

# Environmental Management Programme

## Eskom Transnet Freight Rail Project

### OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

The compilation of this Environmental Management Programme (EMPr) forms part of the requirements of the 2014 EIA Regulations, as amended. Compliance with the contents of the EMPr is required during the construction and operational phases of the project. The EMPr serves as an environmental management tool by providing a generic structured plan of mitigatory measures / management action, which serves as a guide to assist in minimising the potential environmental impact of the activity that may arise during the construction and operational phases.

The EMP provides a set of guidelines for the environmental management of all works to be executed so as to have a minimum impact on the environment in accordance with all relevant legislation, policies and standards.

In this context it should be viewed as a dynamic or 'living' document, which may require updating, or revision during the life-cycle of the project to address new circumstances as the need arises. It is essentially a written plan of how the environment is to be managed in practical and achievable terms.

The effectiveness of the EMPr is limited by the level of adherence to the conditions set forth herein. Compliance with the EMPr will be monitored on a regular basis as set out in the EMPr and contractual clauses.

The EMPr forms part of the Contract Documentation and is thus a legally binding document. An individual responsible for environmental damage must pay costs both to environment and human health and the preventative measures to reduce or prevent additional pollution and/or environmental damage from occurring (the Polluter Pays Principle).

Further to the above, the following objectives apply:

- To state the standards and guidelines which has to be adhered to in terms of environmental legislation;
- To set out the mitigation measures / management actions and environmental specifications which Eskom will be required to implement in order to minimise the extent of environmental impacts, and where possible to improve the condition of the environment;

- To mitigate potential negative impact associated with the project and ensure optimising of positive impact;
- To define corrective actions which Eskom must take in the event of non-compliance with the specifications of the EMPr;
- To prevent long-term or permanent environmental degradation;
- To ensure that the applicant, construction workers and the operational and maintenance staff are well acquainted with their responsibilities in terms of the environment;
- To ensure that communication channels to report on environment related issues are in place.

## GAZETTED GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME

**On 22 March 2019 a *Generic Environmental Management Programme (EMPr)* was promulgated in terms of Section 24 of NEMA and gazetted as Government Notice No 435. This EMPr is applicable where application is made for Environmental Authorisation for substations and overhead electricity transmission and distribution infrastructure as identified in terms of**

- **activity 11 or 47 of EIA Regulations Listing Notice 1 of 2014, as amended, or for**
- **activity 9 of EIA Regulations Listing Notice 2 of 2014, as amended, and**
- **any other listed and specified activities necessary for the realisation of such infrastructure.**

**The EMPr forms part of the Basic Assessment and EIA Reports, is a legally binding document and contains general as well as site specific mitigation measures.**

The Generic Environmental Management Programme consists of the following:

APPENDIX A: DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE and  
APPENDIX B: DEVELOPMENT AND EXPANSION OF OVERHEAD ELECTRICITY INFRASTRUCTURE

The Eskom Transnet Freight Rail Project includes the construction of substations (traction stations) as well as overhead power lines and Appendix A and Appendix B is thus both applicable to this project.

Both Appendixes are divided into the following:

1. Part A (General Guidance and Information)
2. Part B: Section 1 (Pre-approved Generic EMPr Template)
3. Part B: Section 2 (Site Specific Information and Declaration)
4. Part C (Site Specific Sensitivities / Attributes)
5. Method Statements

#### PART A (GENERAL GUIDANCE AND INFORMATION)

- Provides general guidance and information such as definitions, acronyms, roles & responsibilities, documentation and reporting. This section **is not legally binding**.

#### PART B: SECTION 1 (PRE-APPROVED GENERIC EMPr TEMPLATE)

- Contains generally accepted impact management outcomes and impact management Actions required for the avoidance, management and mitigation of impacts and risks associated with the development
- The template in this section is to be completed by the contractor, with each completed page signed and dated by the holder of the EA prior to commencement of the activity. Once completed and signed, the template represents the EMPr for the activity approved by the Competent Authority (CA) and **is legally binding**.
- The template is not required to be submitted to the CA because the generic EMPr was gazetted for implementation and has therefore been approved by the CA.
- The EAP must make this section available for public consideration.

