlands and consider it a no-go area. • Ensure that 'No-Go' areas are clearly demarcated and/or fenced before construction starts. Barriers are to be maintained in good order throughout the course of the construction.			

11.3 MATERIALS HANDLING, USE AND STORAGE

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• To ensure safe handling, storage use and disposal of hazardous substances. • To ensure full compliance with the requirements of the applicable legislation.	The Contractor's management and maintenance of plant and machinery will be strictly monitored according to the criteria given below: **11.3.1 Safety:** • All the necessary handling and safety equipment required for the safe use of hydrocarbons shall be provided by the Contractor to be used and/or worn by the staff. • The Contractor must comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Construction Regulations, 2003 as this governs what the Contractor must do and provide for his staff. **11.3.2 Hazardous Material Storage:** • Hydrocarbons and hazardous substances will only be stored under controlled conditions. • All hazardous materials will be stored in a secured,	• Observation • Incident Report	ECO & Contractor CEO	Continuous throughout the construction phase

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	designated area with restricted entry. • Storage of hazardous products will only be in suitable containers. The containers must indicate the nature of the stored materials and Material Safety Data Sheets (MSDS). **11.3.3 Fuels and Gas Storage:** • Fuel must be stored in a steel tank supplied and maintained by the Contractor according to safety procedures. • The tanks/ bowsers shall be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining shall extend to the crest of the bund and the volume inside the bund shall be 110% of the total capacity of all the storage tanks/ bowsers. • Gas welding cylinders and LPG cylinders must be stored in a secure, well-ventilated area. The Contractor must supply sufficient fire fighting equipment in the event of an accident and strictly no smoking will be allowed where fuel is stored and used.			

11.4 Construction and Operation EMPr Training

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
To ensure that all site personnel have basic level of environmental awareness training.	• The CEO shall arrange for Environmental Awareness Training programs for all personnel on site. • The training must include the content of the EMPr and the CEO must sensitise the team on the importance of compliance. • Weekly toolbox talks must be undertaken by the CEO.	• Signed training attendance Register • Declaration of good conduct signed by all site personnel	• CEO	Prior construction and to continue throughout construction through toolbox talks.

11.5 Water Supply

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• To ensure availability of water for various uses as and when required. • To ensure that water usage is minimised. • To conserve water resources at all times. • To encourage a 3R (Reduce, Reuse, Recycle)	• The Contractor must ensure that all water sources are authorised and proof of such must be presented to the ECO. • Contractor must ensure absolute conservation of water throughout construction. • Contractor must supply potable water for human consumption at all times.	Water consumption record	ECO Contractor	Ongoing during the construction phase

11.6 VEHICULAR ACCESS AND MOVEMENT OF CONSTRUCTION VEHICLES

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Damage to protected /endangered vegetation. • Damage to sensitive areas. • Erosion and loss of topsoil.	• To prevent ecological damage. • Minimise damage to the identified watercourses. • Minimise erosion of embankments and subsequent siltation of watercourses.	• CARA • NEMBA • NWA	• A physical access Method Statement along the servitude shall be compiled by the Contractor and approved by the ECO. • Access roads will be maintained by the Contractor. The Contractor will erect and maintain marker pegs along the boundaries of the working areas, access roads, haul roads or paths before commencing any other work. If proved insufficient for control, these will be replaced. Ensure that access roads to the site are of a suitable quality to eliminate soil erosion and channel storm water. • No illegal use of private roads during construction. • The Contractor shall sign post the access roads to the tower positions, immediately after the access has been negotiated. • Where it is necessary for access roads	• Access plan approved by the ECO • No complaints from landowners. • No access roads through wetlands • No visible erosion scars once construction is completed • Erosion is not evident on slopes. • Use of designated access roads • No complaints from the	• Photographic record of private roads prior to the Contractor using the roads. Site plan • Regular monitoring of access roads conditions • Monitoring of impacts into the surrounding areas	ECO & Contractor CEO	Continuous during the construction phase

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			to traverse drainage lines, rocky drift crossings should be used as these have little impact on flow pattern, but limit erosion and other impacts. • All negotiated existing private access roads used for construction purposes shall be maintained at all times to ensure that the land owners have free and easy access to and from their properties. • The Contractor must not construct a road with a reserve wider than 13, 5 metres, or where no reserve exists where the road is wider than 8 metres as this triggers a listed activity as per 2014 EIA Regulation. However, where new roads are required, the disturbance area should be kept minimal. • Upon completion of the project all roads required for operational phase shall be maintained and repaired as required. • All existing farm roads (private roads) damaged during the construction phase, should at the end of	landowners • No destruction of or • damage to known • archaeological sites			

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			construction be repaired to the satisfaction of the landowner, as per the conditions of the written contractual agreement between the landowner and the Contractor. • Roads not required for maintenance activities during the operational phase must be fully rehabilitated.				

