
Quality Control

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<tr>
<th>Report</th>
<th>Compiled By:</th>
<th>Peer Reviewed By:</th>
</tr>
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<tr>
<td>Environmental Management Programme</td>
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</table>

Transnet SOC Limited
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1. INTRODUCTION

The construction of a substation can have a major impact on the environment. It is therefore imperative that precautions are taken to ensure that environmental degradation is minimized 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 referred to as Nsovo) has been appointed by Transnet SOC Limited (hereafter referred to as Transnet) to compile an Environmental Management Programme (EMPr) which will be a guideline for the mitigation and management measures to be implemented during the construction phase. 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 may be dictated by the course of construction.

This draft EMPr has been compiled as part of the Basic Assessment Application in line with Section 24N of the National Environmental Management Act, 1998 (Act 107 of 1998) which imposes a duty of care and remediation of environmental damage.

The purpose of the 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 the National Environmental Management Act, 1998 (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 EIAs;
- 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
Masala Mahumela Pr.Sci.Nat.

## Professional Registration
Registered with the South African Council for Natural Scientific Professions (SACNASP).

## Postal Address
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Gallo Manor
2052

## Telephone Number
011 312 5153

## Fax Number
086 602 8821

## Email
masala.mahumela@nsovo.co.za

## Qualifications & Experience
- B.Sc. Honours Environmental Management
- B.Sc. Environmental Sciences
- 7 years of experience

## Project Related Expertise
In terms of project related expertise the EAP has completed the following projects:
- Environmental Impact Assessment (EIA) for Eskom's Isundu-Mbewu 400kV transmission power lines in KwaZulu-Natal (KwaZulu-Natal Province, South Africa).
- Basic Environmental Assessment for the Mponeng South return water dams and pipeline (Gauteng Province, South Africa).
- Basic Environmental Assessment for the West Wits Tau Tona pipeline in Carletonville (Gauteng Province, South Africa).
- Environmental Impact Assessment (EIA) for the realignment of the Sasol Gas pipeline in Tembisa (Gauteng Province, South Africa).
EMPr for the proposed new Transnet Bosmanskop substation

- Environmental Impact Assessment (EIA) for the deviation of the Sasol Gas pipelines in Dalview, Elspark, Verword Park, Burton Park and Mindalore (Gauteng Province, South Africa).

CV attached here in Appendix A.

3. PROJECT DESCRIPTION

The coal line currently delivers close to 70 million tonnes per annum (mtpa) of export coal from about 48 mine loading sites situated mainly in Mpumalanga Province to the Richards Bay coal terminal. Subsequently, the 81 mtpa rail expansion programme is designed to meet the increasing international market demand for export coal. Currently the coal line is composed of two electrification systems namely, the 3kV DC and 25kV DC from Blackhill to Ermelo and Ermelo to Richards Bay respectively. Hundreds of wagon trains operate between these locations; therefore the program aims to increase rail capacity of the coal line and to address the bottleneck which impacts on the stable flow of train traffic.

Consequently, Transnet Freight Rail (TFR) has appointed Transnet Capital Projects (TCP) to provide a new substation and associated infrastructure. The proposed development will entail construction of a new Transnet 5MW 3kV DC Traction Substation wherein Eskom will provide 132kV AC which will be stepped down to 3kV DC. From the Eskom transmission line, a Transnet-owned 132kV power line/substation bay will run on Transnet property to a transformer where the step-down will take place. The proposed upgrade will strengthen the traction power supply for Transnet to reduce thermal overloading.

The aforementioned development triggers a listed activity under GNR 983 (Listing Notice 1) Activity 11(i), 12 and 19(i) therefore Environmental Authorisation must be obtained in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations of December 2014.

4. DESCRIPTION OF LOCALITY

The proposed development will be located on Farm Boschmanskop 154IS, Portions 3 and 5 at Bosmanskop within the jurisdiction of Steve Tshwete Local Municipality in Mpumalanga Province, South Africa. Refer to the locality map below.
5. 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 EMPR in all phases of the project, or in those instances where specific instructions are provided.

The objectives of the EMPR are to:

- Ensure that the activity is undertaken in compliance with national and provincial environmental legislations as well as local by-laws and policies;
EMPr for the proposed new Transnet Bosmanskop substation

- Ensure that Transnet’s CEMP as well as the Standard Environmental Specification (SES) and other relevant policies are underwritten at all times;
- All landowner special conditions are identified and taken into consideration as the proposed projects is located adjacent to other 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.

6. GENERAL ENVIRONMENTAL GUIDELINES FOR THE CONSTRUCTION PHASE

This EMPr has been compiled in fulfillment 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 Authorisation holder (Transnet), its Contractor and subcontractors, in order to minimise adverse environmental impacts. Transnet 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 employees to ensure compliance with the provisions of the EMPr.

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

6.1. 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
<table>
<thead>
<tr>
<th>Title of legislation, policy or guideline</th>
<th>Applicability to the project</th>
<th>Administering authority</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of South Africa – Constitution, Act 108 of 1996</td>
<td>The Constitution of South Africa 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 has an obligation to respect, promote and fulfil the rights as defined 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.”</td>
<td>National Government</td>
<td>1996</td>
</tr>
</tbody>
</table>
The purpose of the Biodiversity Act 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.

The site is located within a Threatened Ecosystem which is Eastern Highveld Grassland and is considered Vulnerable. Both alternatives fall within an area where no natural habitat remains.

Further, the site falls within least concerned classified area. A highly significant area is located 470m south west from the site.
EMPr for the proposed new Transnet Bosmanskop substation

<table>
<thead>
<tr>
<th>Act/Act</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Water Act, 1998 (Act 36 of 1998)</strong></td>
<td>The Act ensures protection of water resources. The proposed substation site is located on a seepage wetland. The closest non-perennial river is Woes-Alleenspruit located 740m west of the site. The Water Use Licence Application from the Department of Water and Sanitation is underway. Recommendation and conditions of the WUL must be adhered to.</td>
</tr>
<tr>
<td><strong>National Heritage Act, 1999 (Act 25 of 1999)</strong></td>
<td>The Act legislates the necessity for cultural and heritage impact assessments in areas earmarked for development, which exceed 0.5ha. The Act makes provision for potential destruction to existing sites, pending the archaeologist’s recommendations through permitting procedures. Permits are administered by the South African Government.</td>
</tr>
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</table>
EMPr for the proposed new Transnet Bosmanskop substation

<table>
<thead>
<tr>
<th>Act</th>
<th>Description</th>
<th>Relevant Authority</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage Resources Agency (SAHRA).</td>
<td>No obvious signs of culturally or historically significant elements were identified on the proposed site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise Control Regulations in terms of the Environmental Conservation, 1989 (Act 73 of 1989)</td>
<td>The assessment of impacts relating to noise pollution management and control, where appropriate, forms part of the environmental impact assessment report and environmental management plan. Noise may be expected from the increased heavy duty traffic as well as construction equipment</td>
<td>Local Authority</td>
<td>1989</td>
</tr>
<tr>
<td>National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)</td>
<td>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. The diversity of ecological processes was determined throughout the study. This Act will be read together with relevant policies and management plans.</td>
<td>National</td>
<td>2003</td>
</tr>
<tr>
<td>Conservation of Agricultural Resources Act, No. 43 of 1983</td>
<td>To provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources, the vegetation and combating of weeds and invader plants; and for matters connected therewith. The proposed development is located</td>
<td>National</td>
<td>1983</td>
</tr>
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EMPr for the proposed new Transnet Bosmanskop substation

| within an area zone as agriculture; therefore it will have an impact on agriculture notwithstanding that the farms are inactive. |

6.2. **STANDARD TRANSNET POLICIES TO BE COMPLIED WITH**

In addition to the approved EMPr, EA and other permits and licenses, the construction activities should also comply with the standard Transnet documents listed below. It is the responsibility of all parties involved in the implementation of the EA and EMPr to ensure that the most updated Transnet policies/documents are implemented. The Transnet documents to be implemented are:

- Transnet Construction Environmental Management Plan; and
- Transnet Standard Environmental Specifications.