#### PART B: SECTION 2 (SITE SPECIFIC INFORMATION and DECLARATION)

- Contains preliminary infrastructure layout *and* a declaration that the applicant/holder of the EA
  - will comply with the pre-approved generic EMPr as contained Part B: Section 1;
  - understands that the impact management outcomes and impact management actions **are legally binding**.
- The preliminary infrastructure layout must be submitted with the BAR / EIA Report ensuring that all impact management outcomes and impact management actions have been either preapproved or approved in terms of Part C.
- This section **must be** submitted to the CA together with the final BAR or EIA Report. The information submitted to the CA will be considered to be incomplete should a signed copy of Part B: section 2 not be submitted.
- Once approved, this Section forms part of the EMPr for the site and **is legally binding**.

#### PART C (SITE SPECIFIC SENSITIVITIES / ATTRIBUTES)

- Any site specific management outcomes and management actions not included in the pre-approved generic EMPr must be included in this section.
- These specific environmental attributes must be referenced spatially and impact management outcomes and impact management actions must be provided.
- These outcomes and actions must be presented in the format of Part B: Section 1.
- This section will not be required should the site contain no specific environmental sensitivities or attributes.

- If Part C is applicable it is required to be submitted together with the BAR or EIA Report to the CA for consideration.
- The information in this section must be prepared by an EAP and must contain his/her name and expertise including a Curriculum Vitae.
- Once approved, Part C forms part of the EMPr for the site and **is legally binding**.

#### METHOD STATEMENTS

- It contains the method statements to be prepared prior to commencement of the activity.
- The method statements are **not required** to be submitted to the Competent Authority.

Information provide in this EMPr is information as requested in

#### **Appendix A: Substations**

- Part B: Section 2 (Site Specific Information and Declaration)
- Part C (Site Specific Sensitivities / Attributes)

#### **Appendix B: Overhead power lines**

- Part B: Section 2 (Site Specific Information and Declaration)
- Part C (Site Specific Sensitivities / Attributes)

# Appendix A: Substations

## Part B: Section 2

### Site Specific Information and Declaration

#### CONTACT DETAILS OF THE APPLICANT AND THE EAP

##### Contact details of the applicant

Name of applicant : Eskom Holding SOC Limited  
Contact person : Mr Khathutshelo Nesindande  
Tel No : 015 299 0033 / 072 256 0787  
E-mail address : NesindKR@eskom.co.za  
Postal Address : PO Box 3499, Polokwane, 0700  
Physical Address : 92 Hans van Rensburg Street, Polokwane, 0699

##### Contact details of the EAP

Name of EAP : Landscape Dynamics Environmental Consultants  
: Susanna Nel & Annelize Grobler  
Tel No : 082 888 4060 & 082 566 4530  
E-mail address : info@landscapedynamics.co.za

##### Expertise of the EAP

Landscape Dynamics is an environmental consultancy firm established in May 1997. The main line of business since that time up to present is the compilation of environmental impact assessments. Landscape Dynamics has a broad client base from both the private and government sectors which has developed over the past 22 years of professional services supplied. The operating base for Landscape Dynamics is the entire South Africa; with local representation in Gauteng, the North West Province, Mpumalanga, the Western Cape, the Northern Cape and Limpopo. The Environmental Assessment Practitioners (EAPs) for this project are Ms Annelize Grobler and Ms Susanna Nel.

*Refer to Addenda A of this EMP for a Company Profile and Curriculum Vitae's of the EAPs.*

## PROJECT INFORMATION

- **Project name**  
Eskom Transnet Freight Rail Project
- **Description of the project**

The project entails the construction of

- 4 x 132kV Traction Stations (Lephalale, Diepspruit, Matlabas and Marekele)
- 4x communication towers (1x tower at each traction station)
- ±6km 132kV line from Medupi to proposed Lephalale Traction Station
- ±23km 132kV line from Lephalale Traction Station to existing Theunispan Substation
- ±23km 132kV line from Theunispan Substation to Theunispan T-off
- 3 x 132kV line bays at Theunispan Substation
- Loop in-out the 132kV traction stations as follows:
  - Lephalale Traction – 2 x 40 m 132kV lines from the new Medupi Theunispan line
  - Diepspruit Traction – 2 x 1 km 132kV lines from the existing Medupi Thabazimbi line
  - Matlabas Traction – 2 x 1 km 132kV lines from the existing Medupi Thabazimbi line
  - Marekele Traction – 2 x 2.5 km 132kV Lines from the existing Medupi Thabazimbi line

### Access roads

Access roads are available to most of the route and to all traction station sites. The existing Transnet servitude roads will be utilised. Where new access roads will be made, guidelines as per the EMP will be strictly adhered to.