11.7 MOVEMENT OF CONSTRUCTION PERSONNEL AND EQUIPMENT

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Impact on sensitive environments. • Trespassing • Safety and security.	• To ensure controlled and manageable movement of personnel and equipment.	• TRMPV ACV2 REV1	• The Contractor must ensure that all construction personnel, labourers and equipment remain within the demarcated construction sites at all times. • Where construction personnel move outside the boundaries of the site, the Contractor/ labourers must obtain permission from the CEO. • All equipment moved onto site or off site is subject to the legal requirements	• No trespassing of contractor's workforce. • No complaints from landowners.	• Observation • Security registers. • Complaints register	ECO & Contractor	Continuous throughout the construction phase.

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			as well as Eskom specifications for the transport of such equipment. The Contractor shall meet these safety requirements under all circumstances. • All equipment transported shall be clearly labelled as to their potential hazards according to specifications. • All the required safety labelling on the containers and trucks used shall be in place. • The Contractor shall ensure that all the necessary precautions against damage to the environment and injury to persons are taken in the event of an accident and shall provide a Method statement to that effect. • The Contractor is to ensure that no machinery, personnel, material, or equipment enters 'No-Go' areas during the course of the project.				

11.8 VEGETATION

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Damage to protected/endangered vegetation • Damage to topsoil	• To conserve flora. • To ensure the control of alien invasive species and to ensure that rehabilitation is as close as possible to the original state	• NEMBA • CARA	The alignment may traverse sensitive vegetation therefore the following is recommended: • Demarcate the construction footprint. • The natural vegetation encountered on the site is to be conserved and left intact as much as possible. • Only vegetation directly affected by the works may be felled or cleared. • No open fires are permitted within naturally vegetated areas. • Formalise access roads and make use of existing roads and tracks where feasible, rather than creating new routes through naturally vegetated areas. • Retain vegetation and soil in position for as long as possible in that area (DWAF, 2005). • Bush clearing in the servitude or around the transmission power line must be in accordance to Eskom	• No alien species • No disturbance of protected flora • Minimal disturbance of vegetation including crops	• Observation • Complaints register	• ECO & • Contractor • CEO	On-going during the construction phase.

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			Vegetation Management Guideline (Reference – TGL41-334); and • No bush clearing is to be undertaken without the knowledge of the property owner. It is recommended that the owner is informed of the basic construction process during initial interaction so that they are aware of the vegetation clearing that will occur. • Only manual removal of weed will be permitted on site. Chemical and mechanical (TLB, bulldozer) control is not allowed on site. • Implement an alien invasive plant monitoring and management plan whereby the spread of alien and invasive plant species into the areas disturbed by the construction of the power line are regularly removed and re-infestation monitored.				

11.9 PROTECTION OF FAUNA AND AVIFAUNA

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Damage to habitat • Negative impact on bird due to electrocution and faulting • Negative impact on animal life.	• To conserve animal life. • To ensure that impact on natural vegetation is kept to the minimum in order to conserve suitable habitats as much as possible. • To prevent degradation of suitable sensitive fauna habitats. • To prevent contamination	• NEMBA	Considering the loss of natural habitat in the area and the fragmentation of the remaining areas the following measures must be implemented: • Avoid unnecessary disturbance of faunal habitats. • Any bird nests that are found must be left intact/undisturbed. • The movement of vehicles and heavy machinery around sensitive fauna habitats (river crossings, pan systems and thickets) must be limited. • An Eskom approved bird friendly pylon design must be used. • Bird flapper/deterrents must be installed along all sections of power lines that cross over rivers or drainage channels and their associated flood plains during construction. • Under no circumstances shall any	• No reported faunal injuries • No complaints from landowners	• Observation • Complaints register that records complaints from landowners • Daily inspection	• ECO • CEO	On-going during the construction phase.

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	of water within the nearby watercourse thereby preserving several amphibian species. • To ensure that impact on sensitive fauna species is kept to a minimum • To ensure that ecological linkages are maintained along the power line route. • To prevent injury or death of fauna		animals (livestock or game) be hunted, handled, killed or be interfered with by the construction team. • No construction personnel are allowed to bring any animals on site. • The Contractor shall keep the site clean and tidy from waste material that can attract animals. • Fauna rescue and relocation programme must be implemented. • Any open excavations must be barricaded and regularly inspected to prevent fauna that from falling in. • Records of any injured or deaths of fauna within the construction servitude must be kept by the CEO and ECO. • Construction must be restricted to daylight hours to prevent any disturbance such as floodlights.				

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	species as a result of falling into open excavations • To prevent collision of birds with power lines • To prevent electrical faulting		• To mitigate for collision, it is recommended that the earth wires be fitted with Eskom approved anti bird collision line marking device. • All towers close to water must be fitted with the standard Eskom Bird Guards as per Eskom Transmission guidelines.				

