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PROPOSED CONSTRUCTION OF 132 KV POWER LINE FROM SORATA SWITCHING STATION TO WITSIESHOEK SUBSTATION

FINAL BASIC ASSESSMENT REPORT

AUGUST 2013

(DEA Ref.: 14/12/10/3/3/1/795)

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:	**14/12/10/3/3/1/795**
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.

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.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section? **YES**
If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

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

The proposed project is located in the Maluti-a-Phofung Local Municipality area in the eastern Free State, encompassing the area between Phuthaditjhaba, Kestell and Harrismith. The proposed power line will be characterized by 31m servitude, 1000m buffer zone including the servitude. Steel monopole structures will be used for the power line. The project is expected to involve the construction of 132kV power line between existing Sorata Switching Station, near Diyatalawa and existing Witsieshoek near Bluegum Bosch in QwaQwa, Phuthaditjhaba. The proposed lines will be between 20 and 30 kilometres in length (depending on the final route selected). Three power line corridor options have been identified.

The new infrastructure is required in order to provide sufficient capacity for the anticipated growth in this area as well as to upgrade the current supply to existing residential and industrial uses in the area.

Three alternative routes have been considered as part of the BAR process and the purpose of this report is to outline the findings of the studies conducted on those routes and to make recommendations as to which route should be taken forward as the preferred option.

The total area studied as part of this BAR is 80m^2.

As noted previously this includes 3 corridor options as follows:

- **Option 1 – 22km^2**
- **Option 2 – 28km^2**
- **Option 3 – 30km^2**

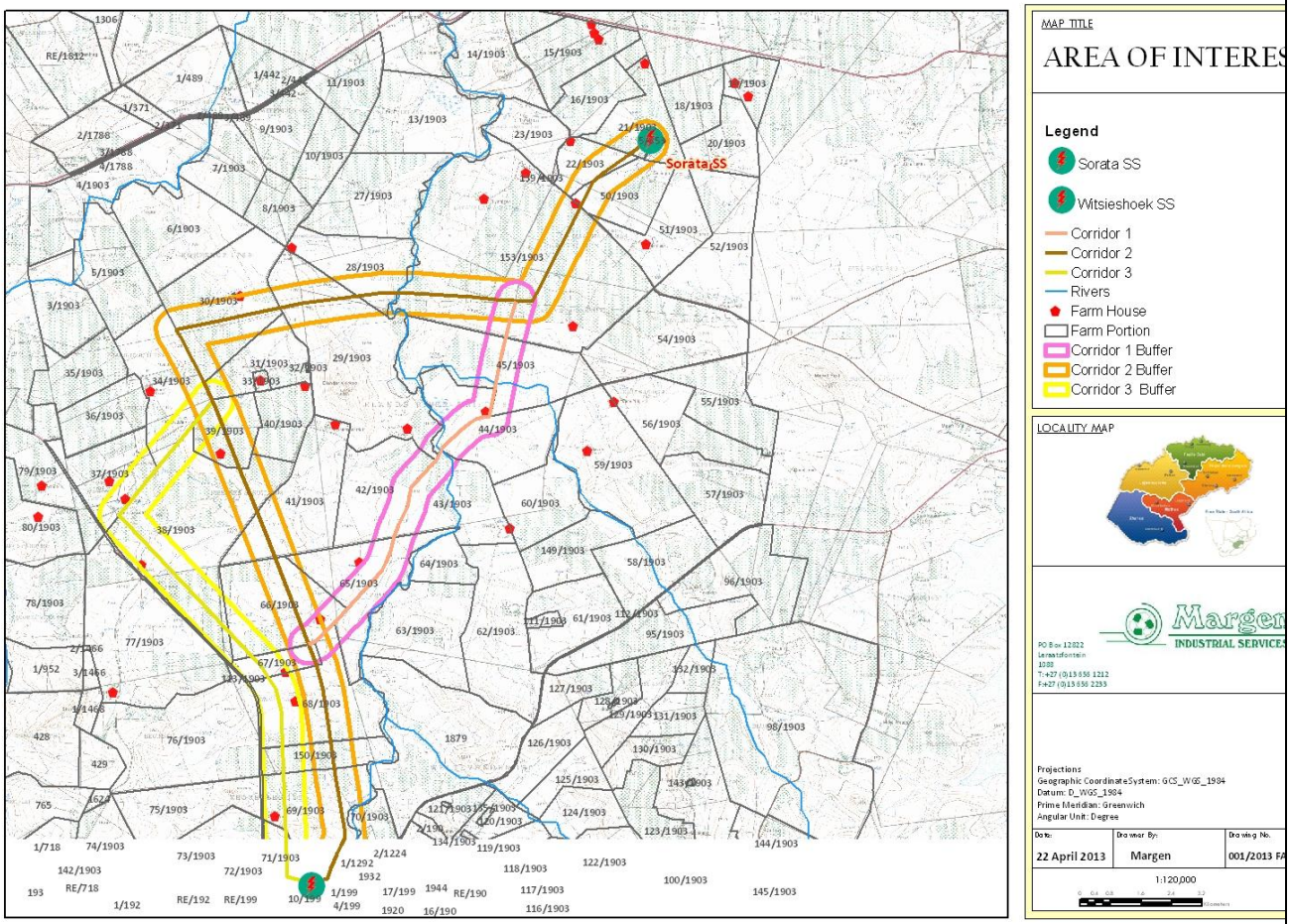

Figure 1: Site layout plan for the 132kV power line between existing Witsieshoek Substation and Sorata Switching Station

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
GN 544, 18 June 2010. Item 10 (i): 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	**The application is for the construction of a 132kV distribution power line approximately 30 kilometres**
GN 544, 18 June 2010. Item 11(xi) The construction of: (xi) infrastructure or structures covering 50 square meters or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	**The power line will cross Elands and Namahadi rivers. Some areas will either cross the river or run adjacent to it.** **The power line has servitude of 31 metres and the longest option (Corridor 2) is approximately 30 kilometres. The total footprint is therefore 930 000m^2.**

2. 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.

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

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

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• Starting point of the activity	**28^{0}18.059"**	**28^{0}54.658"**
• Middle/Additional point of the activity	**28^{0}22.223"**	**28^{0}52.067"**

• End point of the activity	**28⁰28.648”**	**28⁰49.941”**

Route Corridor Option 2

1 x 132kV power line will evacuate Sorata Switching Station on farm Wellington 853 following an existing 132kV Witsieshoek rural – Sorata power line through Maanhaar 854 and Kaltyniloiris 861. It then turns west and follows the existing Witsieshoek rural – Sorata 132kV power line through farms Elands River Drift 189, Wijnstok 855 and Korfstok 1788. It then turns south along the existing 132 kV power line through farms Korfskop 1788, Niekerkspruit 194, Diepvlei 146, Cornelia 194 and Kroonberg 1531 and eventually terminates at Witsieshoek Substation on Bluegum Bosch 189. This route is approximately 28km

Alternative S2 (if any)

• Starting point of the activity	**28⁰18.059”**	**28⁰54.658”**
• Middle/Additional point of the activity	**28⁰24.411”**	**28⁰49.447”**
• End point of the activity	**28⁰28.648”**	**28⁰49.941”**

Route Corridor Option 1

1 x 132kV power line will evacuate Sorata Switching Station on farm Wellington 853 following an existing 132kV Witsieshoek Rural-Sorata power line through Maanhaar 854 and Kaltyniloiris 851. It will then turn south through Elands River Drift 189 and will turn southwest along the secondary road and cross Elands River on farm Elands River Drift 189 still following the secondary road and will then pass on the western section of Vaalkop 1712. It will turn south cutting through farms Cornelia 194 and Kroonberg 1531 along the existing Witsieshoek Rural – Sorata 132kV power line and eventually terminates at Witsieshoek Substation on Bluegum Bosch 189. This route is approximately 22km.