- **Project location**

The project runs south and west of Medupi Power Station near Lephalale to just north of Thabazimbi in the Limpopo Province. The route and traction stations fall within both the Lephalale and Thabazimbi Local Municipalities within the boundaries of the Waterberg District Municipality.

<b>Lephalale Traction Station</b> ○ Kromdraai 690-LQ	TOLQ 0001 00000690 00000
<b>Diepspruit Traction Station</b> ○ Diepspruit 386-LQ, Owner	TOLQ 0001 00000386 00000
<b>Matlabas Traction Station</b> ○ Portion 1 of Matsulan 98-KQ	TOKQ 0003 00000098 00001
<b>Marikele Traction Station</b> ○ Portion 1 of Kua Metswiri 597-KQ	TOKQ 0003 00000597 00000

- **Centre point coordinates of the Traction Stations**

Lephalale Traction Station	Diepspruit Traction Station	Matlabas Traction Station	Marakele Traction Station
23°43'25.82"S 27°31'14.56"E	23°57'22.21"S 27°23'34.80"E	24°13'17.97"S 27°27'2.96"E	24°28'58.15"S 27°26'51.37"E

## DEVELOPMENT FOOTPRINT SITE MAP

This section includes a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity maps were prepared from the national web based environmental screening tool: <https://screening.environment.gov.za/screeningtool>.

Sensitivity maps feature both within the planned working area and any known sensitive features within 50 m from the development footprint.

*Refer to Addenda B of this EMPr for the Screening Tool report as obtained from the website mentioned above.*

## DECLARATION

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in Part B: Section 1 of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 days prior to the date on which the activity will commence or commencement of construction to facilitate compliance inspections.

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Signature Proponent/applicant/ holder of EA

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Date

## AMENDMENTS TO SITE SPECIFIC INFORMATION (PART B; SECTION 2)

Should the EA be transferred to a new holder, Part B: Section 2 must be completed by the new holder and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted for an amendment to an environmental authorisation will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

# Appendix A: Substations

## Part C

### Site Specific Sensitivities / attributes

Specific environmental sensitivities/attributes which are present on the site and which require more specific impact management outcomes and actions are included in this section. These outcomes and actions are not covered in the generic EMPr template.

The management controls including impact management outcomes and impact management actions are presented in the format of the preapproved generic EMPr template.

Part C is submitted to the CA together with the BAR or EIA Report for consideration of, and decision on, the application for EA. Once approved, Part C forms part of the EMPr for the site and is legally binding.

#### Contact details of the EAP

Name of EAP : Landscape Dynamics Environmental Consultants  
: Susanna Nel & Annelize Grobler  
Tel No : 082 888 4060 & 082 566 4530  
E-mail address : info@landscapedynamics.co.za

#### Expertise of the EAP

Landscape Dynamics is an environmental consultancy firm established in May 1997. The main line of business since that time up to present is the compilation of environmental impact assessments. Landscape Dynamics has a broad client base from both the private and government sectors which has developed over the past 22 years of professional services supplied. The operating base for Landscape Dynamics is the entire South Africa; with local representation in Gauteng, the North West Province, Mpumalanga, the Western Cape, the Northern Cape and Limpopo. The Environmental Assessment Practitioners (EAPs) for this project are Ms Annelize Grobler and Ms Susanna Nel.