7. **METHOD STATEMENTS FOR THE ACTIVITIES TO BE CARRIED OUT**

The following Method Statements (MS) will be prepared and signed by Transnet’s construction team, ECO and Contractor prior to commencement of activities on site.

- Site Establishment;
- Site office;
- Vegetation clearing;
- Fauna and flora management;
- Excavations for construction of substation;
- Chemical/hazardous substance storage;
- Cement/concrete use;
- Fire management;
- Emergency response;
- Storm water management;
- Waste management;
- Access road(s);
Effluent management;
Staff accommodation;
Ablution facilities;
Eating areas;
Soil management;
Temporary site closure; and
Rehabilitation of site.

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

8. ROLES AND RESPONSIBILITIES

8.1. ENVIRONMENTAL CONTROL OFFICER

An independent Environmental Control Officer (ECO) must be appointed to assist the Contractor(s) on site regarding environmental issues. The Contractor shall direct all his queries regarding any environmental issues or aspects to the ECO. The ECO should discuss the matter with Transnet and give feedback to the Contractor. The ECO shall be responsible for evaluating compliance of all aspects of the EMPr. Monthly site audits must be undertaken by the ECO and a detailed report submitted to Transnet and DEA.

Any problems or areas of non-compliance with regard to the EMPr will be communicated immediately in writing, to the Contractor by the ECO. The Environmental Control Officer shall convey the contents of this document, the conditions of the Environmental Authorisation from DEA as well as the Landowner Special conditions to the Contractor site staff and discuss the contents in detail with Transnet Project Manager and Contractor at a preconstruction meeting. This formal induction training is a requirement of ISO 14001 and shall be done with all main and sub-contractors. Record of the training date, people whom attended and discussion points shall be kept by the ECO.

- Landowners shall be informed timeously of the construction programme, duration and all interference with their daily activities.
- The contact numbers of the ECO and Contractor Environmental Control Officer (CECO) shall be made available to Landowners.
- The ECO shall report progress made on a monthly basis to the Project Manager and Transnet.
- These reports shall be available at all times, on site or in project file and on request by auditors, and other I&APs.
- ECO shall record all Non-conformances and action plans to ensure that measures are put in place to mitigate possible effect.

8.2. **TRANSNET ENVIRONMENTAL REPRESENTATIVE (DURING CONSTRUCTION AND OPERATIONAL STAGES)**

- To implement and integrate environmental management systems by ensuring compliance to ISO 14001 & monitoring performance
- Report environmental incidents
- Provides environmental training
- Ensures compliance to legislations and other legally binding documents

8.3. **CONTRACTOR**

- To provide all necessary supervision during the execution of the project. He/ She should be available on site all the time.
- To appoint a competent CECO.
- 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 activities that should be avoided during the construction process and lessen significant impacts to the environment.

8.4. **AUTHORISING DEPARTMENT**

To provide EA on all applications lodged for the proposed substation and related activities and to review any amendments to the EMPr prior to approval and implementation thereof.

9. **DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES**
This section of the EMPs serves to prescribe mitigation measures to prevent, reduce, limit, eliminate or compensate for impacts, to acceptable/insignificant levels. Further a section includes management statements identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the Environment Impact Assessment for all phases of the development.
10. PRE-CONSTRUCTION MANAGEMENT PROGRAMME

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

10.1. NEGOTIATIONS WITH AFFECTED LANDOWNERS

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To ensure that landowners are aware of activities taking place within their properties.</td>
<td>• Transnet will ensure that all affected landowners are negotiated with prior to construction.</td>
<td>• Signed landowner consent forms.</td>
<td>• Transnet</td>
<td>• Prior commencement of construction activities.</td>
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10.2. COMMISSIONING OF TENDER

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<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
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<tbody>
<tr>
<td>• Ensure that proper environmental standards are established prior to commencing with construction by informing all parties of appropriate environmental protection measures.</td>
<td>• 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 independent ECO who will be responsible to monitor compliance to the EMPr.</td>
<td>• Signed Declaration by Contractor • Appointment Letter</td>
<td>• Transnet • Contractor</td>
<td>• Prior commencement of construction activities.</td>
</tr>
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11. CONSTRUCTION MANAGEMENT PLAN

The Construction Management Programme forms part of the contract documentation. The plan must be read in conjunction with Transnet’s environmental policies.

11.1. SITE ESTABLISHMENT

<table>
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<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
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<tbody>
<tr>
<td>To ensure minimal disturbance of the environment during the site establishment.</td>
<td>Construction camps on the site will be required to be established in appropriate locations prior to the commencement of construction, preferably within already disturbed areas. After completion of the contract, these areas must be rehabilitated.</td>
<td>• Site Plan&lt;br&gt;• Landowner agreements&lt;br&gt;• Sensitivity Maps</td>
<td>ECO &amp; Contractor CEO</td>
<td>Prior to site establishment.</td>
</tr>
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</table>

**Site Plan:**

Documentation for the proposed camp site should be prepared by the contractor prior to the commencement of construction activities, and should be submitted to Transnet for approval. This documentation should include, but should not be limited to the following:

- Site access (including entry and exit points).
- All material and equipment storage areas (including storage areas for hazardous substances such as fuel and chemicals).
- Construction offices and other structures.
- Security requirements (including temporary and permanent fencing, and lighting)
- Solid waste collection facilities and waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents.
- Storm water control measures.
- Provision of potable water and temporary ablution facilities.
- Only designated areas may be used for the storage of materials, machinery, equipment and site offices. The site
EMPr for the proposed new Transnet Bosmanskop substation

- Offices should not be in close proximity to steep areas, as this will increase soil erosion. Offices (and in particular the ablation facilities, spoil areas and hazardous material stockpiles) must be located as far away as possible from any watercourse.
  - 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.

Site Camps:

The following restrictions or constraints shall be placed on the site camp, and construction staff in general:
  - The use of rivers and streams for washing of clothes.
  - The use of welding equipment, oxy-acetylene torches and other bare flames where veld fires constitute a hazard.
  - Indiscriminate disposal of rubbish or construction wastes or rubble littering of the site.
  - Spillage of potential pollutants, such as petroleum products.
  - Collection of firewood.
  - Poaching of any form.
  - Use of surrounding veld as toilets.
  - Burning of wastes and cleared vegetation.