11.10 HERITAGE AND/OR ARCHAEOLOGICAL SITES

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Destruction of sites of archaeological and heritage significance. • Loss of historic cultural landscape.	• To preserve any heritage, cultural or archaeological sites that might be encountered during the construction phase.	• NHRA	The following mitigations must be implemented: • To protect the graves, an educational programme to construction workers is essential to avoid accidental damage. • Should isolated stone tools be	• Detailed record of chance finds. • No destruction of or damage to known archaeological sites • Management of existing	• Intermittent observation.	• ECO & • Contractor • CEO • Archaeologist	On-going during all excavations

• Loss of intangible heritage value due to change in land use.	• Protection of known sites against destruction, vandalism and theft. • Preservation and appropriate management of any new archaeological sites should this be discovered during construction.		encountered, no stone robbing or removal of any material is allowed. • All identified archaeological material including graves shall be barricaded and marked as no go for the duration of the construction phase. • Where burial sites are accidentally disturbed during construction, the affected area should be demarcated as no go areas. • If any archaeological material (e.g. fossils, bones, artefacts etc.) is found during excavation, the contractor shall stop work immediately and inform the Construction Manager. The Contractor shall not recommence working in that area until written permission has been received from the SAHRA. Any archaeological material (e.g. fossils, bones, artefacts etc.) is found during excavation; the contractor shall stop work immediately and inform the Construction Manager.	sites and new discoveries in accordance with the recommendations of the Archaeologist. • No litigation due to destruction of sites.			

11.11 SERVICING AND RE-FUELLING OF CONSTRUCTION EQUIPMENT

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Impact on soil and water resources due to accidental spillages.	• To conserve soils, surface and ground water. • To prevent spillages of hazardous substances	• NEMWA • NWA • OHSA	• All maintenance and repair work will be carried out within an area designated for this purpose, equipped with necessary pollution containment measures. • Refuelling, greasing or oiling of vehicle and construction machinery must be done on a drip tray or bunded surface. • Drip trays must be placed under stationary construction vehicles and machinery at all times. • Construction vehicles are to be maintained in an acceptable state of repair. No vehicles or equipment with leaks or causing spills will be permitted on site. • Fuels required during construction must be stored at a central depot that must be located on a slab and be contained within a bund capable of containing at least	• No evidence of hazardous substances polluting the site.	• On-going monitoring with regular inspections; and • Service Records.	• ECO & • Contractor • CEO	On-going during the construction phase

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			110% of the total volume in the containers. • Temporary fuel storage tanks and transfer areas also need to be located on an adequately bunded surface to contain accidental spillages.				

11.12 WASTE MANAGEMENT

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Visual Impact • Water resources • Land pollution	• To ensure the efficient management of waste on site • To ensure minimal impact on the surrounding environment • Minimise waste material being strewn in the environment	• NEMWA	**11.12.1 SOLID WASTE MANAGEMENT** • Waste must be separated at source (e.g. containers for glass, paper, metals, plastic, organic waste and hazardous waste). • An adequate number of scavenger proof refuse bins must be provided at the construction site and must be clearly labelled (general or hazardous) according to waste streams. • All waste must be transported in an appropriate manner (e.g. plastic rubbish bags) and disposed of at a licensed waste disposal facility. Proof of safe disposal must be kept on site. • The Contactor may not dispose of any waste and / or construction debris by burning, or burying. • Waste bins must be emptied regularly (minimum weekly) such that they do not overfill. • The Contractor shall maintain 'good housekeeping' practices and ensure that all work sites	• Presence of proper storage facilities that are properly labelled. • Post-construction work areas are clear of all waste materials.	• Intermittent Observation • Waste Disposal Records	• ECO & • Contractor • CEO	Daily

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			and the construction camp is kept tidy and litter free. **11.12.2 LIQUID WASTE MANAGEMENT** • An adequate number of suitable containers with lids must be provided at the construction site. • The Contractor will ensure that waste water is discharged in the drums provided. • All waste must be transported in an appropriate manner and disposed of at a licensed waste disposal site.				

11.13 SURFACE AND GROUND WATER MANAGEMENT

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Possible contamination of water resources.	• To conserve all natural water resources • To avoid illegal	NWA	• The Contractor must take reasonable precautions to prevent the pollution of ground and surface water resources as a result of	• Unpolluted watercourses	• Observation • Design Plans	• Contractor • ECO • CEO	Continuous through the construction phase.

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	diversion and destruction of water resources. • To ensure proper management of storm water run-off that causes erosion and .siltation/sedimentation • To ensure that the rivers and streams are protected and incur minimal negative impact from the development. • To ensure compliance with the requirements of the Act.		construction activities. • No natural watercourse is to be used for the cleaning of tools. This includes for purposes of bathing, or washing of clothes etc. • No spills may be hosed into the surrounding natural environment. • All soil contaminated must be excavated to the depth of contaminant penetration, placed in suitable drums/containers and removed to a hazardous waste facility. • No extraction of water from any natural resources without the relevant authorisation. • Erosion control measure must be put in place to control storm water runoff. • Storm water management measures must be as per the Method Statement prepared				

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			by the Contractor for ECO approval. • Erosion control on all access roads must be undertaken. • Minimise the extent of damage to flood plains that is necessary to complete the works, and will not pollute any water course as a result of construction.				