*Refer to Addenda A of this EMPr for a Company Profile and Curriculum Vitae's of the EAPs*



**1. Traction Station Site Selection: Impact on Fauna, Flora, Avifauna & Heritage**

**Impact Management Outcome:** The footprint of the substations is positioned in an environmentally friendly way to minimise impact on the natural and cultural environments of the area

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>The servitude area for the traction stations is 150m x 200m (3 hectares) but the physical footprint of the tractions sites will be considerable smaller. This area will allow for access roads (if and where required) and laydown areas during the construction period. All infrastructure and construction laydown areas must be taken place within this 150m x 300m block.</li> <li>An approximate 1km wide radius around the proposed sites was investigated by the specialist team and approved as part of the EA. Walk-downs by the ecologist, heritage- and avifauna specialists must be conducted after the Environmental Authorisation has been issued. This would ensure sensitive placement of infrastructure within the 1km wide radius as well as within the 3 hectare site. The purpose is to avoid as far as possible sensitive plant communities, large / protected trees, heritage sites and bird nesting areas.</li> </ul> <p>Should any Red Data species, and/or large raptors breeding in the vicinity of the final alignment be found, appropriate measures must be put in place to prevent the displacement of the breeding birds through the timing of construction activities.</p>						

<ul style="list-style-type: none"> <li>• Protected trees: <i>Sclerocarya birrea</i> (marula) and <i>Boscia albitrunca</i> (Shepperd's tree) <ul style="list-style-type: none"> <li>○ These trees present in certain places within the investigated areas. It plays an important role in the ecosystem by providing food, shelter and shade to various animal and bird species. It is therefore important that these trees are not unnecessarily removed from the ecosystem.</li> <li>○ The specialist must identify these trees as far as possible during the walk-down and ensure its protection where possible.</li> <li>○ The contractor must have the necessary knowledge to be able to identify these trees interfering with the operation of the line due to their height and growth rate.</li> <li>○ In terms of Section 15(1) of the National Forests Act, 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree, except under a license or exemption granted by the Minister to an applicant and subject to such period and conditions as may be stipulated. Trees are protected for a variety of reasons, and some species require strict protection while others require control over harvesting and utilization. The Department of Agriculture, Forestry and Fisheries (DAFF) will have to be approached to obtain the required permits for the removal of any protected tree species.</li> </ul> </li> </ul>					
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## 2. Traction Station Site Selection: Impact on landowners

### Impact Management Outcome:

The footprint of the traction stations is positioned whilst taking the landowner's concerns into consideration.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>Possible directly affected landowners were informed of the proposed traction station sites during the EIA process and an opportunity to object to the development proposal was provided. Objections were addressed to the satisfaction of all involved.</li> <li>However, the exact footprint of the traction stations must be discussed with each landowner to ensure sensitive placement and to lessen impact on the operations of the farm.</li> </ul>						

### 3. Birds

Impact Management Outcome: To minimise bird mortality due to electrocutions						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>• <i>Electrocution of avifauna</i> <ul style="list-style-type: none"> <li>○ The hardware of the infrastructure within the tracking station yards is too complex to warrant any mitigation for electrocution at this stage. It is rather recommended that if any impacts are recorded once operational, site specific mitigation be applied reactively.</li> </ul> </li> </ul>						

## **Appendix B: Overhead power lines**

### **Part B: Section 2**

### **Site Specific Information and Declaration**

#### **CONTACT DETAILS OF THE APPLICANT AND THE EAP**

##### **Contact details of the applicant**

Name of applicant : Eskom Holding SOC Limited  
Contact person : Mr Khathutshelo Nesindande  
Tel No : 015 299 0033 / 072 256 0787  
Fax No :  
E-mail address : NesindKR@eskom.co.za  
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##### **Contact details of the EAP**

Name of EAP : Landscape Dynamics Environmental Consultants  
: Susanna Nel & Annelize Grobler  
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##### **Expertise of the EAP**

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*Refer to Addenda A of this EMPr for a Company Profile and Curriculum Vitae's of the EAPs.*

## PROJECT INFORMATION

- **Project name**

Eskom Transnet Freight Rail Project

- **Description of the project**

The project entails the construction of

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  - Matlabas Traction – 2 x 1 km 132kV lines from the existing Medupi Thabazimbi line
  - Marekele Traction – 2x 2.5 km 132kV Lines from the existing Medupi Thabazimbi line

### Access roads

Access roads are available to most of the route and to all traction station sites. The existing Transnet servitude road will be utilised. Where new access roads will be made, guidelines as per the EMPr will be strictly adhered to.