Vegetation clearing:

- The natural vegetation encountered on the site is to be conserved and left intact as much as possible.
- Only trees and shrubs directly affected by the works, and such others as may be approved by the ECO in writing, may be felled or cleared.
Water for human consumption:

Water for human consumption should be available at the site offices and at other convenient locations on site. The water must be obtained from an approved source as per the SES.

Sewage Treatment:

- Should there be no other ablution facilities are available, chemical toilets must be supplied (1 per 10 persons) and must be regularly cleaned and maintained by the contractor. The positioning of the chemical toilets is to be done in consultation with the ECO.
- Applicant must ensure that no sanitary system is located within a horizontal distance of 100m from any water course.
- The Contractor should arrange for regular emptying of toilets and will further be entirely responsible for enforcing their use. The Contractor will ensure that the latrines are well maintained and clean.
- If necessary, the ablution facilities must be screened from the public view. In remote areas where chemical toilets may not be a viable option, agreement must be reached on alternatives before construction starts.

11.2. Sensitive Ecology

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure that the sensitive area is not disturbed.</td>
<td>Relocate, demarcate or recommend conservation / preservation measures for any identified ecologically</td>
<td>Observation</td>
<td>Transnet</td>
<td>Prior to construction.</td>
</tr>
</tbody>
</table>
To ensure minimal or if all possible no disturbance to the vegetation on and around the site.

To ensure the control of alien invasive species and to ensure that the rehabilitation of indigenous vegetation is as close to the original state as possible.

“sensitive” and/or protected species and areas,
- Point out and/or demarcate all ecologically “sensitive” areas to the Contractors (e.g. red data habitats & species, rivers, streams, wetlands, sensitive soils, steep slopes and areas susceptible to erosion).
- 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.

- ECO to monitor
- Site plan

### 11.3. Roads

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| • To ensure minimal and or no additional disturbance of the environment as primary access roads already exist. | The contractor must make use of existing routes as far as practically possible.  
  - 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 and paths, before commencing any other work. If proved insufficient for control, these will be replaced by fencing, with the additional cost being borne by the Contractor.  
  - Ensure that access roads to the site are of a suitable quality to eliminate soil erosion, and channel storm water into grass buffer area.  
  - All existing farm roads (private roads) damaged during the construction phase, should at the end of construction be repaired to the satisfaction of the landowner, as per the conditions of the written contractual agreement between the landowner and contractor. | Observation of unauthorised paths on site. | • Contractor  
• Project Manager | • Before, during and after construction. |
- Damage to the existing access roads as a result of construction activities (during construction), will be repaired to the satisfaction of the Project Manager. The cost of the repairs will be borne by the Contractor.

### 11.4. Materials Handling, Use and Storage

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>- To ensure safe handling, storage use and disposal of hazardous substances. - To ensure full compliance with the requirements of the applicable legislation.</td>
<td>- The Contractor's management and maintenance of plant and machinery will be strictly monitored according to the criteria given below.</td>
<td>- Observation - Incident Report</td>
<td>- ECO &amp; Contractor - CEO</td>
<td>- Continuous throughout the construction phase.</td>
</tr>
</tbody>
</table>

**Safety:**
- All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the Contractor to be used and/or worn by the staff. 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 has to do/provide for his staff.

**Hazardous Material Storage:**
- Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions.
- All hazardous materials will be stored in a secured, designated area that is fenced and has restricted entry. Storage of hazardous products shall only be in suitable containers. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure.
Fuels and Gas Storage:

- Fuel should be stored in a secure area in a steel tank supplied and maintained by the Contractor according to safety procedures.
- The Contractor shall ensure that diesel is stored in appropriate storage tanks or in bowsers.
- 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 130% of the total capacity of all the storage tanks/bowsers (110% statutory requirement plus an allowance for rainfall). The floor of the bund shall be sloped, draining to an oil separator.
- Gas welding cylinders and LPG cylinders should be stored in a secure, well-ventilated area. The contractor must supply sufficient fire fighting equipment in event of an accident and strictly no smoking will be allowed where fuel is stored and used.

11.5. EMPR TRAINING

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<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure that all site personnel have basic level environmental awareness training. Topics covered should include, but not limited to:</td>
<td>- The CEO shall arrange for Environmental Awareness Training programs for the personnel on site and the construction team with the contents of this EMPR, either in written format or verbally.</td>
<td>- Signed training attendance Register.</td>
<td>CEO &amp; Contractor</td>
<td>Prior construction and to continue throughout construction through toolbox talks.</td>
</tr>
</tbody>
</table>
environment
- Why the environment need to be conserved
- How construction can impact on the environment
- What can be done to mitigate against impact
- Awareness of emergency and spill response
- Social responsibility

11.6. WATER SUPPLY

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure availability of water for various uses as and when required.</td>
<td>- The source of water will be the current supply to the existing substations.</td>
<td>- Observation</td>
<td>ECO &amp; Contractor</td>
<td>Ongoing during the construction phase</td>
</tr>
<tr>
<td>To ensure that water usage is minimized</td>
<td>- The client/ECO shall point out to Contractors where they can obtain water for construction purposes (e.g. water for dust suppression as well as for drinking). The Contractor will ensure that necessary Water Use License for the water source(s) is obtained prior to water extraction.</td>
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<tr>
<td>To conserve water resources at all times</td>
<td>- Contractors shall not make use of/collect water from any other source than those pointed out to them as suitable for use by them.</td>
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</tbody>
</table>

Transnet SOC Limited
### 11.7. Vehicular Access And Movement Of Construction Vehicles

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<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation /Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| • Damage to protected /endangered vegetation and crops | • To prevent ecological damage.  
• Minimise erosion of embankments and subsequent siltation of rivers, streams and dams | • CARA  
• BDA | • A physical access plan along the servitude shall be compiled and the Contractor shall adhere to this plan at all times.  
• All access roads should be marked.  
• Agree on access to be used throughout the construction phase.  
• No illegal use of private roads during construction due to damage anticipated as a result of heavy vehicles and equipment  
• All existing private access roads used for construction purposes, shall be maintained at all times to ensure that the local people have free access to and from their properties.  
• Speed limits shall be enforced in such areas and all drivers shall be sensitised to this effect.  
• Upon completion of the project all roads shall be repaired to their original state.  
• No roads shall be cut through water resources as this may lead to erosion causing siltation of streams and downstream dams. | • Access plan approved by ECO  
• All access roads will be marked  
• No complaints from residents and landowners  
• No visible erosion scars  
• once construction is completed  
• Road stabilisation is evident for the duration of the use thereof.  
• Erosion is not evident on slopes. | • Observation  
• Site plan  
• Regular  
• monitoring of access roads  
• conditions  
• Monitoring of impacts into the surrounding areas. | • ECO  
• Contractor  
• CEO | • Continuous during the construction phase. |
EMPr for the proposed new Transnet Bosmanskop substation

