



**Basic Assessment Report for the proposed construction of the Victor +/- 1km 132kv power line and construction of the Victor switching station within Greater Tubatse Local Municipality in Limpopo Province.**

**DEA REF: 14/12/16/3/3/1/863  
NEAS REF: DEA/EIA/0001482/2012**

**Final Report**

**September 2013**

Final Basic Assessment Report for the proposed construction of the victor +/- 1km 132kv power line and construction of the Victor switching station.

## September 2013

Prepared by: Tebogo Kodibona

External Review: DEA

*For and on behalf of  
Nzumbululo Sustainability, Energy and  
Environment (SEE).*

*Approved by: Nonhlanhla Ncube*

*Signed:*

*Position: Senior Environmental Officer*

*Date: September 2013*

This report has been prepared by Nzumbululo Sustainability Energy and Environment the trading name of Nzumbululo (Pty) Limited, one of the few consultancies able to combine natural, cultural and social environmental expertise under a one-stop consultancy supported by local expertise and knowledge with sub-Saharan regional reach and experience.

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## REPORT DETAILS

**PROJECT NAME:** PROPOSED CONSTRUCTION OF THE VICTOR +/- 1KM 132KV POWER LINE AND CONSTRUCTION OF THE VICTOR SWITCHING STATION IN LIMPOPO PROVINCE.

**REPORT TITLE:** FINAL BASIC ASSESSMENT REPORT PROPOSED CONSTRUCTION OF THE VICTOR +/- 1KM 132KV POWER LINE AND CONSTRUCTION OF THE VICTOR SWITCHING STATION IN LIMPOPO PROVINCE.

**AUTHOR:** TEBOGO KODIBONA

**SIGNATURE:**

**CHECKED BY:**

**SIGNATURE:**

**CLIENT** N/A

**REFERENCE NO. HESSA**

**REFERENCE NO. DEA** 14/12/16/3/3/1/863

**REFERENCE NO. STATUS OF THE REPORT:** FINAL REPORT

**FIRST ISSUE:** SEPTEMBER 2013

P.S.P

APPROVED FOR PSP BY HEAD OF DEPARTMENT:

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DATE: SEPTEMBER 2013

REVISION	DATE	REASON FOR CHANGE
001	15/05/13	DRAFT
002	26/08/13	FINAL

## CAVEAT

FINAL BASIC ASSESSMENT REPORT FOR THE PROPOSED CONSTRUCTION OF THE VICTOR +/- 1KM 132KV POWER LINE AND CONSTRUCTION OF THE VICTOR SWITCHING STATION WITHIN GREATER TUBATSE LOCAL MUNICIPALITY OF SEKHUKHUNE DISTRICT, LIMPOPO PROVINCE.

**AUTHORSHIP:** THIS BASIC ASSESSMENT REPORT HAS BEEN PREPARED BY NZUMBULULO HERITAGE SOLUTIONS FOR ESKOM. THE REPORT IS FOR PUBLIC REVIEW AND SUBSEQUENT PROCESSING BY THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS (DEA).

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**GEOGRAPHIC CO-ORDINATE INFORMATION:** GEOGRAPHIC CO-ORDINATES IN THIS REPORT WERE OBTAINED USING A HAND-HELD GARMIN GLOBAL POSITIONING SYSTEM DEVICE. THE MANUFACTURER STATES THAT THESE DEVICES ARE ACCURATE TO WITHIN +/- 5 M.

**MAPS:** MAPS INCLUDED IN THIS REPORT USE DATA EXTRACTED FROM THE NTS MAP AND GOOGLE EARTH PRO.

**DISCLAIMER:** THE AUTHOR IS NOT RESPONSIBLE FOR OMISSIONS AND INCONSISTENCIES THAT MAY RESULT FROM INFORMATION NOT AVAILABLE AT THE TIME THIS REPORT WAS PREPARED.

SIGNED BY ENVIRONMENTAL PRACTITIONER:

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T. KODIBONA  
SEPTEMBER 2013

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## SUMMARY AND PROJECT OVERVIEW

Eskom seeks to optimise the provision of electricity within the Greater Tubatse Local Municipality by proposing to construct the Victor +/- 1km 132kv power line and construction of the Victor switching station within Greater Tubatse Local Municipality, Limpopo Province.

This Basic Assessment Report (BAR) is part of an application for an Environmental Authorisation for the proposed construction of the switching station and associated power line. In terms of section 24 and 24D of the National Environmental Management Act (Act No 107 of 1998) as read with the Government Notice R543 (Regulation 20-25) and R544 of the Environmental Impact Assessment Regulations of 2010 as amended, a Basic Assessment process is required to be undertaken for the construction of: the Victor switching station, 132kv power line and the construction of the access of the access road and is listed as follows:

**Activity 10:** The construction of facilities or infrastructure for the transmission and distribution of electricity:

- (i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275kilovolts or
- (ii) Inside urban areas or industrial complexes with a capacity of 275kilovolts or more.

Therefore, Eskom requires authorisation from DEA (in consultation with the Limpopo Department of Economic Development, Environment and Tourism) for the undertaking of the proposed substation development. This project has been registered with the National DEA under reference number 14/12/16/3/3/1/863.

Eskom has appointed Nzumbululo as independent environmental consultants, to undertake an Environmental Assessment in the form of a Basic Assessment to identify and assess all potential environmental Impacts associated with the proposed Victor switching station and power line project. As part of this environmental study, I&APs are involved through a public involvement process.

## **REVIEW OF THE DRAFT BASIC ASSESSMENT REPORT**

The draft BAR was made available for public review and comment and was distributed at following locations from the 5<sup>th</sup> of July to the 16<sup>th</sup> of August 2013:

- Greater Tubatse Local Municipality Library
- Sekhukhune District Municipality
- Limpopo Department of Economic Development Tourism and Environmental Affairs
- Department of Water Affairs
- Department of Environmental Affairs
- Department of Land Affairs
- Department of Agriculture & Forestry
- Mampuru Traditional Authority
- Eastplats Mine
- Xstrata Mine

Written comments were invited to be submitted to Nzumbululo no later than the 16<sup>th</sup> of August 2013. All comments received are included in the Final Basic Assessment Report.



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

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### Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.



11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

**16. Section A: Activity information**

Has a specialist been consulted to assist with the completion of this section?	YES	NO ✓
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If YES, please complete the form entitled “Details of specialist and declaration of interest” for the specialist appointed and attach in Appendix I.