- **Project location**

The project runs south and west of Medupi Power Station near Lephalale to just north of Thabazimbi in the Limpopo Province. The route and traction stations fall within both the Lephalale and Thabazimbi Local Municipalities within the boundaries of the Waterberg District Municipality.

Farm name and Portion number	SG21 Digit Code
Portion 1 of Naauw Ontkomen 509-LQ	TOLQ 0001 00000509 00001
Portion 0 of the farm Kuipersbult 511-LQ	TOLQ 0001 00000511 00000
Portion 1 of the farm Kuipersbult 511-LQ	TOLQ 0001 00000511 00001
Kromdraai 690-LQ	TOLQ 0001 00000690 00000
Eenzaamheid 687-LQ	TOLQ 0000 00000687 00000
Vergulde Helm 321-LQ,	TOLQ 0001 00000321 00000
Buffelsjagt 317-LQ,	TOLQ 0001 00000317 00000
Pontes Estates 712-LQ	TOLQ 0001 00000712 00000
Enkeldraai 314-LQ	TOLQ 0001 00000314 00000
Portion 1 of Geelhoutskloof 717-LQ,	TOLQ 0001 00000717 00001
The Remaining Extent Geelhoutskloof 717-LQ	TOLQ 0001 00000717 00000
Portion 1 of the farm Zandnek 358-LQ	TOLQ 0001 00000358 00001
Portion 2 of the farm Loopleegte 302	TOLQ 0000 00000302 00002
Zandbult 300-LQ	TOLQ 0001 00000300 00000
Portion 2 of the farm Vangpan 294-LQ	TOLQ 0001 00000294 00002
Remainder of the farm Vangpan 294-LQ	TOLQ 0001 00000294 00000

- **Coordinates of the power line route**

The 250m coordinates are provided as Addenda E6.

## **DEVELOPMENT FOOTPRINT SITE MAP**

This section includes a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity maps were prepared from the national web based environmental screening tool: <https://screening.environment.gov.za/screeningtool>.

Sensitivity maps feature both within the planned working area and any known sensitive features within 50 m from the development footprint.

*Refer to Addenda C of this EMPr for the Screening Tool report as obtained from the website mentioned above.*

## **DECLARATION**

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in Part B: Section 1 of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 days prior to the date on which the activity will commence or commencement of construction to facilitate compliance inspections.

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Signature Proponent/applicant/ holder of EA

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Date

## **AMENDMENTS TO SITE SPECIFIC INFORMATION (PART B; SECTION 2)**

Should the EA be transferred to a new holder, Part B: Section 2 must be completed by the new holder and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted for an amendment to an environmental authorisation will be considered to be incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

## Appendix B: Overhead power lines

### Part C

#### Site Specific Sensitivities / Attributes

Specific environmental sensitivities/attributes which are present on the site and which require more specific impact management outcomes and actions are included in this section. These outcomes and actions are not covered in the generic EMPr template.

The management controls including impact management outcomes and impact management actions are presented in the format of the preapproved generic EMPr template.

Part C is submitted to the CA together with the BAR or EIA Report for consideration of, and decision on, the application for EA. Once approved, Part C forms part of the EMPr for the site and is legally binding.

#### Contact details of the EAP

Name of EAP : Landscape Dynamics Environmental Consultants  
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*Refer to Addenda A of this EMPr for a Company Profile and Curriculum Vitae's of the EAPs*



1. Power line tower positions: Impact on Fauna, Flora, Avifauna & Heritage

**Impact Management Outcome:** The footprint of the towers is positioned in an environmentally friendly way in order to minimise impact on the natural and cultural environments of the area

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>• A 1km wide corridor was investigated by the specialist team and approved as part of the EA. Walk-downs by the ecologist, heritage- and avifauna specialist must be conducted after the EA has been issued. This would ensure sensitive placement of infrastructure within the corridor. The purpose is to avoid as far as possible sensitive plant communities, large / protected trees, heritage sites and bird nesting areas.</li> </ul> <p>Should any Red Data species, and/or large raptors breeding in the vicinity of the final alignment be found, appropriate measures must be put in place to prevent the displacement of the breeding birds through the timing of construction activities.</p> <ul style="list-style-type: none"> <li>• Protected tree <i>Sclerocarya birrea</i> (marula)               <ul style="list-style-type: none"> <li>○ This tree is present in certain areas of the corridor. It plays an important role in the ecosystem by providing food, shelter and shade to various animal and bird species. It is therefore important that these trees are not unnecessarily removed from the ecosystem.</li> <li>○ The specialist must identify these trees as far as possible during the walk-down and ensure its protection where possible.</li> </ul> </li> </ul>						