- No equipment shall be used which may cause irreparable damage to wet areas. The contractor shall use alternative methods of construction in such areas.
- During construction, use of existing access routes to construction areas must be maximised where possible.
- Construct approved vehicle turning areas, avoiding selected ecological sensitive areas or species, and have turning area routes approved by the ECO. Temporary access roads must be rehabilitated after use.
- Soil stabilisation measures to be implemented on steep slopes.
- Rehabilitation of disturbed areas immediately following road construction.
### 11.8. Movement of Construction Personnel and Equipment

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Impact on sensitive environs&lt;br&gt;• Trespassing&lt;br&gt;• Safety and security</td>
<td>• To ensure controlled and manageable movement of personnel and equipment.</td>
<td>• All construction personnel, labourers and equipment remain within the demarcated construction sites at all times.&lt;br&gt;• Ensure that access to the site, including related infrastructure and machinery is restricted to authorised personnel only.&lt;br&gt;• Where construction personnel and/or equipment wish to move outside the boundaries of the site, the Contractor/labourers must obtain permission from the CEO.&lt;br&gt;• All equipment moved onto site or off site during a project is subject to compliance with the legal requirements. Oil filled equipment such as Transformer, CT’s, VT’s and capacitor cans have specific safety requirements regarding their handling, transport and storage. The Contractor shall meet these safety requirements under all circumstances.&lt;br&gt;• All equipment transported shall be clearly labelled as to their potential hazards according to specifications.&lt;br&gt;• All the required safety labelling on the containers and trucks used shall be in place.</td>
<td>• No trespassing of contractor’s workforce.&lt;br&gt;• No complaints from landowners</td>
<td>• Observation&lt;br&gt;• Security registers.&lt;br&gt;• Complaints register</td>
<td>ECO &amp; Contractor</td>
<td>Continuous throughout the construction phase.</td>
</tr>
</tbody>
</table>
• 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 supply a method statement to that effect.
• The Contractor is to ensure that no machinery, personnel, material, or equipment enters ‘No-Go’ areas at all times during the course of the project.

### 11.9. Vegetation

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/ Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage to protected/en danger SpaceX or flora</td>
<td>To conserve flora.</td>
<td>NEMA, CARA</td>
<td>Vegetation clearing in natural areas should be kept to a minimum and restricted to the proposed development footprint only.</td>
<td>No alien species</td>
<td>Observation Complaints register</td>
<td>ECO &amp; Contractor</td>
<td>On-going during the construction phase.</td>
</tr>
<tr>
<td>Damage to topsoil</td>
<td>To ensure the control of alien invasive species and to ensure rehabilitation is as close as possible to the original state</td>
<td></td>
<td>Individuals of protected species if any which cannot be avoided should be translocated to safe sites nearby.</td>
<td>No disturbance of protected flora</td>
<td></td>
<td>CEO</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Existing tracks should be used for access and the construction site must be demarcated.</td>
<td>Minimal disturbance of vegetation including crops.</td>
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<td></td>
<td>The natural vegetation encountered on the site is to be conserved and left intact as much as possible.</td>
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<td></td>
<td></td>
<td></td>
<td>No open fires are permitted within</td>
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</tbody>
</table>
naturally vegetated areas.
- Construction workers may not remove flora and neither may anyone collect seed from the plants without permission from the local authority.
- Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction/earthworks in that area (DWAF, 2005).
- No bush clearing to be undertaken without the knowledge thereof by the property owner.
- Manual removal is preferred to chemical control.
- 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 substation are regularly removed and re-infestation monitored.
- One of the mitigation measures for alien and invasive species is the early detection and eradication of these species which will be ensured with the use of a monitoring programme.
- Avoid translocation of topsoil stockpiles from one place to another in order to minimise the risks of transporting soil seed banks of alien
During construction, the clearing of alien plants within the proposed area is required to control alien invasions. This is mandatory, according to current legislation.

An exotic species control programme, including monitoring, must be developed and implemented in order to reduce the encroachment of exotic invasive species.

**11.10. PROTECTION OF FAUNA**

<table>
<thead>
<tr>
<th>Possible Impact</th>
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<th>Applicable Legislation/ Policy</th>
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<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage to habitat</td>
<td>To conserve animal life.</td>
<td>NEMBA</td>
<td>Breeding sites or young ones must not be disturbed.</td>
<td>No reported faunal injuries</td>
<td>Observation</td>
<td>ECO &amp; Contractor</td>
<td>On-going during the construction phase.</td>
</tr>
<tr>
<td>Negative impact on animal life</td>
<td>To make sure that impact on natural vegetation is kept to the very minimum in order to conserve suitable</td>
<td></td>
<td>Do not attempt to kill snakes, however those found in the working areas must be relocated by trained personnel to a safe environment.</td>
<td>No complaints from landowners</td>
<td>Complaints register that records complaints from landowners</td>
<td>CEO</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Dogs or other pets are not allowed to the worksite as they are threats to the natural wildlife.</td>
<td></td>
<td>Daily inspection</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>No animals should be intentionally killed or destroyed and poaching and hunting should not be</td>
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</table>

Transnet SOC Limited
### EMP for the proposed new Transnet Bosmanskop substation

- To prevent degradation of suitable sensitive fauna habitats.
- To prevent contamination of water within the nearby watercourse thereby preserving several amphibian species.
- To ensure that impact on sensitive fauna species area kept to a minimum permitted on the site.
- Severe contractual fines must be imposed and immediate dismissal on any contract employee who is found attempting to snare or otherwise harm faunal species.
- Firearms or any other hunting weapons must be prohibited on site.
- Employees and contractors should be made aware of the presence of, and rules regarding fauna through suitable induction training and on-site signage.
- Vegetation clearing in natural areas should be kept to a minimum and restricted to the proposed development footprint only.
- Existing roads and access routes should be used wherever possible.
- During construction all vehicles should adhere to demarcated tracks or roads and the speed limit should not exceed 40km/h.
- Under no circumstances shall any animals (Stock or game) be handled, removed, killed or be interfered with by the Contractor, his employees, his subcontractors.
- To prevent injury or death of fauna species as a result of falling into open excavations.

| • Topr
| • or his subcontractors’ employees.
| • No hunting of fauna and avifauna shall be tolerated by the Contractor or his personnel on the Site or elsewhere. The Contractor and his employees shall not bring any domesticated animals onto the site. The contractor shall keep the site clean and tidy from rubbish that can attract animals.
| • Fauna rescue and relocation programme should be implemented.
| • Any open excavations must be inspected early in the morning prior to the daily construction activities. Any amphibians and small mammals or any other fauna species found should be removed and released in suitable habitats away from construction activities.
| • The open excavations should be back-filled as soon as possible.
| • Records of any injured or fatalities of animal species within the construction servitude must be kept by the ECO.
| • Areas identified with high ecological sensitivity should be
- Avoided during construction activities.
- Fencing should be friendly to faunal species allowing for movement between areas. This can be achieved by applying culverts and an open mesh.
- Construction should be restricted to daylight hours to prevent any disturbance such as floodlights.
- Vehicles must be regularly checked for oil or hydraulic leaks during the construction phase to prevent pollutants from entering surface and ground water.
- Open fires must not be allowed on the construction site. A natural fire regime must be implemented for all conserved open grasslands. The fire regime should be determined by a suitably qualified grassland specialist/ecologist.
### 11.11. Heritage And/or Archaeological Sites