**Project Description**

**a) Describe the project associated with the listed activities applied for**

The proposed construction of the Victor +/- 1km 132kv power line and the construction of the Victor switching station. The detailed description is as follows:

**132 kV FEEDER BAY**

- ❖ Install the following for 132kV incoming line.
  - 3 x132kV 6m Terminal structures
  - 3x132kV Isolator with 3 x S.ARR
  - 3 x 132kV CTs
  - 3x 132kV Breaker

**Construct 2 x bay,132kV TUBULAR B/B**

- with 6 x 132kV VTs and 4 X Bus section isolators

**Civil work to be done for the switching station**

- Control room
- Palisade fence
- Yard stoning
- 4x 21m Lighting & Lightning Mast

**b) Provide a detailed description of the listed activities associated with the project as applied for**

Listed activity as described in GN R.544, 545 and 546	Description of project activity
<b>Example:</b> <i>GN R.544 Item 11(3): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a</i>	<i>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</i>

<p><b><i>watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i></b></p>	
<p>GN R.544 Item 10: The construction of facilities or infrastructure for the transmission and distribution of electricity (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts or (ii) Inside urban areas or industrial complexes with a capacity of 275kilovolts or more.</p>	<p>The construction of 132kV power line and Victor switching station.</p>

**FEASIBLE AND REASONABLE ALTERNATIVES**

**“alternatives”**, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

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The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

**a) Site alternatives**

<b>Alternative 1 (preferred alternative)</b>		
Description:	Lat (DDMMSS)	Long (DDMMSS)
One site was identified as the possible locality for the new switching station. The preferred site for the Victor switching station is situated on the Xstrata mine boundary.	S24 48' 35.00"	E030 06' 43.30"
<b>Alternative 2</b>		
Description:	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2 for the new proposed switching station site is situated in the Eastplats mine boundary.	S24 48' 33.93"	E030 06' 35.50"
<b>Alternative 3</b>		
Description		

In the case of linear activities:  
**Victor 132kV +/-1km power line**

<b>Alternative:</b>	<b>Latitude (S):</b>	<b>Longitude (E):</b>
Alternative S1 (preferred)		
• Starting point of the activity	S24 48' 35.26"	E030 06' 42.89"
• Middle/Additional point of the activity	S24 48' 28.38"	E030 06' 27.18"
• End point of the activity	S24 48' 18.81"	E030 06' 18.30"
Alternative S2 (if any)		
• Starting point of the activity	S24 48' 33.93"	E030 06' 42.89"
• Middle/Additional point of the activity	S24 48' 27.48"	E030 06' 24.22"
• End point of the activity	S24 48' 18.81"	E030 06' 18.30"
Alternative S3 (if any)		
• Starting point of the activity		

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• Middle/Additional point of the activity		
• End point of the activity		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

**b) Lay-out alternatives**

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

**c) Technology alternatives**

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

**d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)**

Alternative 1 (preferred alternative)		
Alternative 2		
Alternative 3		

**e) No-go alternative**

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Paragraphs 3 – 13 below should be completed for each alternative.

**1 Physical size of the activity**

**a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):**

Alternative: Victor switching Station		Size of the activity:
Alternative A1 <sup>1</sup> (preferred activity alternative)		10000m <sup>2</sup>
Alternative A2 (if any)		10000m <sup>2</sup>
Alternative A3 (if any)		m <sup>2</sup>

or, for linear activities:

Alternative: Victor-power line		Length of the activity:
Alternative A1 (preferred activity alternative)		+/-1000m
Alternative A2 (if any)		+/-1000m
Alternative A3 (if any)		M

**b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):**

Alternative:		Size of the site/servitude:
Alternative A1 (preferred activity alternative)		31m <sup>2</sup>
Alternative A2 (if any)		31m <sup>2</sup>
Alternative A3 (if any)		m <sup>2</sup>

**1 Site Access**

Does ready access to the site exist?	YES ✓	NO
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<sup>1</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

The site can be accessed via an entrance directly off the R555 Steelpoort road.		
If NO, what is the distance over which a new access road will be built		M

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

### 1 LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

### 1 LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;

- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

## **2 Sensitivity map**

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

## **2 SITE PHOTOGRAPHS**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

## **1 FACILITY ILLUSTRATION**

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.



**1 ACTIVITY MOTIVATION**

Motivate and explain the need and desirability of the activity (including demand for the activity):

<b>1. Is the activity permitted in terms of the property's existing land use rights?</b>	YES✓	NO	Please explain
<b>2. Will the activity be in line with the following?</b>			
<b>(a) Provincial Spatial Development Framework (PSDF)</b>	YES✓	NO	Please explain
<b>(b) Urban edge / Edge of Built environment for the area</b>	YES	NO✓	Please explain
<b>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</b>	YES✓	NO	Please explain
There is a significant backlog in economic infrastructure in Greater Tubatse. Of particular concern, is the electrical connectivity, is inadequate, particularly for residential use. Greater Tubatse Local Municipality is currently facing challenges with electricity and has a backlog in housing connections.			
<b>(d) Approved Structure Plan of the Municipality</b>	YES	NO✓	Please explain
The project is Eskom's initiative.			
<b>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</b>	YES	NO✓	Please explain
<b>(f) Any other Plans (e.g. Guide Plan)</b>	YES	NO✓	Please explain

<p><b>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p>The Municipality has backlogs in electricity connections.</p>			
<p><b>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p><b>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>Eskom will provide for services such as water and use of generators will be used for electricity.</p>			
<p><b>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p>The Municipality is not licensed to supply electricity. All electrification projects that are implemented by the Municipality are ceded to Eskom for operation and maintenance.</p>			

<p><b>7. Is this project part of a national programme to address an issue of national concern or importance?</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p>According to the NDP for 2030, South Africa aims to have adequate supplies of electricity and liquid fuels to avoid disruptions to economic activity, transport and welfare. In addition more than 95% of the population should enjoy access to electricity within 20 years. Hence, this project is adding to the electricity network within the country.</p>			
<p><b>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p>The proposed line will be parallel to existing power lines</p>			
<p><b>9. Is the development the best practicable environmental option for this land/site?</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p>The proposed line will be parallel to existing power lines.</p>			
<p><b>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p><b>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b></p>	<p>YES</p>	<p>NO✓</p>	<p>Please explain</p>
<p><b>12. Will any person's rights be negatively affected by the proposed activity/ies?</b></p>	<p>YES</p>	<p>NO✓</p>	<p>Please explain</p>
<p>The application was advertised and public participation processes were undertaken and every effort should be made to address and/or mitigate impacts on individual rights if there were any.</p>			
<p><b>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b></p>	<p>YES</p>	<p>NO✓</p>	<p>Please explain</p>
<p>The proposed development is situated outside the urban edge.</p>			
<p><b>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</b></p>	<p>YES✓</p>	<p>NO</p>	<p>Please explain</p>
<p>Expansion of electrical infrastructure.</p>			