11.14 SENSITIVE AREAS (WATER COURSES AND BUFFERS)

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Changing the quantity and fluctuation properties of the watercourse. • Changing the amount of sediment entering water	• To preserve and conserve the sensitive environment.	NWA	Five wetlands, numerous channels and non-perennial rivers were identified. • Construction in and around watercourses must be restricted to the dryer summer months this will also reduce slipping and the risk of erosion. • Vehicular access through watercourses must be prohibited (unless a GA/WUL is in place). If inevitable access must be	• Undisturbed sensitive environments and/or properly rehabilitated. • Compliance with the WUL	• Observation • WUL	• CEO • ECO • Contractor	Throughout the construction and post construction to ensure proper rehabilitation.

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
resource and associated change in turbidity (increasing or decreasing the amount) • Alteration of water quality toxic contaminants (including toxic metal ions (e.g. copper, lead, zinc) and hydrocarbons. • Changing the physical structure within a water resource.			managed and limited to only one access. • Cordon-off areas that are under rehabilitation as no-go areas. If necessary, these areas should be cordoned off to prevent vehicular, pedestrian and livestock access. • Runoff from roads must be managed to avoid erosion and pollution problems. • Demarcate the watercourses and buffer zones to limit disturbance and clearly mark these areas as no-go areas. • No vehicles must be allowed to drive through and within watercourses. • Erosion control measures must be implemented in areas sensitive to erosion, particularly in areas prone to wind erosion and where erosion has already occurred such as edges of slopes, exposed soil etc. • Recommendation from Department of Water and Sanitation as part of the licencing process must be taken into	conditions			

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			consideration throughout the construction phase.				

11.15 HAZARDOUS MATERIALS

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Impact on soils and water resources	• To ensure safe and proper handling of hazardous material	• HSA	• The Contractor must comply with all National, Regional and Local legislation with regard to the storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and materials. • Spill kits must be made available on site at all times. • The CEO will furthermore be responsible for the training and education of all personnel on site who will be handling the material about its proper use, handling and disposal. • Storage of all hazardous material is to be safe, tamper proof and under strict control. • Exercise extreme care with the	• No incidents reported	• Hazardous material data sheet • Incident reports • Observation of spillages and leakages	• ECO & • Contractor • CEO	Continuous throughout the construction phase

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			handling of diesel and other toxic solvents to ensure that spillage is avoided. • Any accidental chemical / fuel spills must be remediated immediately.				

11.16 OIL SPILL MANAGEMENT

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Impact on soils and water resources	• To avoid ground and surface water contamination • To ensure proper and safe handling of oil spillages.	• HSA	• The Contractor must prevent potential hydrocarbon spills during construction. • Hydrocarbon must be stored in properly contained areas so as to minimise accidental spillage. • Use of drip trays under stationary vehicles. All spills must be reported to the ECO within 24 hours of occurrence and Eskom PDP procedures must be followed thereafter. • The Contractor must be in possession of a mobile oil spill kit at all times. • The oil spill clean-up and rehabilitation standards need to be implemented.	• No incident reported • Proper use of drip trays • Presence of oil spill kit	• Observation • Incident report	• ECO • Contractor • CEO	On-going during the construction phase.

11.17 STORM WATER MANAGEMENT

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Possible negative impact on water resources	• To reduce the potential impact from runoff on sensitive areas.	• NWA	• The Contractor must ensure that rainwater pollutants from construction activities does not run-off into natural areas and thus result in a pollution threat. • Storm water shall be diverted from the construction works. • Storm water management measures must be as per the Storm water Management Method Statement prepared by the Contractor for ECO approval. • Increased runoff due to vegetation clearance and/or soil compaction must be managed and steps must be taken to ensure that storm water does not lead to excessive levels of silt entering the watercourses. • Necessary storm water control mechanisms shall be employed to ensure the sustainability of all the structures.	• No evidence of erosion • No evidence of increased siltation • No evidence of contaminated water courses.	• Site Plan • Observation	• ECO • Contractor • CEO	Continuous during the construction

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			• Effort shall be made to ensure that storm water leaving the construction site is not contaminated by any substance, whether solid, liquid or gas.				

11.18 FIRE

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Destruction of property • Loss of life • Destruction of crops and livestock	• To prevent open fires. • To ensure that the workforce is aware of emergency procedures should an incident occur	• NEMA	• A fire Management Method Statement must be put in place by the Contractor Landowners must be consulted in order to incorporate their specific fire fighting measures. The Method Statement must be approved by the ECO. • All the necessary precautions to ensure that fires are not started as a result of activities on site must be implemented. • Fuels or chemicals must be stored at the designated storage area. • Gas and liquid fuels must not be stored in the same storage area. • All fire control mechanisms (fire fighting equipment) will be made available and accessible at all times and routinely inspected. • No open fires for heating or cooking will be permitted on site, unless agreed and	• No reported fire incidents • No loss of life • No traces of cigarettes buts outside the designated smoking area.	• Fire Management Plan • Daily checks	• ECO • Contractor • CEO	On-going during the construction phase

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			then only on designated areas. • Designated smoking areas must be provided, with special bins for discarding of cigarette stump. • Fire must be reported immediately.				