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
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<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Destruction of sites of archaeological and heritage significance.</td>
<td>• To preserve any heritage, cultural or archaeological sites that might be encountered during the construction phase.</td>
<td>• NHRA</td>
<td>• No obvious cultural or historical material were identified on site, however, should any graves or heritage artefacts be discovered during construction phase, all works must stop at the affected area and the ECO must be contacted. The ECO will contact SAHRA and all necessary procedures will be followed.</td>
<td>• Any finds are immediately reported to a suitably qualified archaeologist for further investigation.</td>
<td>Intermittent observation.</td>
<td>ECO &amp; Contract Archaeologist</td>
<td>On-going during all excavations</td>
</tr>
<tr>
<td>• Loss of historic cultural landscape.</td>
<td>• Protection of known sites against destruction, vandalism and theft.</td>
<td></td>
<td>• If any archaeological material (e.g. fossils, bones, artefacts etc.) is found during excavation, the Contractor shall stop work immediately and inform the ECO and Transnet.</td>
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<tr>
<td>• Loss of intangible heritage value due to change in land use.</td>
<td>• Preservation and appropriate management of any new archaeological sites should this be discovered during construction.</td>
<td></td>
<td>• The ECO shall inform South African Heritage Resources Agency (SAHRA) and arrange for a registered heritage specialist to inspect, and if necessary excavate the material, subject to acquiring the</td>
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</table>
necessary approval from SAHRA.

- The Contractor shall not recommence working in that area until written permission has been received from the SAHRA.
- Under no circumstances may any heritage material be destroyed or removed from site until the necessary approval has been obtained from SAHRA.

Should any remains be found on site (potential human remain) the South African Police Services should be contacted.

- An information section on cultural resources must be included in the environmental training given to Contractors involved in earthmoving and trenching activities. This section must include basic information on:
  - Heritage;
  - Graves;
  - Palaeontology;
  - Archaeological finds; and
  - Historical Structures.
## 11.12. ACCESS ROADS

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
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<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Damage to heritage sites.</td>
<td>• To ensure minimal disturbance of vegetation and protection of soils.</td>
<td>• Access road to site already exists. The primary access to the site will be the National Route N11 and direct access will be through the Transnet Railway line service road which is a gravel track.</td>
<td>• Use of designated access roads &lt;br&gt; • No complaints from the landowners</td>
<td>Observation Site Plan &lt;br&gt; Complaints register</td>
<td>Contractor &lt;br&gt; ECO &lt;br&gt; CEO</td>
<td>On-going during the construction phase</td>
<td></td>
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<tr>
<td>• Disturbance of topsoil and vegetation</td>
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<tr>
<td>• Impact on habitats and sensitive ecology</td>
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<td></td>
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<tr>
<td>• Possible erosion</td>
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</tbody>
</table>
11.13. **Servicing and Re-fuelling of Construction Equipment**

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<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/ Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| 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  
SES | All maintenance and repair work will be carried out within an area designated for this purpose, equipped with necessary pollution containment measures.  
The ground under the servicing and refuelling areas must be protected against pollution caused by spills and / or tank overfills (Bunded / lined).  
The Contractor may only change oil or lubricant at agreed and designated locations, except during emergency repair, following which any accidental spillages will be cleaned up / removed immediately.  
In such instances the Contractor will ensure that drip trays are available to collect any oil or pollutants.  
Drip trays must be placed under | No evidence of hazardous substances polluting the site. | Observation  
On-going monitoring with regular inspections | ECO & Contractor  
CEO | On-going during the construction phase |
vehicles and machinery that are stationary.

- Construction vehicles are to be maintained in an acceptable state of repair. No vehicles or equipment with leaks or causing spills will be permitted to operate at any of the construction sites.

- All leaking equipment must be repaired immediately or must be removed from site.

- Fuels required during construction must be stored in a central depot at the construction camp.

- This storage area should be located on a slab and be contained within a bund capable of containing at least 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.

- Appropriate run-off containment
11.14. **Waste Management**

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/ Policy</th>
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<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Impact</td>
<td>To ensure the efficient management of waste on site</td>
<td>NEMWA, SES</td>
<td><strong>SOLID WASTE MANAGEMENT</strong>&lt;br&gt;- Effort must be made to separate waste at source (e.g. containers for glass, paper, metals, plastic, organic waste and hazardous waste).&lt;br&gt;- An adequate number of clearly labelled ‘scavenger proof’ refuse bins must be provided at the construction site.&lt;br&gt;- The Contractor will ensure that all personnel deposit waste in the waste bins provided.&lt;br&gt;- All waste must be transported in an appropriate manner (e.g. plastic rubbish bags) and disposed of at a registered waste disposal site. Proof of safe disposal must be kept on site.&lt;br&gt;- The Contractor may not dispose of any waste and / or construction debris by burning, or burying.&lt;br&gt;- Waste bins must be emptied regularly (minimum weekly) such that they do not overfill.&lt;br&gt;- Discard all construction waste at a</td>
<td>Presence of proper storage facilities that are properly labelled.&lt;br&gt;- Post-construction work areas are clear of all waste materials.</td>
<td>Intermittent Observation&lt;br&gt;Waste Disposal Records</td>
<td>ECO &amp; Contract or&lt;br&gt;CEO</td>
<td>Daily</td>
</tr>
<tr>
<td>Water resources</td>
<td>To ensure minimal impact on the surrounding environment</td>
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</tbody>
</table>
registered waste management facility / landfill site, particularly waste or products that could impact on surface or groundwater quality by leaching into or coming into contact with water.

The Contractor will maintain ‘good housekeeping’ practices and ensure that all work sites and construction camp are kept tidy and litter free.

**LIQUID WASTE MANAGEMENT**
- An adequate number of drums must be provided at the construction site.
- These drums must be provided with lids and an external closing mechanism to prevent their contents from rain.
- The Contractor will ensure that all personnel discharge waste water in the drums provided.
- All waste must be transported in an appropriate manner and disposed of at a registered waste disposal site.
## 11.15. Surface and Groundwater Management

<table>
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<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Possible contamination of water resources.</td>
<td>• To conserve all natural water resources</td>
<td>• NWA</td>
<td>• Water use related activities must be approved by DWS prior to commencement conditions and recommendations of the WUL must be adhered to at all times.</td>
</tr>
<tr>
<td>• To ensure effective water management in order to prevent incorrect diversions of water which result in soil erosion and storm water runoff with negative environmental impacts.</td>
<td>• To ensure that the rivers and streams are conserved</td>
<td>• SES</td>
<td>• No unauthorised activities should occur within a 100m or within the 1:100 year flood line. • The Contractor must take reasonable precautions to prevent the pollution of the ground and water resources on and adjacent to the site as a result of his activities. • All the requirements stipulated in the National Water Act, 1998 (Act 36 of 1998) must be adhered to. • No surface, ground water or storm water may be polluted as a result of any activities on the site. • Erosion control measures must be implemented to reduce erosion and sedimentation.</td>
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<tr>
<td></td>
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<td></td>
<td>Performance Indicator: • No water wastage of water. Monitoring Criteria: • Observation • Design Plans Responsible Agent: • Contractor • ECO • CEO Monitoring Frequency: Continuous through the construction phase.</td>
</tr>
</tbody>
</table>
| Protected and incur minimal negative impact from the development. | • No natural watercourse is to be used for the cleaning of tools or any other apparatus. This includes for purposes of bathing, or the washing of clothes etc.
• All washing operations will take place off-site at a location where wastewater can be disposed of in an acceptable manner.
• No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment.
• All soil contaminated, for example by leaking machines, refuelling spills etc. is to 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.
• Storm water management measures must be as per the Storm water Management plan.
• Erosion control on temporary access roads must be undertaken.
• Any physical damage to any aspect of a
watercourse must be avoided.
- Minimise the extent of any damage to flood plains that is necessary to complete the works, and will not pollute any river as a result of construction.