<p><b>15.What will the benefits be to society in general and to the local communities?</b></p>	<p>Please explain</p>
<p>The reliable electricity supply will open doors to new industries and increase sustainability of existing industries within the general the affected area. The power line will result in an increase of available power supply in the area, which will in turn stimulate growth in the area. Also in the event of a fault on one power line the switching station is needed to be able to isolate (switch off) a route for maintenance work that cannot be done while the cables and lines are hot, this ensures that power is not lost in the whole area.</p>	
<p><b>16.Any other need and desirability considerations related to the proposed activity?</b></p>	<p>Please explain</p>
<p>Jane Furse and Uchoba substation are supplied through 132kV Wolf line through a T-Off situated 16.86km away from Merensky. During fault conditions both substations are disconnected. It is difficult to trace a fault as the line is only protected at Merensky and it is difficult to locate on which T-Off the fault is located. Jane Furse substation has more than 50 000 customers and during a total substation shutdown, Switching station will also serve as a power transfer point for new customers in the surrounding area. Electricity load and supply will be improved, the better the supply also minimising number of customers affected when line trips.</p>	
<p><b>17.How does the project fit into the National Development Plan for 2030?</b></p>	<p>Please explain</p>
<p>According to the NDP for 2030, South Africa aims to have adequate supplies of electricity and liquid fuels to avoid disruptions to economic activity, transport and welfare. In addition more than 95% of the population should enjoy access to electricity within 20 years. Hence, this project is adding to the electricity network within the country.</p>	

**18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.**

By identification, prediction and evaluating the actual and potential impact on the environment. Socio-economic conditions and cultural heritage. The risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impacts. Maximizing benefits and promoting compliance with the principles environmental management set out in NEMA.

**19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.**

By identification and anticipation of all possible negative impacts on the environment and on people's environmental and providing possible mitigation measures for such impacts.

## 1 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

<b>Title of legislation, policy or guideline:</b>	<b>Administering authority:</b>	<b>Date:</b>
National Environmental Management Act EIA	National and Provincial	National and Provincial 18 June 2010
National Veld and Forest Fire Act	National and Provincial	27 November 1998
National Forest Act	National and Provincial	30 October 1998
Advertising on Roads and Ribbon Development Act	National and Provincial	43 of 1983
Conservation of Agricultural Resources Act	National and Provincial	21 April 1983
Agricultural Pests Act	National and Provincial	13 April 1983

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National Environmental Management Act	National and Provincial	18 June 2010
Environment Conservation Act	National and Provincial	9 June 1989
Fencing Act	National and Provincial	27 April 1963
Hazardous Substances Act	National and Provincial	26 March 1973
Health Act	National and Provincial	18 July 2004
National Roads Act	National and Provincial	1 October 1971
Occupational Health and Safety Act	National and Provincial	23 June 1993
National Heritage Resources Act	National and Provincial	28 April 1999
National Water Act	National and Provincial	20 August 1998
Traditional Authority Act and Community Authority	National and Provincial	23 of 1978

**1 Waste, effluent, emission and noise management**

**a) Solid waste management**

Will the activity produce solid construction waste during the construction/initiation phase?	YES ✓	NO
If YES, what estimated quantity will be produced per month?	Unknown (m <sup>3</sup> )	

How will the construction solid waste be disposed of (describe)?

Waste will be extracted by a waste disposal truck and transported the closest registered landfill site. The integrated waste management strategy which relies on handling waste in a four pronged approach: waste minimisation, recycling (including composting), Energy Recovery, and finally as a last resort, landfill should be considered.

Where will the construction solid waste be disposed of (describe)?

Waste will be disposed of at the nearest registered landfill site.

Will the activity produce solid waste during its operational phase?	YES	NO ✓
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If YES, what estimated quantity will be produced per month?	m <sup>3</sup>
How will the solid waste be disposed of (describe)?	
N/A	
If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.	
N/A	
Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?	
N/A	
If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.	

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?	YES	NO✓
If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.		

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO✓
If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.		

**b) Liquid effluent**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO✓
If YES, what estimated quantity will be produced per month?	m <sup>3</sup>	
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	NO✓
<i>If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.</i>		

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Will the activity produce effluent that will be treated and/or disposed of at another facility?		YES	NO✓
If YES, provide the particulars of the facility:			
Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

None
------

**c) Emissions into the atmosphere**

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?	YES	NO✓
If YES, is it controlled by any legislation of any sphere of government?	YES	NO✓
If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		
If NO, describe the emissions in terms of type and concentration:		
Potential sources of fugitive dust emissions although negligible will include dust from untarred access roads, emission of exhaust gases from construction vehicles and machinery.		

**d) Waste permit**

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	YES	NO✓
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If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

**e) Generation of noise**

Will the activity generate noise?	YES✓	NO
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If YES, is it controlled by any legislation of any sphere of government?	YES	NO✓
If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		
If NO, describe the noise in terms of type and level:		
Minimal noise will emanate from construction machinery and vehicles.		

**1 WATER USE**

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other✓	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	Litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES	NO✓
If YES, please provide proof that the application has been submitted to the Department of Water Affairs.		

**1 ENERGY EFFICIENCY**

Describe the design measures, if any that have been taken to ensure that the activity is energy efficient:

None
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Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Use of solar heating and low voltage globes.
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**SECTION B: SITE/AREA/PROPERTY DESCRIPTION**

**Important notes:**

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g.  A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?	YES	NO <sup>v</sup>
If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.		

<b>Property description/physical address:</b>	<b>Province</b>	Limpopo Province
	<b>District Municipality</b>	Sekhukhune District Municipality
	<b>Local Municipality</b>	Greater Tubatse Local Municipality
	<b>Ward Number(s)</b>	N/A
	<b>Farm name and number</b>	Victor Switching station and power line <ul style="list-style-type: none"> <li>• S Kennedys' vale, 361 KT</li> <li>• Spitskop, 333 KT</li> <li>• Boschkloof, 331 KT</li> </ul>
	<b>Portion number</b>	N/A
	<b>SG Code</b>	TOKT00000000036100000 TOKT00000000033300000 TOKT00000000033100001
	Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.	
<b>Current land-use zoning as per local municipality IDP/records:</b>	Cultivated.	

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	In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.
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Is a change of land-use or a consent use application required?	YES	NO✓
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**1 GRADIENT OF THE SITE**

Indicate the general gradient of the site.

**Alternative S1:**

Flat✓	1:50	–	1:20	–	1:15	–	1:10	–	1:7,5	–	Steeper than 1:5
	1:20✓		1:15✓		1:10		1:7,5		1:5		

**Alternative S2 (if any):**

Flat	1:50	–	1:20	–	1:15	–	1:10	–	1:7,5	–	Steeper than 1:5
	1:20✓		1:15✓		1:10		1:7,5		1:5		

**Alternative S3 (if any):**

Flat	1:50	–	1:20	–	1:15	–	1:10	–	1:7,5	–	Steeper than 1:5
	1:20		1:15		1:10		1:7,5		1:5		

**1 LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site:

2.1 Ridgeline		2.4 Closed valley		2.7 Undulating plain / low hills	✓
2.2 Plateau		2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain		2.6 Plain	✓	2.9 Seafront	

**1 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following?

**Victor Switching station**

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
	YES	NO✓	YES	NO✓	YES	NO
Shallow water table (less than 1.5m deep)	YES	NO✓	YES	NO✓	YES	NO
Dolomite, sinkhole or doline areas	YES	NO✓	YES	NO✓	YES	NO