11.19 AIR POLLUTION

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Dust nuisance from excavations, vegetation clearing and dirt roads. • Exhaust fumes from construction vehicles.	• To ensure proper mitigation of air pollution • To avoid dust nuisance from excavation activities and vehicles on dirt roads	• NEMAQA	The potential air pollutants would be dust emanating from excavation activities and access roads; emissions or exhaust fumes from faulty plant or equipment. The following measures must be put in place: • Appropriate dust suppression measures or temporary stabilising mechanisms (e.g. adherence to speed limit, chemical soil binders, straw, brush packs chipping) must be put in place throughout construction, particularly during prolonged periods of dry weather. • Removal of vegetation must be avoided until such time as soil stripping is required. • No burning of waste material is allowed; • A maximum speed of 40km/hr. on the access road must be adhered to in order to minimise or avoid dust pollution. • Construction vehicles and equipment	• No complaints from surrounding land owners recorded. • No evidence of dust pollution plumes on site. •	• Observation • Complaints register	• ECO • Contractor • CEO	On-going throughout the construction phase

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			must be in good working order and serviced regularly.				

11.20 NOISE

Possible Impact	Objective	Applicable Legislation/ Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Noise during excavation/ drilling of foundations and associated activities	• To ensure minimal noise disturbance • To ensure proper mitigation of noise. • To avoid noise nuisance from operating construction equipment.	• ECA	• Machinery and vehicles are to be maintained in good working order. • Offending machinery and vehicles will be banned from use on site until they have been repaired. • The project team must endeavour to keep noise generating activities associated with construction to a minimum and within working hours. • Any complaints pertaining to noise must be recorded and reported to the ECO and addressed accordingly. • Labourers to be provided with hearing protection as and when required.	• No complaints from surrounding land owners recorded.	• Noise monitoring • A register of complaints to be kept on site at all times and kept up to date.	• Contractor • ECO • CEO	On-going during the construction phase

11.21 VISUAL

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Loss of sense of place.	• To ensure proper mitigation of potential visual impacts. • To maintain the site's aesthetics.	• NEMA	• Demarcate sensitive areas and no-go areas with danger tape to prevent disturbance during construction. • Plan construction times in such a manner to have the least impact on surrounding properties. • Keep disturbed areas to a minimum. • No clearing of land to take place outside the demarcated footprints. • The steel components should not be painted but be galvanised and allowed to oxidise naturally over time. The grey colour produced in this process will help to reduce the visual impact. • New road construction must be kept to a minimum. Utilise existing roads and tracks to the extent possible. • Create storm water channels alongside access roads and divert storm water in the natural veld at regular intervals along the road. • Institute a solid waste management	• Clean and tidy site. • No complaints from the landowners and affected parties.	• Observation • Complaints register	ECO & Contractor CEO	On-going during the construction phase.

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			programme to minimise waste generation on the construction site and recycle waste where possible. Identify suitable areas within the construction camp for fuel storage, temporary workshops, eating areas, and ablution facilities. • Reduce and control dust through the use of approved dust suspension techniques as and when required. • Construction to occur only during daytime. Should the ECO authorize night work, low flux and frequency lighting shall be used. • Rehabilitate all disturbed areas in accordance with the Method Statement. • Maintain access roads to prevent scouring and erosion, especially after rains. • Storage facilities and other temporary structures on site must be located such that they have as little visual impact on local residents as possible. • Soil excavated (if any) must not be				

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			stockpiled above 2m. • All temporary structures erected on site for the purposes of the project's construction phase will be removed from site upon completion of the project. • Lighting will be sufficient to ensure security but will not constitute 'light pollution' to the surrounding areas. • The site must be clean and tidy at all times.				

11.22 EXCAVATION, BACKFILLING AND TRENCHING

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Possible erosion • Injury of animal life	• To prevent erosion. • To ensure safety for both human and animals.	• OHSA	While working at areas prone to erosion the following must be adhered to: • Excavations must not be left open for longer than 7 days. • Excavations must be barricaded/ fenced off at all times.	• No incidence of animals trapped in trenches reported	• Observation • Incident report	• Contractor / • ECO • CEO	On-going excavations

11.23 AGRICULTURAL ACTIVITIES

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Negative impacts on agricultural activities.	• To limit the impact on agricultural activities. • To avoid undue loss of livestock and crops.	CARA	• Maintain good relations with landowners. • Consult farmers/landowners prior to any clearing activities. • Avoid unnecessary destruction of crops by remaining within the servitude at all times. • No form of disturbance of agricultural stock will be permitted for whatever reason.	• No encroachment into agricultural crops • No negative feedback from landowners	• Observation • Complaints register	• ECO • CEO • Contractor	During and after maintenance procedures