### 11.16. Sensitive Areas (Westland and Buffers)

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<tr>
<th>Possible Impact</th>
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<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
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<table>
<thead>
<tr>
<th>NWA</th>
<th>Sediment barriers must be properly maintained throughout construction and reinstalled as necessary until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. A temporary fence or demarcation must be erected around the works area to prevent access to sensitive environments. The works areas generally include the construction camp(s) and areas where material is stored. Management of point discharges; Planning of construction site must include eventual rehabilitation/restoration of indigenous vegetation cover; Cordon-off areas that are under rehabilitation as no-go areas using appropriate measures. If necessary, these areas should be dropped off to prevent vehicular, pedestrian and livestock access; Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover; During the construction phase measures must be put in place to control the</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWA</td>
<td>Undisturbed sensitive environs and/or properly rehabilitated. Compliance with the WUL conditions</td>
</tr>
<tr>
<td>NWA</td>
<td>Observation WUL</td>
</tr>
<tr>
<td>NWA</td>
<td>CEO ECO Contractor</td>
</tr>
<tr>
<td>NWA</td>
<td>Throughout the construction and post construction to ensure proper rehabilitation.</td>
</tr>
</tbody>
</table>

- Changing the physical structure within a water resource (habitat) To preserve and conserve the sensitive environs.
flow of excess water so that it does not impact on the surface vegetation;

Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas;

Runoff from roads must be managed to avoid erosion and pollution problems;

Active rehabilitation and monitoring of erosion where required; and monitor vegetation;

11.17. HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| Impact on soils and water resources | To ensure safe and proper handling of hazardous | HSA SES | Ensure compliance with all national, regional and local legislation with regard to the storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and | No incidents reported | • Hazardous material data sheet  
• Incident reports | ECO & Contract or CEO | Continuous throughout the construction phase |
<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/ Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact on soils and water resources</td>
<td>To avoid ground and surface water contaminations Toensure</td>
<td>HSA SES</td>
<td>Transformers and voltage transformers as well as other tools and equipment contain oil and care should be taken to site during installation • Prevent potential oil spills during the replacement of underrated equipment, installation of current transformers and</td>
<td>• No incident reported • Proper use of drip trays • Presence of oil spill kit</td>
<td>Observation Incidence report</td>
<td>• ECO • Contractor • CEO</td>
<td>On-going during the construction phase.</td>
</tr>
</tbody>
</table>

### 11.18. Oil Spill Management

- Observation of spillages and leakages
proper and safe handling of oil spillages. Installation of the transformer.
- Fuels, oils, hydraulic fluids, cement etc. must be stored in properly contained areas so as to minimize accidental spillage.
- No hazardous or toxic chemicals or substances should be stored where there could be accidental leakage into subterranean water supplies.
- Accommodation must be made for oil leaks that may occur from vehicle sumps. This can be achieved by providing a sump tray for each vehicle or sand that is later removed from site. The contaminated sand will have to be disposed of at a licensed hazardous disposal site.
- All significant spills must be reported to the ECO within 24 hours.
- A mobile oil spill kit must be available on site at all times.
- The oil spill clean-up and rehabilitation standard need to be implemented.

11.19. STORM WATER MANAGEMENT

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>

Transnet SOC Limited
| Possible negative impact on water resources | To reduce the potential impact from runoff on sensitive areas. | NWA SES | Ensure that rainwater containing pollutants does not run-off into natural areas and thus result in a pollution threat.  
- Storm water management plan must be implemented.  
- The client must ensure that the drainage diversion system is fully operational to divert runoff from areas of potential pollution, e.g. batching area, vehicle maintenance area, workshops, chemical and fuel stores, etc.  
- Storm water shall be diverted from the construction works. Where necessary, works must be constructed to attenuate the velocity of the storm water discharge.  
- 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 erosion mechanisms shall be employed to ensure the sustainability of all the structures; | No evidence of erosion  
- No evidence of increased siltation | Site Plan Observation | ECO Contractor CEO | Continuous during the construction |
• Effort shall be made to ensure that storm water leaving the construction site is not contaminated by any substance, whether solid, liquid or gas.
• Storm water management systems must be constructed, operated and maintained in a suitable manner throughout the project.

11.20. FIRE

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation /Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destructio of property</td>
<td>To prevent open fires.</td>
<td>NEMA</td>
<td>A fire Management Plan must be put in place by the Contractor and Transnet.</td>
<td>No reported fire incidents</td>
<td>Fire Management Plan Daily checks</td>
<td>CEO Contractor</td>
<td>On-going during the construction phase</td>
</tr>
<tr>
<td></td>
<td>To ensure that the workforce is aware of emergency procedures should an incident occur.</td>
<td>NVFFA</td>
<td>Landowners must be consulted in order to incorporate their specific fire fighting measures.</td>
<td>No loss of life</td>
<td></td>
<td>CEO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SES</td>
<td>All the necessary precautions to ensure that fires are not started as a result of activities on site must be put in place.</td>
<td>No traces of cigarettes butts outside the designated smoking area.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Fuels or chemicals must be stored at the designated storage area.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Gas and liquid fuels may not be stored in the same storage area.</td>
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<td></td>
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<td></td>
<td>All fire control mechanisms (fire fighting equipment) will be routinely inspected by a qualified investigator for efficacy and be approved by local fire services. Such mechanisms will be present and</td>
<td></td>
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</tbody>
</table>
The Contractor must ensure that there is adequate firefighting equipment at the fuel stores in case of emergency.

- No open fires for heating or cooking will be permitted on site, unless otherwise agreed and then only on designated areas.
- All staff on site will be made aware of general fire prevention and control methods and the name of the responsible person to alert to the presence of a fire.
- Designated smoking areas should be provided, with special bins for discarding of cigarette stump.
- Fire must be reported immediately.