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Seasonally wet soils (often close to water bodies)	YES	NO✓	YES	NO✓	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO✓	YES	NO✓	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO✓	YES	NO✓	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO✓	YES	NO✓	YES	NO
Any other unstable soil or geological feature	YES✓	NO	YES	NO✓	YES	NO
An area sensitive to erosion	YES✓	NO	YES	NO✓	YES	NO✓

**Victor +/-1km 132kV power line,**

	<b>Alternative S1:</b>		<b>Alternative S2 (if any):</b>		<b>Alternative S3 (if any):</b>	
Shallow water table (less than 1.5m deep)	YES	NO✓	YES	NO✓	YES	NO
Dolomite, sinkhole or doline areas	YES	NO✓	YES	NO✓	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO✓	YES	NO✓	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO✓	YES	NO✓	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO✓	YES	NO✓	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO✓	YES	NO✓	YES	NO
Any other unstable soil or geological feature	YES	NO✓	YES	NO✓	YES	NO
An area sensitive to erosion	YES	NO✓	YES	NO✓	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

**1 GROUNDCOVER**

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

The Sekhukhune Plains Bushveld is known for its complex geology consisting of the Rustenburg Layered Suite on the eastern lobe of the Bushveld Igneous Complex. The zones are dominated by belts of norite, gabbro, anorthosite and pyroxenite with localised protrusions of magnetite, chromitite, serpentinitised, harzburgite, olvine diorite, shale, dolomite and quartzite. The deep, loamy Valsriver soils are found on the plains, while the shallow Glenrosa soils are characteristic of the low-lying, rocky hills (Mucina and Rutherford, 2006). The vegetation is mainly used for grazing and browsing domestic livestock, primarily cattle and goats, although crops (mainly sorghum) play a very important role in subsistence agricultural production in some areas.

Natural veld - good condition <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure <sup>v</sup>	Bare soil <sup>v</sup>

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

**1 SURFACE WATER**

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO <sup>v</sup>	UNSURE
Non-Perennial River	YES <sup>v</sup>	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE

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Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO✓	UNSURE
Estuarine / Lagoonal wetland	YES	NO✓	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

There is Steelpoort River is situated to the northwest of the proposed switching station. The proposed power line will cross over the Steelpoort River .

**1 LAND USE CHARACTER OF SURROUNDING AREA**

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area✓: The proposed routes will traverse areas made up of natural vegetation and features such as ridges.	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station <sup>H</sup>
Medium density residential	School:	Landfill or waste treatment site
High density residential:	Tertiary education facility	Plantation:
Informal residential <sup>A</sup>	None	Agriculture:
Retail commercial & warehousing	Old age home	River, stream or wetland: There is Steelpoort River within the study area.
Light industrial	Sewage treatment plant <sup>A</sup>	Nature conservation area
Medium industrial <sup>AN</sup>	Train station or shunting yard <sup>N</sup>	Mountain, koppie or ridge:
Heavy industrial <sup>AN</sup>	Railway line <sup>N</sup>	Museum
Power station	Major road (4 lanes or more) <sup>N</sup>	Historical building
Office/consulting room	Airport <sup>N</sup>	Protected Area
Military or police base/station/compound	Harbour	Graveyard

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Spoil heap or slimes dam <sup>A</sup>	Sport facilities	Archaeological site
Quarry, sand or borrow pit <sup>V</sup>	Platinum and chrome mines Xstrata and East plats mines	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO <sup>V</sup>
Core area of a protected area?	YES	NO <sup>V</sup>
Buffer area of a protected area?	YES	NO <sup>V</sup>
Planned expansion area of an existing protected area?	YES	NO <sup>V</sup>
Existing offset area associated with a previous Environmental Authorisation?	YES	NO <sup>V</sup>
Buffer area of the SKA?	YES	NO <sup>V</sup>

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

**1 CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO
	Uncertain	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

**Alternative 1** as well as **Alternative 2** for the proposed Victor Switching Station revealed the presence of scattered, isolated occurrences of MSA tools as well as the presence of scattered, isolated occurrences of undecorated potsherds and stone artefacts (such as lower grinding stones and grinders or hammer stones) which date from the Late Iron Age and/or Historical Period.

These remains have low significance, do not warrant further investigation or any mitigation measures due to the limited nature of the remains. The widely scattered nature of the remains will also ensure that some will survive unaffected beyond the Eskom Project Area.

Both Alternative 1 and Alternative 2 for the Victor Switch Station are therefore considered to be suitable from a heritage point of view for the Eskom Project

Will any building or structure older than 60 years be affected in any way?	YES	NO ✓
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO ✓
If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.		

## 1 SOCIO-ECONOMIC CHARACTER

### a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Greater Tubatse Local Municipality is one of the Municipalities within Sekhukhune District with high unemployment rate.

Economic profile of local municipality:

Greater Tubatse Municipality has significant mining and manufacturing (ferro-chrome smelting) sectors, but unemployment is still considerably



above the provincial average. Information from media releases suggest that new mining developments that have already been announced could reduce unemployment from 73% (expanded unemployment rate definition) According to the Greater Tubatse Municipality 2010/11 IDP in 2001 to 44% in 2010. Further reduction in the unemployment rate will depend on effective intervention by public sector institutions to facilitate economic sector diversification through competitive cluster value-chain development. This implies upstream development in the manufacturing and trade sectors to provide essential items in the mining supply chain by local entrepreneurs.

Level of education:

According to the Greater Tubatse Municipality 2010/11 IDP, Generally in rural or semi-rural areas such as this, the predominance of primary schools is not unusual as many pupils leave school at the earliest possible time to find employment to assist and support the family. The privileged scholars, who can afford to further their education, either attend the secondary schools in the area or secondary schools located in larger towns outside the area. There are no tertiary education facilities like Technikons and Universities in the areas of GTM. Plans are underway to develop a Technical high school by the Mining houses in consultation with the Municipality and the Limpopo Provincial Department of education.

**b) Socio-economic value of the activity**

What is the expected capital value of the activity on completion?	R40,323,335.00
What is the expected yearly income that will be generated by or as a result of the activity?	R At this stage it is undetermined
Will the activity contribute to service infrastructure?	YES√ NO
Is the activity a public amenity?	YES NO√
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	At this stage it is undetermined but during construction, preference will be given to the affected community
What is the expected value of the employment opportunities during the development and construction phase?	Not yet determined.

What percentage of this will accrue to previously disadvantaged individuals?	Not yet determined at this stage %
How many permanent new employment opportunities will be created during the operational phase of the activity?	Not yet determined at this stage.
What is the expected current value of the employment opportunities during the first 10 years?	R Not yet determined at this stage %
What percentage of this will accrue to previously disadvantaged individuals?	% Not yet determined at this stage but Eskom BEE and Affirmative action policies will be enforced

## 1 BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or [BGIShelp@sanbi.org](mailto:BGIShelp@sanbi.org). Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

- a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)✓	No Natural Area Remaining (NNR)✓	

**b) Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	5%	Natural features include kopjes, streams, vegetation and wetlands.
Near Natural (includes areas with low to moderate level of alien invasive plants)	10%	
Degraded (includes areas heavily invaded by alien plants)	35%	Some areas are degraded due to human activities such as wood harvesting, grazing and also have the presence of alien plants.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	50%	Most of the study area is made up of Mines and grazing land.