11.24 EROSION AND CONTROL

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Impact on soils and habitats and sensitive environs.	• To prevent erosion and sedimentation.	• NWA	To prevent any form of erosion the following must be adhered to: • During construction, the Contractor will protect areas susceptible to erosion by	• No visible signs of erosion.	• Observation • Complaints register	• Contractor • ECO • CEO	On-going particularly during excavations

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			installing necessary temporary and / or permanent drainage and by taking suitable measures to prevent surface water concentration into nearby roadways. • Prior to construction, all topsoil must be stripped and stockpiled separately from subsoil and rocky material. Soil must be stripped in a phased manner so as to retain vegetation cover for as long as possible. • Stockpiled topsoil must not be compacted and must be replaced as the final soil layer. • Stockpiled soil must be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet/windy season. • Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and micro-organisms in the soil. • Soil must not be stockpiled on drainage				

Possible Impact	Objective	Applicable Legislation /Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			lines or near watercourses • The timing of clearing and grubbing must be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion. • If topsoil will be stockpiled for a longer period, it must be either vegetated with indigenous grasses or covered with a suitable material to prevent erosion and invasion by weeds. • To limit the introduction of alien species into the area, no soil may be imported onto site. • Where required, cut-off trenches can be installed to divert substantial run-off and prevent erosion as and when necessary. • Where new roads are constructed, water diversion berms should be constructed to prevent erosion. • Sensitive areas such as watercourses (wetlands, pans, and riparian areas) must be cordoned off to control vehicles and construction personnel access.				

11.25 USE OF CEMENT AND CONCRETE

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Soil, surface and ground water pollution.	• To conserve soils, surface and groundwater. • To minimise waste concrete from polluting the environment	• NEMA • NEMWA • HSA	Cement and concrete are regarded as highly hazardous to the natural environment due to their high pH and the chemicals contained therein. To avoid ground pollution the following must be implemented: • Pre-mix concrete shall be the preferred option where possible. If concrete mixing is undertaken on site, the following measures must be put in place: • The batching / mixing area must be properly designated, indicated on the site plan and kept neat and tidy at all times. • No batching / mixing activities will occur on a permeable surface. • Used and empty cement bags shall be dipped and soaked in water for 24 hours where after it can be removed and disposed of as general waste. • The visible remains of the batch plant and concrete, either solid, or from washings shall be physically removed	• Areas of construction are clear of all concrete residue/waste following construction.	• Observation • Site Plan	• Contractor • ECO • CEO	Throughout the construction phase

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			and disposed of appropriately at a licensed landfill site if not reused.				

11.26 SITE CLEAN-UP AND REHABILITATION

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Erosion • Spread of alien invasive plant species	• Minimise damage to topsoil and environment at tower positions • Successful rehabilitation of all damaged areas • Prevention of erosion. • To ensure that the site is fully rehabilitated to its original state. • To ensure that the site is clean	• NEMBA • NEMA	• The Contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project. • Fully rehabilitate (e.g. clear and clean area, rake, pack branches etc.) all disturbed areas and protect them from erosion. • All replaced equipment and excess gravel, stone, concrete, bricks, temporary fencing and the like shall be removed from the site upon completion of the work. • No discarded materials of any nature shall be buried on the site or on any other land within the site. • Re-seeding shall be done on disturbed areas as per the rehabilitation Method Statement and as directed by the CEO and ECO. • Slopes in excess of 2% must be contoured and slopes in excess of	• No loss of topsoil due to construction activities • No loss of topsoil due to construction activities • All disturbed areas successfully rehabilitated within three months of completion of the contract • No visible	• Rehabilitation Plan • Observation	ECO CEO Contractor	On completion of construction Random surveys by landowner

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
	and neat. • Minimize claims and litigation from landowners		12% must be terraced. • The Contractor shall dispose of all excess material from site at a registered disposal facility. • Reusable material will be taken off site and reused elsewhere.	erosion scars three months after completion of the contract • No open fires shall be allowed on site under any circumstance • No evidence of rubble or litter left on site. • Successful completion of the contract with all landowners signing the release form six months after			

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
				completion of the project.			

11.27 GEOLOGY AND TOPOGRAPHY

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Loss of aesthetic value • Habitat destruction • Geological fragmentation	• To conserve the natural geology on site. • To ensure the structural integrity of pylons.	NEMA	The topography of the alignment is undulating. • The undulating geology of the area provides an environmentally challenging terrain, from a technical perspective especially within the proposed route; however, such challenges will be overcome by the use of suitable towers. • The existence of dolomite as well as sinkholes at areas along the route has been confirmed in the Provincial Environmental Management Plan (DEDET, 2008) and has been recognised as critically sensitive environments that must be avoided. Where blasting is required the following must be implemented: • Blasting Method Statement must be prepared, signed by the engineer and approved by the ECO. • Land owners must be notified prior	• No loss of life due to blasting activities. • Stable pylons • Intact geological structure	• Signed off foundations by engineers. • Blasting Certificate	• Engineers • ECO • CEO	Throughout construction.

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			to blasting. • Construction team must be made aware of the planned blasting activities. • Proper PPE must be worn at all times. • Blasting activities must be supervised by qualified personnel.				