11.21. AIR POLLUTION

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust nuisance from excavation s, vegetation clearing and dirt roads.</td>
<td>To ensure proper mitigation of air pollution To avoid dust nuisance</td>
<td>NEM A NEM AQUA SES AQUA SES</td>
<td>The potential air pollutants would be dust emanating from excavation activities and access roads as well as from emissions from vehicle/ equipment exhausts. In the event that excessive dust arises from any construction activities: • Appropriate dust suppression measures or temporary stabilising mechanisms will be used when dust generation is</td>
<td>• No complaints from surrounding land owners recorded.</td>
<td>• Observation Complaints register</td>
<td>• ECO Contractor CEO</td>
<td>On-going throughout the construction phase</td>
</tr>
</tbody>
</table>
| from excavation activities and vehicles on dirt roads | unavoidable (e.g. dampening with water, chemical soil binders, straw, brush packs chipping), particularly during prolonged periods of dry weather.  
- Removal of vegetation will be avoided until such time as soil stripping is required.  
- No burning of waste material, such as vegetation from any clearing operations is allowed;  
- Vehicle speeds should not exceed 40km/h along dust roads or 20km/h when traversing unconsolidated / non-vegetated areas. The Contractor should take preventative measures to minimise complaints regarding dust nuisances (e.g. screening, dust control, timing, pre-notification of affected parties)  
- Excavation, handling and transport of erodible materials will be avoided under high wind conditions or when a visible dust plume is present. If dust-damping measures are deemed inadequate, work will cease until wind speeds drop to an acceptable level.  
- Soil stockpiles will be located in sheltered areas to limit the erosive effects of the wind.  
- Equipment and construction vehicles must be in good working order. |

**11.22. Noise**
<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/ Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise during drilling of foundations and associated activities</td>
<td>To ensure minimal noise disturbance s.</td>
<td>NEMA SES</td>
<td>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 should endeavour to keep noise generating activities associated with construction activities to a minimum and within working hours. Where possible the contractor must use equipment which falls within the allowable noise limits. Noise generating activities with output levels of 85dB or more must be scheduled between 7h00 – 17h00 Mondays to Fridays and weekends as required and with the permission of the ECO and consent from landowner. 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.</td>
<td>No complaints from surrounding land owners recorded.</td>
<td>Listening A register of complaints to be kept on site at all times and kept up to date.</td>
<td>Contractor ECO CEO</td>
<td>On-going during the construction phase</td>
</tr>
</tbody>
</table>
### 11.23. Visual

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/P Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| Loss of sense of place. | To ensure proper mitigation of potential visual impacts. To maintain the site’s aesthetics. | NEMA                            | • Storage facilities and other temporary structures on site should be located such that they have as little visual impact on local residents as possible.  
• Soil excavated (if any) must not be 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. | Clean and tidy site.  
• No complaints from the landowners and affected parties. | Observation  
• Complaints register | ECO & Contractor CEO | On-going during the construction phase. |
## 11.24. Excavation, Backfilling and Trenching

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible erosion</td>
<td>To prevent erosion.</td>
<td>OHSA</td>
<td>While working at areas prone to erosion the following must be adhered to: Excavations must not be left open for longer than 30 days where at all possible Excavations must be barricaded/ fenced off at all times.</td>
<td>No incidence of animals trapped in trenches reported</td>
<td>Observation Incident report</td>
<td>Contractor / ECO CEO</td>
<td>On-going excavations</td>
</tr>
<tr>
<td>Injury of animal life</td>
<td>To ensure safety for both human and animals.</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

## 11.25. Agricultural Activities

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative impacts on agricultural activities as a result of maintenance procedures, servitude clearing.</td>
<td>To limit the impact on agricultural activities</td>
<td>CARA</td>
<td>Maintain good relations with landowners. 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, except for all approved activities.</td>
<td>No encroachment into agricultural crops No negative feedback from landowners</td>
<td>Observation Complaints register</td>
<td>ECO CEO Construction Manager Contractor</td>
<td>During and after maintenance procedures</td>
</tr>
</tbody>
</table>

- **OHSA**: Occupational Health and Safety Act
- **CARA**: Corporate Affairs Regulation Act
- **ECO**: Environmental Compliance Officer
11.26. **erosion and control**

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| • Impact on soils, habitats and sensitive environments. | • To prevent erosion and sedimentation. | • NWA  
• SES | • To prevent any form of erosion the following must be adhered to:  
• During construction, the Contractor will protect areas susceptible to erosion by installing necessary temporary and / or permanent drainage works as soon as possible and by taking suitable measures to prevent surface water concentration into nearby roadways.  
• Prior to construction, all topsoil (top 300mm as a minimum) 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 should not be compacted and should be replaced as the final soil layer.  
• No vehicles/equipment may be allowed access onto the stockpiles after they have been placed.  
• Topsoil obtained from sites with different soil types must not be mixed.  
• Topsoil stockpiles must not be contaminated with any foreign matter, which may inhibit the later growth of vegetation and micro-organisms in the soil. | • No visible signs of erosion | • Observation  
• Complaints register | Contractor  
ECO  
CEO | On-going particularly during excavations |
• Soil must not be stockpiled on drainage lines or near watercourses
• Vehicles must use the existing access route.
• Where required, cut-off trenches can be installed to divert substantial run-off and prevent erosion as and when necessary.
• Sensitive areas such as watercourses should be cordoned off so that vehicles and construction personnel cannot gain access to these areas.
• Where access cannot be avoided into sensitive areas, the amount of vehicle and personnel traffic should be kept to a minimum and should make use of only one route.
• Soil erosion must be prevented at all times along the access road.
• Any runnels or erosion channels will be backfilled and compacted, and the area/s restored to a proper condition.
• Limit ponding on the surface and ensure storm water runoff is channelled from the site. The method used will be appropriate to the expected storm water flows and the topography and geology of the site.
• The Contractor will be liable for any damage to downstream property caused by the diversion of overland storm water flows.
11.27. **USE OF CEMENT AND CONCRETE**

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| • Soil pollution from waste concrete from concrete casting activities and washing of trucks. | • To conserve soils, surface and groundwater. | • NEMA • NEMWA • HSA • SES | • The Contractor is advised that 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 adhered to:  
  • Pre-mix concrete shall be the preferred option where possible.  
  • The batching / mixing area must be properly designated and indicated on the site plan and it will be kept neat and clean at all times.  
  • No batching / mixing activities will occur on a permeable surface.  
  • All runoff from such areas will be strictly controlled, with contaminated water collected, stored / contained and disposed of at an approved waste disposal site.  
  • Unused cement bags will be stored appropriately so as not to be affected by rain / runoff.  
  • Concrete transportation will not result in spillage.  
  • To prevent spillage onto roads, ready mix trucks will rinse off the delivery shoot into | • Areas of construction are clear of all concrete residue/waste following construction. | • Observation • Site Plan | • Contractor • ECO • CEO | • Throughout the construction phase |
EMPr for the proposed new Transnet Bosmanskop substation

- All contaminated water and fines from exposed aggregate finishes will be collected and stored in sumps for disposal at an approved waste disposal site.
- The visible remains of the batch plant and concrete, either solid, or from washings shall be physically removed immediately and disposed of appropriately at a registered landfill site.