**c) Complete the table to indicate:**

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including Steelpoort River, )			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened							
		YES/	NO	UNSURE	YES	NO	YES	NO

**d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity**

**features/information identified on site (e.g. threatened species and special habitats)**

The vegetation unit is well represented in the Limpopo Province, mostly occurring in lower river basins and plains at an altitude mostly between 700 -1 100 m. The area is mainly semi-arid plains with open valleys associated with the small hills and mountains running parallel to the larger escarpment mountains. Predominantly found is closed thornveld with a variety of Aloes and other succulents. Erosion dongas is prominent in the clay rich soils of the area (Mucina and Rutherford, 2006).

**SECTION C: PUBLIC PARTICIPATION**

**1 ADVERTISEMENT AND NOTICE**

<b>Publication name</b>	Platinum gazette	
<b>Date published</b>	03 May 2013	
<b>Site notice position</b>	<b>Latitude</b>	<b>Longitude</b>
	S24° 48' 16.55"	E030° 05' 59.81"
	S24° 48' 16.78"	E030° 50' 50.73"
	S24° 49' 01.25"	E030° 06' 42.11"
<b>Date placed</b>	22 May 2013	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

**1 DETERMINATION OF APPROPRIATE MEASURES**

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543.

- Distribution of BID's.
- Advertising of the proposed project in the local newspaper.
- Meetings with the Mampuru Traditional Council.
- Meetings with Mine Authorities
- Putting up on site notices on various locations within the study area.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

<b>Title, Name and Surname</b>	<b>Affiliation/ key stakeholder status</b>	<b>Contact details (tel number or e-mail address)</b>
Chief Mampuru	Mampuru Traditional Council	013 264 0103
Mr Jaco Swanepoel Admin Manager	Xstrata Mine	013 230 5052
Head of security	Eastplats Mine	

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;

- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

## 1 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
Please refer to the PPP appendix E	

## 1 COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

## 1 AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Greater Tubatse Local Municipality	Moses Mosoma	013 231 1197	013 231 1000	<a href="mailto:mnmosoma@tubatse.gov.za">mnmosoma@tubatse.gov.za</a>	P.O. Box X206 Burgersfort 1150
Limpopo Department of Economic Development Environment and Tourism	Tlhagali Ngoasheng	015 290 7058	015 295 5015	<a href="mailto:ngoashengtr@ledet.gov.za">ngoashengtr@ledet.gov.za</a>	P.O. Box 55464 Polokwane 0700
Department of Rural Development and Land Reform	M. Makama	015 287 2600			Private Bag x9312 Polokwane 0700
Department of Agriculture and Forestry	M.J Malema	015 294 3558			
Department of Water Affairs	T.S. Mnisi	015 290			

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		1240			
Sekhukhune District Municipality	Mrs. Masemola	0153 262 7300			Private Bag X8611 Grobelrsdal 0470
South African Heritage Resources Agency (SARHA)	Mr Phillip Hine	021 462 4502			P.O Box 4637 Cape Town 8000

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

### **1 CONSULTATION WITH OTHER STAKEHOLDERS**

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

## SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### **1 IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES**

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

#### **PLANNING AND DESIGN PHASE IMPACTS: Victor Switching Station**

##### **Alternative S1 (preferred alternative)**

##### **Planning and design phase: Victor switching station and +/-1km 132KV power line.**

The Alternative S1 of the Victor switching station will be situated in the Spitskop farm not far from the Xstrata mine, The route for proposed Alternative (preferred route) will be running from the new Victor switching station to the west, parallel to the existing 132KV power line; the area is made up of natural vegetation, which is mostly modified due to the intensive grazing and wood harvesting. There is limited sand mining and the many paths used by the people collecting the wood. The power line then crosses the Steelpoort River to the west towards Ga-Mampuru village. The route then continues east to the existing 132KV. The vegetation in the area is modified with grazing and mining the main factors. The route then connects to the 132KV just before Ga-Mampuru Village to strengthen the current power.

##### **Alternative S2**

##### **Planning and design phase: Victor switching station and +/-1km 132KV power line**

The alternative S2 of the Victor switching station will be situated in the Kennedy's vale of the Eastplats mine. The route for proposed Alternative S2 will be running from the new Victor switching station to



the west, parallel to the existing 132KV power line, the area is made up of natural vegetation, which is mostly modified due to the intensive grazing and wood harvesting. There is limited sand mining and the many paths used by the people collecting the wood. The power line then crosses the Steelpoort River to the west towards Boschkloof farm and Ga-Mampuru village. The route then continues east to the existing 132KV. The vegetation in the area is modified with grazing and mining the main factors. The route then connects to the 132KV just before Ga-Mampuru Village to strengthen the current power.

<b>Potential Impacts (Direct)</b>	<b>Significance</b>	<b>Proposed mitigation measures</b>
High avifauna impacts due to lack of adequate consideration of the design of the power line pole structure during the planning and design phase.	<ul style="list-style-type: none"> <li>High if not controlled/mitigated.</li> </ul>	<ul style="list-style-type: none"> <li>Identification and undertaking of all necessary risk assessments.</li> <li>Identifying routes in areas with good landscape compatibility and by choosing pylons that's blend well in the territory.</li> </ul>
Lack of adequate planning and negotiation of servitudes may lead to route alterations, higher than expected cost opportunities and increased visual impacts.	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>Construction and operation Phases must be adequately planned for in advance.</li> <li>Undertake adequate consultation with stakeholders for the negotiation of servitudes.</li> <li>Double circuiting the existing 132kV power lines.</li> </ul>
Flora, placement of pylons in footprints of sensitive areas will have a negative impact on the	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Identification and undertaking of all necessary risk assessments.</li> </ul>

flora.		
<b>Indirect impacts:</b> <b>None</b>	•	•
<b>Cumulative impacts:</b> <b>None</b>	•	•

Alternative 3			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		

**No-go alternative**

<b>Potential Impacts (direct impacts)</b>	<b>Significance</b>	<b>Proposed mitigation measures</b>
Overload and power failure.	High	Construction of the proposed power line and a switching station.
The network will not have sufficient capacity to supply the present and future demand during peak periods in the surrounding area.	High	Construction of the proposed power line and a switching station.
Overload and power failure.	High	Construction of the proposed power line and a switching station.
<b>Indirect Impacts</b>		
The existing electricity	High	Construction of the proposed power line

network will not be able to accommodate future growth and development in the surrounding area. The quality of electricity supply to the customer will remain poor. This will have indirect socio-economic impacts.		and a switching station.
<b>Cumulative impacts:</b> Long-term financial constraints	High	Construction of the proposed power line and a switching station.