11.28 INFRASTRUCTURE

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• Damage to fence, gates and telephone lines • Loss of livestock	• Minimise damage to infrastructure such as fence, gates and telephone lines. • Prevent loss of livestock • Minimize claims and litigation from landowners	Fencing Act, 1963 (Act 31 of 1963)	• The Contractor must ensure that all gates are left in the state the landowner intended. • The Contractor must not interfere with landowner's locks. • No gates must be left open as this can lead to livestock loss. • Climbing/crawling over/through fences without the permission of the landowner must be prohibited. • Avoid damage to fencing by using structures to suspend strung pilot cables over the fences. • No infrastructure along the authorised route must be tampered with e.g. telephone lines.	• No complaints from the landowners with regards to broken fences and gates. • All gates closed during the construction phase. • No damage	• Complaints register • Observation	• ECO • CEO • Contractor	• During construction and completion of construction • Random surveys landowner

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
				to the existing telephone lines along the proposed route.			

11.29 MONITORING OF CONSTRUCTION AND OPERATION EMPR COMPLIANCE

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
To implement an on-going monitoring and performance audit programme.	• The correct and successful implementation of impact mitigation measures in order to reduce adverse impacts on environmental aspects needs to be ensured by a proper monitoring program. • Monitoring of the general implementation of/adherence to the EMPr shall be the responsibility of the ECO. • Reporting on adherence/compliance to stipulations as communicated to Contractors, shall take place during scheduled site meetings. • Regular site Meetings by the project team. • Continuous induction of staff and visitors on	• Observation • Checklist • Daily Register • Attendance Registers • Photographic evidence	• ECO & • Contractor • CEO	On-going post rehabilitation.

	the EMPr conditions and requirements. • Put in place non-conformance, prevention and corrective procedures.			

11.30 DOCUMENT CONTROL

Objective	Mitigation / Management Action	Monitoring Criteria	Responsible Agent	Monitoring Frequency
• To ensure compliance with the requirements of the regulatory authority • To assign roles and responsibilities to ensure compliance • To implement and comply with the requirements of the EMPr.	• A copy of the EMPr and the EA will be made available on site at all times. • The EMPr as well as the EA will be used for referral as the project progresses. The EA will also be presented on request to me&APs and stakeholders who may visit the site. • Monitoring and Audit Reports must be submitted to DEA as and when required.	• Availability of an Construction and Operation EMPr copy on site • Report submission Transmittal	• ECO & • Contractor • CEO	On-going during the construction phase.

12 OPERATION PHASE

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
Access roads							
Access roads used for maintenance	• To prevent ecological	NEMA NWA	• Access roads are to be maintained in an	No complaints from the land owners.	• Complaints register.	• Project Manager	Yearly

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
purposes might impact on vegetation and water courses.	damage • Minimize damage to the identified water courses.	NEMBA	acceptable manner. • Appropriate erosion measures must be in place to prevent any impact in surrounding habitat.		• Observation		
Vegetation							
• Undue Loss of vegetation as a result of maintenance. • Alien invasion	• To prevent unwarranted disturbance of vegetation. • To ensure biodiversity stability. • To prevent alien invasion	• NEMBA • Eskom bush clearing policy	• The vegetation located under most of the power line route is low growing, not easily susceptible to burning and should not require frequent brush-cutting/mowing. If possible brush-cutting should be avoided entirely or carried out very infrequently. • Maintaining vegetation around the pylons and under the power line will also assist with erosion	• Intact Vegetation with no alien species	• Vegetation regrowth • Observation	• Eskom	Infrequent/ only as and when deemed necessary.

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			control. • An alien clearing programme must be drawn up and implemented during the operational phase.				
Avifauna							
Bird collisions with power lines and possible bird electrocutions.	Reduce the deaths of birds caused by collision and electrocution.	NEMBA	The transmission line must be fitted with bird deflectors to avoid collisions.	No death of birds. caused by collision and electrocution.	Observation	Project Manager	Yearly
Waste generation and disposal							
Waste generation during the operational phase will have a negative impact on the environment if not controlled adequately.	To prevent littering on site by storing and disposing of waste appropriately.	NEMWA	• Solid waste generated during operation phase must be removed in a continuous and efficient manner. • A waste management plan must be developed and maintained. • No solid waste should be dumped on the site. • All domestic waste	No complaints from the landowners.	• Complaints register. • Observation	• Project Manager	Yearly

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
			generated on the site should be disposed of in a proper manner off site i.e. no burial on site. • Burning of waste will not be permitted.				
Storm water Management							
Soil erosion on site may occur if storm water is not managed properly.	To prevent soil erosion and water logging on site.	NEMA NWA	It is recommended that proper storm water drainage system be ensured during operation phase.	Erosion scars	Observation	Project Manager	Yearly
Site Clean up							
Leakage of hazardous waste can cause soil contamination.	To prevent contamination of soil.	NEMWA NEMA	• In the event of incident or leakage of hazardous waste from storage site, a professional company must be appointed to remove and clean up the waste as soon as possible. • ECO must carry out monthly inspections for the waste temporally stored on site.	No evidence of spillages.	Observation	Project Manager	Yearly