11.28. SITE CLEAN-UP AND REHABILITATION

<table>
<thead>
<tr>
<th>Possible Impact</th>
<th>Objective</th>
<th>Applicable Legislation/ Policy</th>
<th>Mitigation / Management Action</th>
<th>Performance Indicator</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion</td>
<td>Successful rehabilitation of all damaged areas</td>
<td>BDA, FA, SES</td>
<td>The Contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project.</td>
<td>No loss of topsoil due to construction activities</td>
<td>Rehabilitation Plan Observation</td>
<td>ECO CEO Contractor</td>
<td>On completion of construction Random surveys by landowner</td>
</tr>
<tr>
<td>Wrong seeding</td>
<td>Prevention of erosion.</td>
<td></td>
<td>Fully rehabilitate (e.g. clear and clean area, rake, pack branches etc.) all disturbed areas and protect them from erosion.</td>
<td>No loss of topsoil due to construction activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To ensure that the site is rehabilitated to as close to its original state as possible.</td>
<td></td>
<td>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.</td>
<td>All disturbed areas successfully rehabilitated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>To ensure that the site is clean and neat.</strong></td>
<td><strong>other land within the site.</strong></td>
<td><strong>within three months of completion of the contract</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Minimize claims and litigation from landowner</strong></td>
<td><strong>Re-seeding shall be done on disturbed areas.</strong></td>
<td><strong>· No visible erosion scars three months after completion of the contract</strong></td>
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<tr>
<td></td>
<td><strong>The Contractor shall dispose of all excess material on site in an appropriate manner and at a designated place.</strong></td>
<td><strong>· No open fires shall be allowed on site under any circumstance</strong></td>
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<td></td>
<td><strong>All anticipated crop damage shall be noted while access negotiations are underway.</strong></td>
<td></td>
<td><strong>· No evidence of rubble or litter left on site.</strong></td>
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<tr>
<td></td>
<td><strong>All damage to commercial crops shall be recorded immediately.</strong></td>
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</tbody>
</table>
### 11.29. Monitoring of EMPR Compliance

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>To implement an on-going monitoring and performance audit programme</td>
<td>The correct and successful implementation of impact mitigation measures in order to reduce adverse impacts on environmental conditions needs to be ensured by a proper monitoring program. Monitoring of the general implementation of/adherence to the EMPRs shall be the responsibility of the ECO. Reporting on adherence/compliance to stipulations as communicated to contractors, shall take place during scheduled site meetings.</td>
<td>Audit Reports</td>
<td>ECO &amp; Contractor CEO</td>
<td>On-going during the site establishment and construction phase.</td>
</tr>
</tbody>
</table>
# 12. OPERATIONAL PHASE

## 12.1. CONTROL OF WEEDS/ALIEN VEGETATION

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of weeds/alien vegetation on site.</td>
<td>• During operation, the clearing of alien plants within the study area and infrastructure area is required to control alien invasions. This is mandatory, according to current legislation. &lt;br&gt; • An alien eradication programme should be implemented in order to reduce the encroachment of exotic invasive species. &lt;br&gt; • It is recommended that the ECO should be responsible for monitoring the nature and extent of on-site exotic and invasive plants.</td>
<td>• No reported spread of weeds/alien vegetation on site.</td>
<td>Transnet</td>
<td>On-going.</td>
</tr>
</tbody>
</table>

## 12.2. INDUSTRIAL WASTE STORAGE AND REMOVAL

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure proper management of waste during operational phase.</td>
<td>• Appropriate waste management system must be implemented. In the event of soil contamination, the contaminated soil should be removed off-site. Appropriate waste management system must be implemented.</td>
<td>• Presence of proper storage facilities that are properly labelled. &lt;br&gt; • Post-construction work areas are clear of all waste materials.</td>
<td>Transnet</td>
<td>On-going.</td>
</tr>
</tbody>
</table>
12.3. **LOSS OR INJURY OF FAUNA THROUGH ROAD KILLS**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| To prevent injury or deaths of fauna through road kills. | • Where roads are associated with substation (these provide an attraction for species that hunt from perches), road margins should be mowed and/or burned regularly to prevent the accumulation of grass cover that could provide refuge for small mammals.  
• Speed limit must be adhered to in order to minimise the death or injury to fauna. | • No reports of injuries or deaths of fauna on site. | Transnet | On-going. |

12.4. **DOCUMENT CONTROL**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Mitigation / Management Action</th>
<th>Monitoring Criteria</th>
<th>Responsible Agent</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
</table>
| • 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. | • The EMPr as well as the EA will be used for referral as the project progresses. The EA will also be presented to the authorities at any random time that they might visit the site. | • Availability of an EMPr copy on site. | • ECO & Contractor  
• CEO | On-going during the construction 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 that there are other private properties involved in the project. Transnet shall ensure that all agreements reached with the Landowner are fulfilled. Should any claim be instituted against Transnet, due to the actions of the Contractor Transnet shall hold the Contractor fully responsible for the claim until such time that the Contractor can prove otherwise with the necessary documentation.

14. GENERIC CONDITIONS

In order to ensure compliance with Transnet’s environmental policies as well as environmental legislation requirements, the following conditions are applicable:

14.1. AWARENESS AND TRAINING OF CONTRACTOR

The CEO, with the assistance of the Contractor, shall communicate all aspects of the EMPr to the site staff (i.e. site agents to labourers) prior to commencement of any environmentally disturbing activity. Basic environmental awareness training must be carried out for all employees and should be included in safety training. This training must include procedures for relocating sensitive fauna from the site. A copy of the EMPr must always be made available on site.

14.2. SITE DOCUMENTATION/MONITORING

The standard Transnet 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 Environmental Control Officer is imperative to ensure that all problems encountered are solved punctually and amicably. When the Environmental Control Officer is not available, the Transnet Construction Manager shall keep abreast of all works to ensure no problems arise.
Fortnightly Environmental Monitoring reports shall be submitted to the appointed Transnet Environmental Officer by the CEO with all information relating to environmental matters. The following Key Performance Indicators must be reported on a fortnightly 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.
- 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.
  - Copy of the EMPr.

The ECO shall further prepare monthly Environmental Monitoring reports which will cover the activities undertaken as well as the status of compliance on site. Copies of the monthly reports shall be submitted to Transnet, as well as the DEA. Furthermore, monthly reports will be kept on site either as hard or soft copy.

14.3. Audits

During the construction period, monthly Environmental Audits shall be conducted to determine compliance with the recommendations of the EMPr and conditions of the EA. These can be internal audits or external audits by DEA or the ISO14001 auditors or combined audits.

Proposed Audit Programme

The appointed ECO, as well as the Contractors on site, are responsible for ensuring compliance with the EMPr. It is recommended that quarterly EA and EMPr compliance audits are undertaken by the ECO. Audit reports must be compiled by the ECO and submitted to Transnet as well as the DEA. Interested and Affected Parties (Landowners) must be allowed access to the EMPr document should they so wish.
Audit Reporting

The Contractor shall keep a record of all complaints received from the community and communicate them to the ECO. These complaints must be addressed and mitigated, within reason. Records relating to the compliance/non-compliance with the conditions of the EMPr as well as audits reports shall be kept in good order and shall be made available to DEA within seven days after a written request has been received. It is suggested that all records be kept for at least two years following construction activities for reference purposes.

14.4. SOCIO-CULTURAL ISSUES

- A plan of action should be drawn up in the case of an emergency (veld fire, vegetation problems etc.). Transnet contact names and telephone numbers must be available on site;
- Property owners or occupiers must be treated with respect and courtesy at all times;
- The culture and lifestyles of the communities living in close proximity to the substation must be respected;
- 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 should 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 in close proximity to the substation 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 in this EMPr. 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 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. The amendment of the EMPr will be undertaken as per section 36 and 37 of the Regulations.