**CONSTRUCTION PHASE IMPACTS: Victor switching station and +/-1km 132KV power line.**

Potential Impacts (Direct)	Significance	Proposed mitigation measures
1. <b>Water resources:</b> potential pollution of groundwater and surface water pollution	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>Fuel storage areas need to be properly sealed with concrete apron with bunds that can contain spillage for reuse or recycling to prevent ground water pollution.</li> <li>All run off washing water must not be disposed of into the drainage lines.</li> <li>Storm water drainage systems must be designed and storm water must be well managed before entering into the river.</li> </ul>
2. <b>Loss of biodiversity:</b> The impacts on biodiversity might	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>Unnecessary removal of vegetation cover should be avoided at all times.</li> </ul>

<p>range from loss of protected or red data plants and animal species as a result of clearance of vegetation, leading to loss of soil, habitat, loss of food and raw materials, loss of medicinal plants and all this can drive species towards being endangered.</p>		<ul style="list-style-type: none"> <li>• Confine impacts only to the development area.</li> <li>• Limit movement of vehicles and personnel through areas of sensitivity.</li> <li>• The line should be fitted with the standard Eskom “bird Perch” on the top of all poles in order to provide a safe perching space.</li> <li>• Grassland occurring on and near construction site should be retained where possible in order to assist in retarding erosion</li> </ul>
<p><b>3. Soil:</b> Continuous movement of heavy machinery to and from the construction sites will result in soil compaction thereby reducing its capacity to hold water which will in turn result in increased runoff during the rainy season. Fuel leakages and accidental oil spills from construction vehicles and machinery have the capability of contaminating soil once they infiltrate into the soil, this indirectly also affects plant growth in the near future. Mixing of cement on unpaved surfaces during construction will result in change of soil chemical alkalinity/ acidity levels there</p>	<ul style="list-style-type: none"> <li>• Medium</li> </ul>	<ul style="list-style-type: none"> <li>• When the vegetation cover is removed, management techniques to prevent water and wind erosion should be employed e.g. seeding of topsoil and subsoil.</li> <li>• Topsoil should be sourced from areas, which are cleared for construction.</li> <li>• The contractor should strip topsoil together with grass from all areas where permanent or temporary structures are located, construction related activities occur and access roads to be constructed.</li> <li>• Top soil must not be compacted in any way nor should any heavy objects be placed on it.</li> </ul>

<p>creating disequilibrium in the soil fertility</p>		<ul style="list-style-type: none"> <li>• Top soil stripped from different sites must be stored separately</li> <li>• Topsoil piles should not be more than 2m in height</li> <li>• In all construction areas (e.g. material lay down areas), topsoil and sub-soil should be protected from being contaminated by waste or fuel spills.</li> <li>• Inspect equipment for fuel leaks prior to use on construction sites and implement inspection schedules to prevent contamination of soil and ground by fuel spills.</li> <li>• Cement mixing should be done on impervious surfaces and not directly on the soil.</li> <li>• Measures to prevent soil erosion should be implemented such as design of storm water drainage system in order to control the volume, speed and location of runoff.</li> <li>• Vehicle maintenance yard and other areas where hydraulic fluids are to be stored must have bund walls and lined with impermeable material to prevent soil erosion.</li> <li>• Poles should be pre-treated at an appropriate facility to ensure chemical fixation and prevent</li> </ul>
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<p><b>4. Air pollution:</b> The quality of the air will be impacted on during this phase and the sources will emanate from: excessive emission of exhaust gases, dust during excavation works, digging of foundations, stock piled soils. Construction machines and construction vehicles will cause air pollution through emission of gases such as carbon dioxide or monoxide.</p>	<ul style="list-style-type: none"> <li>• Low</li> </ul>	<p>leaching.</p> <ul style="list-style-type: none"> <li>• All activities on site must comply with the requirements of the Atmospheric Pollution Prevention Act (Act no. 45 of 1965).</li> <li>• No open fires should be permitted on site as the area is also prone to veld fires.</li> <li>• Burning of materials, grass and refuse should not be permitted on site.</li> <li>• Construction machinery and vehicles should be maintained and serviced regularly.</li> <li>• Measures to prevent dust such as inter alia spraying of untarred access roads using water should be implemented.</li> <li>• Speed limits of about 40km/hr must be enforced and maintained on the construction site.</li> <li>• Stock piled top soils must be positioned in such a way that they are not vulnerable to wind.</li> <li>• Spoil and other dust generating dumps which are not used for more than 28days should be sprayed with water to control dust.</li> <li>• Access roads should be tarred.</li> </ul>
<p><b>Noise pollution:</b> Noise</p>	<ul style="list-style-type: none"> <li>• Low if</li> </ul>	<ul style="list-style-type: none"> <li>• Working hours should</li> </ul>

<p>pollution is likely to be generated by construction machines and construction vehicles during construction phase of the proposed development and this can be a nuisance in the surrounding environment. Though unlikely, drilling and blasting may be necessary where bedrock is encountered at the tower structures, which will result in a more significant noise impact in these areas. The noise significance level will also be determined by the presence of different noise receptors.</p>	<p>controlled</p>	<p>be limited to 6:00am - 17:00pm strictly from Monday-Friday.</p> <ul style="list-style-type: none"> <li>Affected residents should be notified of excessive noisy activities (if any are going to take place).</li> <li>Open liaison channels with affected community must be developed in order to facilitate their concerns and complaints about the construction activities.</li> </ul>
<p>5. <b>Waste:</b> Waste generated during the construction phase will have a negative impact on the environment if not managed properly.</p>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>If possible construction waste on site must be re-used or recycled.</li> <li>Waste must be disposed of in accordance to the National Waste Management Act.</li> <li>Burning of waste on site should not be permitted.</li> </ul>
<p>6. <b>Social:</b> there could be negative social impacts as a result of loss of grazing land and impact of landowners sense of place</p>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Negotiations with landowners should include compensation of land lost.</li> </ul>
<p>7. <b>Heritage:</b> Any development that alters the status quo has the potential to impact upon any of the listed heritage resources particularly</p>	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>If during construction, the Contractor unearths archaeological resources or unmarked graves, all work should stop immediately and</li> </ul>

<p>during construction phase</p>		<p>Eskom should be notified who will in turn inform an Archaeologist for further action on what should be done.</p> <ul style="list-style-type: none"> <li>The Archaeologist should design a heritage-monitoring program. The monitoring plan will deal with potential chance archaeological or historical finds, including unmarked human burials that may accidentally be found during development.</li> </ul>
<p><b>8. Increase in traffic</b> Traffic volumes are likely to increase during the construction phase due to movement due to movement of transport and construction vehicles to and from the site</p>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Construction traffic should be during off peak hours.</li> </ul>
<p><b>Indirect Impacts:</b> <b>1. Flora:</b> Possibility of alien invasive species</p>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>The potential spread of alien invasive species should be monitored on a continual basis.</li> </ul>
<p><b>2 Erosion:</b> The increased stormwater runoff along servitude sections where vegetation has been removed may lead to erosion of the topsoil. Erosion can be prevented if cleared areas are effectively managed.</p>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and cleared areas should be monitored on an ongoing basis. Apply appropriate erosion protection measures where erosion identified.</li> </ul>
<p><b>Cumulative Impacts:</b> <b>1. Air Quality</b> The generation of dust</p>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>All activities on site must comply with the requirements of the</li> </ul>