Possible Impact	Objective	Applicable Legislation/Policy	Mitigation / Management Action	Performance Indicator	Monitoring Criteria	Responsible Agent	Monitoring Frequency
Safety							
There is the potential risk of electrocution (people and livestock) if access to the site is not controlled.	Prevent loss of life of people and livestock due to electrocution	NEMA	• Safety and security issues should be addressed as a priority. It is recommended that the landowners and affected community members are contacted in advance to ensure that they are forewarned of the construction and maintenance activities planned in the area. • The local community must be educated about the dangers of high voltage electricity.				
Environmental complaint register							
Complaints from the affected parties not addressed.	To ensure that all complaints raised are recorded and addressed.		The environmental complaint register must be maintained during the operation phase.	Availability of complaint a register on site.	Complaint register	• Operator • ECO	Until decommissioning phase

13 SUMMARY OF LAND OWNER DETAILS AND CONDITIONS

All contact with the Landowners shall be courteous at all times. The rights of the Landowners shall be respected at all times and all staff shall be sensitised to the effect on the works undertaken on private property. Eskom shall ensure that all agreements reached with the Landowner are fulfilled, and that such areas be rehabilitated once construction is completed.

Land owner special conditions must be included.

14 SITE DOCUMENTATION/MONITORING

The standard Eskom site documentation shall be used to keep records on site. All documents shall be kept on site and be available for monitoring and auditing 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 legitimate. Regular monitoring of all site works by the ECO is imperative to ensure that all problems encountered are solved punctually and amicably. When the ECO is not available, the Contract Manager/Site Supervisor shall keep abreast of all works to ensure no problems arise.

Monthly reports shall be forwarded to the appointed Land Development Environmental Advisor with all information relating to environmental matters. The following Key Performance Indicators must be reported on a two-weekly basis:

- Complaints received from Landowners and actions taken;
- Environmental incidents, such as oil spills, concrete spills, etc. and actions taken (litigation excluded);
- Incidents possibly leading to litigation and legal contraventions; and
- Environmental damage that needs rehabilitation measures to be taken.

The following documentation shall be kept on site:

- Access negotiations and physical access plan;
- Complaints register;
- Site daily dairy;
- Records of all remediation / rehabilitation activities;
- Copies of monthly reports to the Tx Environmental Advisor; and
- Copy of the EMPr.

14.1 AUDITS

During the construction period at least monthly Environmental Audits shall be conducted by the ECO to determine compliance with the recommendations of the EMPr and conditions of the EA.

The appointed ECO, as well as the contractors on site, are responsible for ensuring compliance with the EMPr. It is recommended that periodic EMPr compliance reports (audits) are compiled by the ECO and submitted to CEO for correction of non-compliance issues. It is the responsibility of the ECO to report any non-compliance, which is not correctly rectified to the DEA.

Further a rehabilitation audit should be conducted by a qualified botanical or rehabilitation specialist, once construction has been completed.

14.2 ACCESS TO DOCUMENTS

Interested and Affected Parties (Landowners) must be allowed access to the EMPr document should they so wish. They have the right to monitor specific aspects of the EMPr in conjunction with the ECO and Contractor in a reasonable and informal manner, without unreasonably disrupting construction activities.

14.3 SOCIO-CULTURAL ISSUES

- A plan of action must be drawn up in the case of an emergency (veld fire, damaged power line, vegetation problems etc.)
- Property owners or occupiers must be treated with respect and courtesy at all times;;
- Removal of agricultural products is prohibited. Receipts must be obtained for any merchandise purchased or received from landowners;
- Vehicles must be driven carefully in hazardous road conditions (sharp bends, narrow roads, bad weather, children playing on or near the road, domestic animals on or near the road etc.). Vehicle movement must be kept to a minimum during rain to avoid damage to the access road;
- Environmental clauses (as referred to in this EMPr) must be included into contract documents for all contractors;
- Tribal graves, archaeological sites and sites of historical interest are to be treated with respect and protected.
- No firewood is to be collected except with the written consent of the landowner; and
- A register must be maintained of all complaints or queries received as well as action taken.

15 FAILURE TO COMPLY WITH THE ENVIRONMENTAL CONSIDERATIONS

The ECO will, acting reasonably, have the authority to order the Contractor to suspend part or all of the works if the he causes unacceptable damage to the environment by not adhering to the specifications set out below. The suspension will be enforced until such time as the offending parties' actions, procedures and/or equipment are corrected and adequate mitigation measures implemented.

16 AMENDMENT OF CONSTRUCTION AND OPERATION EMPR

Any issue that may arise during the construction or operational phase of the development and that is not provided for in this EMPr may be addressed as an addendum to this EMPr. An addendum will be submitted to the client for approval prior to the implementation of the provisions contained and communicated to the Authorities.