<ul style="list-style-type: none"> <li>○ The contractor must have the necessary knowledge to be able to identify the protected tree <i>Sclerocarya birrea</i> interfering with the operation of the line due to their height and growth rate.</li> <li>○ In terms of Section 15(1) of the National Forests Act, 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree, except under a license or exemption granted by the Minister to an applicant and subject to such period and conditions as may be stipulated. Trees are protected for a variety of reasons, and some species require strict protection while others require control over harvesting and utilization. The Department of Agriculture, Forestry and Fisheries (DAFF) will have to be approached to obtain the required permits for the removal of any protected tree species.</li> </ul>						
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## 2. Power line tower positions: Impact on landowners

### Impact Management Outcome:

The footprint of the power line towers is positioned whilst taking the landowner's concerns into consideration.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>Possible directly affected landowners were informed of the proposed route during the EIA process and an opportunity to object to the development proposal was provided. Objections were addressed to the satisfaction of all involved.</li> <li>However, the exact footprint of the towers must be discussed with each landowner to ensure sensitive placement and to lessen impact on the operations of the farm. Insensitive placement could also have a negative visual impact which can be easily avoided during discussions with the landowners.</li> </ul>						

### 3. Birds

Impact Management Outcome: To minimise bird mortality due to collisions and electrocutions						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>• <b>Electrocution of avifauna</b> <ul style="list-style-type: none"> <li>○ The steel monopole must be fitted with a bird perch to provide a safe perching area on top of the pole for large raptors and vultures (see Appendix 2 in the Bird Impact Assessment Report).</li> </ul> </li> <li>• <b>Avifaunal mortality due to collisions with the earthwire of the proposed power lines</b> <ul style="list-style-type: none"> <li>○ High risk sections of power line must be identified by a qualified avifaunal specialist during the walk through phase of the project once the alignment has been finalised. If power line marking is required (i.e. in agricultural clearings and close to waterbodies) bird flight flappers must be installed on the full span length on each of the conductors (according to Eskom guidelines - five metres apart). Light and dark colour devices must be alternated so as to provide contrast against both dark and light backgrounds respectively. These devices must be installed as soon as the conductors are strung.</li> </ul> </li> </ul>						

#### 4. Bush clearing for maintenance purposes

Impact Management Outcome: Sensitive and minimal bush clearing for maintenance purposes						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> <li>• All permit and landowner conditions shall be adhered to.</li> <li>• Bush clearing must be undertaken with the knowledge of the landowner.</li> <li>• Under no circumstances shall natural vegetation (veld), forests or protected vegetation be removed, harvested, mowed, brush-cut or altered in any way without a permit (where applicable).</li> <li>• Only selective bush clearing is allowed: only vegetation which interferes with the safe operation of the power line or where the height exceeds the requirements as set by the Electrical Machinery Regulations and the Occupational Health and Safety (OHS) Act may be trimmed / removed in agreement with the landowner.</li> <li>• No damage or destruction of vegetation shall be permitted outside the footprint of the line servitude.</li> <li>• No plant material may be removed if not part of identified vegetation clearance.</li> <li>• No scalping shall be allowed on any part of the servitude unless absolutely necessary. Smaller vegetation can be flattened with a machine, but the blade should be kept above ground level to prevent scalping.</li> </ul>						

<ul style="list-style-type: none"> <li>• Bush clearing must be done in accordance with the Vegetation Clearance and Maintenance within Overhead Power line Servitudes and on Eskom Owned Land procedure (EPC 32-247).</li> <li>• Bush clearing is not allowed on river- and stream banks (riparian vegetation).</li> <li>• Bush cuttings shall not be burned. Unwanted cuttings shall be removed and disposed of at a registered waste site and such records kept on file.</li> <li>• The maintenance contractor must have the necessary knowledge to be able to identify protected species in the area as well indigenous species not interfering with the operation of the line due to their height and growth rate.</li> </ul>						
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