<p>and emission of gases by machines will increase the current levels of air pollution, which will impact on nearby plants by coating on to them. For vegetation serious dust pollution can cause plant immortality.</p>		<p>Atmospheric Pollution Prevention Act (Act no. 45 of 1965).</p> <ul style="list-style-type: none"> <li>Measures to prevent dust such as inter alia spraying of untarred access roads using water should be implemented.</li> </ul>
<p><b>2. Waste</b></p> <p>Increased waste during the construction phase will or may result in greater pressure on the local authority to deal with increased waste.</p>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>If possible construction waste on site must be re-used or recycled.</li> <li>Waste must be disposed of in accordance to the National Waste Management Act.</li> </ul>
<p><b>3. Water</b></p> <p>If storm water management techniques are not put in place this will result in erosion which means downstream water quality becomes deteriorated and will in turn increase the cost of treating water which will indirectly affect the residents</p>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Measures to control storm water must be implemented.</li> </ul>

**No go alternative**

Potential Impacts	Significance	Proposed mitigation measures
<p>The no go alternative in this case would mean not considering the construction of the power line and substation hence only negative impacts are anticipated as the status quo will remain the same, meaning that there will overload on the existing infrastructure, resulting in power failure.</p>	<p>High</p>	<p>Construction of the proposed power line and a switching station.</p>

**OPERATIONAL PHASE IMPACTS (PREFERRED).**

<b>POTENTIAL IMPACTS (DIRECT IMPACTS)</b>	<b>Significance</b>	<b>PROPOSED MITIGATION MEASURES</b>
<p><b>1. Oil spills</b> The accidental spillage of the purified mineral oil used for insulation and coolant may result in ground and soil pollution through infiltration.</p>	<p>Medium</p>	<p>Bund walls to collect accidental spillages.</p>
<p><b>2. Visual Impacts</b> Distribution power lines are necessary to transport energy from power facilities to residential communities and businesses but may be visually intrusive and undesirable to the local residents.</p>	<p>Medium</p>	<p>No mitigation measures proposed.</p>
<p><b>3. Impacts on avifauna</b> The line could have a negative impact on avifauna due to electrocution.</p>	<p>High</p>	<p>Marking of the power line with bird flappers and other necessary devices. (for detailed mitigation measures please refer to the Avifauna report).</p>
<p><b>INDIRECT IMPACTS</b> <b>1. Socio-economic</b> The new substation and distribution line will decrease the existing power shortages; there will be an increase in power supply resulting in potential investors or industries in the area hence increasing the GDP of the area.</p>	<p>Medium</p>	<p>No mitigation proposed, as this is a positive impact.</p>
<p><b>2. Safety</b> There is a risk of electrocution to animals grazing and people if access to the area is not controlled.</p>	<ul style="list-style-type: none"> <li>• Medium</li> </ul>	<ul style="list-style-type: none"> <li>• Should be controlled access to the area.</li> <li>• Local community should be informed and educated about the dangers</li> </ul>

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		of high voltage electricity.
<p><b>3. Loss of property value:</b> The visual impact of the distribution lines across or adjacent to some properties may cause the loss of property value as potential buyers may view the presence of the power lines as a negative contributing factor in their decision to purchase resulting in a lower purchase offer. The notion of loss of property is however difficult to quantify as is based on subjective decision- making.</p>	<ul style="list-style-type: none"> <li>• Medium</li> </ul>	<ul style="list-style-type: none"> <li>• No mitigation proposed.</li> </ul>
<b>CUMULATIVE IMPACTS:</b>		
<b>None</b>		

**No go alternative**

<b>POTENTIAL IMPACTS (DIRECT)</b>	<b>Significance</b>	<b>PROPOSED MITIGATION MEASURES</b>
If the power lines and the substation are not built, the status quo of the area will remain as is, shortage of power supply, power failure due to an overloaded existing electricity network. The existing electricity network will not be able to accommodate future growth in the area.	High	Construction of the proposed power line and switching station.
<b>Indirect impacts:</b> None		
<b>Cumulative Impacts:</b> None		

**DECOMMISSIONING AND CLOSURE PHASE IMPACTS (Victor Switching station and +/- 1km 132KV preferred and alternative).**

<b>POTENTIAL IMPACTS: Direct</b>	<b>Significance</b>	<b>PROPOSED MITIGATION</b>
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<b>Impacts</b>		<b>MEASURES</b>
<p><b>1. Soil and groundwater contamination</b>                      Accidental oil spills during the removal of pole mounted transformers may result in soil or groundwater contamination if not well managed</p>	<ul style="list-style-type: none"> <li>• Low to medium</li> </ul>	<ul style="list-style-type: none"> <li>• Oil spills should be cleaned up immediately to the satisfaction of the competent authority by removing the spillage together with the polluted soil and by disposing of them at a registered waste disposal facility and the Environmental section at Eskom must be informed.</li> </ul>
<p><b>2. Health and safety</b>                      Workers may be exposed to occupational hazards from possible contact with live power lines and electrocution from direct contact during decommissioning</p>	<ul style="list-style-type: none"> <li>• High</li> </ul>	<ul style="list-style-type: none"> <li>• Only trained and certified personnel should remove electrical equipment.</li> <li>• Personnel should isolate and ensure that the power lines are disconnected</li> <li>• Workers not directly associated with power transmission and distribution activities that are operating around power lines or substation should adhere to relevant legislation or guidelines relating to minimum approach distance</li> </ul>
<p><b>3. Loss of stable electricity supply:</b> Dismantling of the distribution line infrastructure may result in a temporary loss of electricity to the region if new infrastructure has not been erected to</p>	<ul style="list-style-type: none"> <li>• Medium</li> </ul>	<ul style="list-style-type: none"> <li>• Only decommission if suitable infrastructure to replace this infrastructure is already in place to avoid disruption to the supply.</li> </ul>

replace the loss of decommissioned infrastructure.		
<b>Indirect Impacts:</b> None		
<b>Cumulative Impacts:</b> 1. Increase in purification costs of water due to pollution of water resources from oil spills.	<ul style="list-style-type: none"> <li>• Low</li> </ul>	<ul style="list-style-type: none"> <li>• Bund walls should be built to collect accidental oil spillages.</li> </ul>
2. Increase in pollution of water would have a negative impact on aquatic life.	Low	
3. Reduced standards of living for those households who may lose their breadwinners from the occupational hazard mentioned above.	<ul style="list-style-type: none"> <li>• High</li> </ul>	<ul style="list-style-type: none"> <li>• Only trained and certified personnel should remove electrical equipment.</li> </ul>

**No go alternative**

POTENTIAL IMPACTS	SIGNIFICANCE	PROPOSED MITIGATION MEASURES
The no go alternative in this case would mean not considering the construction of the power line and switching station hence only negative impacts are anticipated as the status quo will remain the same, meaning that there will overload on the existing infrastructure, resulting in power failure	High	Construction of the proposed power line and a switching station.

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as Appendix F.

**1 Environmental impact statement**

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the

management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

The proposed switching station power line and the auxiliary developments will take place in an area which was previously disturbed by other developments activities such as power lines and Mining activities among others. No major or radical natural or human environmental impacts are anticipated during the construction and operational phases of the project given the fact that similar and other development already exists in the general project area. All impacts are considered to be of low significance and are not expected to contribute to unacceptable transformation and degradation of the environment. The highest level of impact is expected to occur during the construction phase. The proposed power line routes will traverse through some environmentally sensitive areas such as the Steelport River and areas sensitive to erosion; also a variety of Aloes and other succulents' trees are present in the study area. While some negative impacts are expected to occur, they can be effectively mitigated with generic and site specific mitigation measures indicated in the Environmental Management Programme and by selection of the route posing the least impacts on the environment. .

**Alternative A (preferred and alternative)**

**Victor switching station**

Two sites were identified as a possible locality for the new switching station. The proposed **alternative 1** is north of the Eastplats Mine but east to the Xstrata Mine, situated within the Xstrata Mine boundary Spitskop farm.

**Alternative 2** is situated within the Eastplats mine boundary, Kennedy's Vale farm

Alternative 1 for the switching station is preferred due to the fact that it is the furthest from the Steelpoort River and therefore will lower any negative impacts of the sensitive area such as erosion. The close proximity of alternative 2 to the river is less viable as impacts can be more severe compared to Alternative 1.

**+/- 1Km 132kV power line (Alternative 1 and 2)**

Impacts expected to occur as a result of this power line include clearance of vegetation, loss of habitat, soil erosion and noise to the nearby village such as Ga-Mampuru. There is a River along the proposed routes since the two proposed lines will be running parallel to the existing 132kV powerline and care should be taken not to place pylons within the stream although this is avoidable during construction phase, however Eskom can construct using longer span to avoid the River. The highest span can be 400m depending on the terrain. Impacts such as noise are of short term duration as they are expected to occur during the construction phase only.

For the power lines, both alternatives are viable and will have similar impacts on the landscape and biota. It is recommended that Alternative 1 is therefore used for the proposed switching station and the associated power line. It is a short and direct route and little clearing of natural vegetation is needed. Protected tree species such as the *Boscia albitrunca* were recorded by the Ecologist during the survey.

**No-go alternative (compulsory)**

The no go option would be to not construct the power line and the proposed switching station. Should no action be taken the current state will

remain and this could lead to power failure. This will have a negative effect on the business sector and in turn impact on the GDP as there will be no future growth in the area.



**SECTION E. RECOMMENDATION OF PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES✓	NO
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

<p>The findings of the studies undertaken within the Basic Assessment provide an assessment of both benefits and potential negative impacts anticipated as a result of the proposed project. The findings conclude that besides the River crossing and tree species the <i>Boscia albitrunca</i>, there are no environmental fatal flaws that should prevent the proposed project from proceeding, provided that the recommended mitigation and management measures are implemented throughout the project's life cycle.</p> <ul style="list-style-type: none"> <li>• The power line should be marked with bird flappers to avoid electrocution of birds.</li> <li>• Storm water should be well managed before it enters into the nearby streams</li> <li>• Stock piled soils should be positioned in such a way that they are not vulnerable to wind</li> <li>• The existing telecommunication network, and any planned developments to this network, must be taken into consideration in the planning phase, before finalising any power line route.</li> <li>• Any solid waste produced on site must be collected in suitable containers and be disposed of at the local municipal waste disposal site.</li> </ul>
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- All damaged areas should be rehabilitated upon completion of the project
- If any evidence of archaeological sites or artefacts. Palaeontological or heritage resources are found SAHRA must be notified immediately.
- Eskom should appoint an Environmental Control Officer to conduct monitoring during the construction phase.
- Construction camp to be erected where it will have the least environmental impact.
- Protected trees should be mapped and if they have to be cut, a permit should be obtained from the Department of Agriculture and Forestry.

Recommended mitigation measures for the proposed activity throughout the project life cycle are included in the Environmental Management Programme (EMPr) attached to this document.

Relevant condition to be adhered to include:

**Design and Construction Phase:**

The following mitigation and management measures should be implemented during the construction phase to minimise potential environmental impacts:

- Construction buffer zone should be identified and be clearly demarcated prior to the commencement of any construction on site and before the arrival of construction machinery. The demarcation should stay in place throughout construction period and no personnel; construction material should be moved or be placed outside the demarcated construction servitude.
- Care should be taken not to damage or remove any trees

within or adjacent to the construction site unless directly on path of construction work.

- Following completion of construction activities, a clean-up operation of the construction site and 100m radius should be undertaken to remove all litter and construction related waste.
- Re-vegetation of all bare soil areas with indigenous impacts.
- The Ecologist should undertake a walk down after the line has been pegged to identify and map the exact number of protected tree species that fall within the line servitude, if any of the trees need to be cut, a permit should be obtained from the relevant authorities.
- Pylons should be placed at least 50m from the outer edges of the riverbanks.

#### **Operation Phase**

- To prevent spillage no diesel or oil should be stored on site other than what is required for immediate use.
- Should any accidental oil coolant spillages occur, absorbent materials and contaminant soil should be disposed off at a designated registered hazardous waste material site.
- Careful control of all areas that involve use of cement and concrete
- Limit cement and concrete mixing to single site, which must be cleaned up once the activity is complete.

From the EAP'S perspective and taking into consideration specialist inputs, both the Victor **switching station alternative 1** and the 132KV **power line alternative 1** are considered as viable due to the fact that the switching station is the furthest from the Steelpoort River and therefore will lower any negative impacts of the sensitive area (e.g. migration and erosion).With regard to the power lines, both alternatives

are viable and will have similar impacts on the landscape and biota. It is recommended that Alternative 1 is therefore used for the proposed switching station and the associated power line. It is a direct route and little clearing of natural vegetation is needed.

The close proximity of **Alternative 2 of the switching station** to the river is less viable as impacts can be more severe compared to Alternative 1 the power line is a short with direct route and little clearing of natural vegetation is needed.

The both power line corridors will be running parallel to the existing 132KV and with stream crossing to negotiate however Eskom can cross the stream found in the study area using a longer span. The proposed power line will have an insignificant impact on the biophysical environment, as it passes over transformed areas. The sensitive areas that are present along the route are limited, and therefore do not constitute fatal flaws for the proposed development. Mitigation options can be considered appropriate and sufficient for the expected impacts in the area.

Is an EMPr attached?

YES ✓

NO

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

NAME OF EAP

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\_\_\_\_\_  
SIGNATURE OF EAP

\_\_\_\_\_  
DATE

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