Alternative S3 (if any)

• Starting point of the activity	**28⁰18.059”**	**28⁰54.658”**
• Middle/Additional point of the activity	**28⁰24.795”**	**28⁰48.365”**
• End point of the activity	**28⁰28.648”**	**28⁰49.941”**

Route Corridor Option 3

1 x 132kV power line will evacuate Sorata Switching Station on farm Wellington 853 following an existing 132kV Witsieshoek Rural – Sorata power line through Maanhaar 854 and Kaltyniloiris 861. It then turns west and follows the existing Witsieshoek Rural – Sorata 132kV power line through farms Elands River Drift 189, Wijnstok 855 and Korfstok 1788. It then turns south-west between the boundary of Diepvlei 146 and Cornelia 194 until it gets to Kestell – Phuthaditjhaba road (R57), where it turns southeast along R57. It follows this road through Ontevrede 1466, Cornelia 194, Kroonberg 1531and Besters Valley 192 before terminating at Witsieshoek Substation on Bluegum Bosch 189. This route is approximately 30km.

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

The proposed development is considered to be vital infrastructure both in the national interest as well as at a local and regional level. Delivering priority infrastructure such as the proposed scheme delivers on Eskom's agreed operational objectives of ensuring reliability of supply and providing for future demand growth. It also makes an essential contribution to wider governmental objectives associated with the provision of housing and basic utilities to a wider cross section of society. For this reason the 'no-go option' is not considered viable in these circumstances.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	**22 000m**
Alternative A2 (if any)	**28 000m**
Alternative A3 (if any)	**30 000m**

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)	**682 000m^2**
Alternative A2 (if any)	**868 000m^2**
Alternative A3 (if any)	**930 000m^2**

4. SITE ACCESS

Does ready access to the site exist?	**NO**
If NO, what is the distance over which a new access road will be built	**2,200m**

Describe the type of access road planned:

The development of the power line includes the clearing of vegetation which can automatically fill this purpose of an access road. For this BAR, it is anticipated that a service road will be utilised that runs along the existing 132kV power line. However, should a need arise for a new access road, the developer will notify the DEA and necessary applications will be submitted.

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.

5. 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

[1] "Alternative A.." refer to activity, process, technology or other alternatives.

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).

6. 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.

7. 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.

8. 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.

9. 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.

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	**YES**		Please explain
The preferred route follows an existing Eskom servitude for most of its length. If this corridor is approved, then the existing zoning plan will be used. If any of the other corridors is approved, an application for rezoning will be applied for from Maluti-a-Phofung Local Municipality. Servitudes for the power line will also be required to be registered against the title deeds of affected properties.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	**YES**		Please explain
The Free State Province Spatial Development Framework (FSSDF) makes reference to the need to ensure the availability of inexpensive energy. The section notes that in order to promote economic growth in the Free State, the availability of electricity to key industrial users at critical localities at rates that enhance the competitiveness of their industries must be ensured.			
(b) Urban edge / Edge of Built environment for the area		**NO**	Please explain
The project area is located North West of the town of Qwaqwa in the Free State and falls outside of the urban edge.			

(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?).	**YES**		Please explain
Thabo Mofutsanyana District Municipality Spatial Development Framework (SDF) and Phuthaditjhaba Integrated Development Plan (IDP) show that the main objective of the two documents is to provide access to electricity to all households in the district by 2014. To achieve this, the district aims at fast-tracking the delivery of free basic electricity and co-ordinate the maintenance and upgrading of existing electricity infr astructure. The project will not compromise any IDP it will assist it in reaching its objectives as it will assist in supporting the local electricity supply through strengthening of power to the Witsieshoek Substation			
(d) Approved Structure Plan of the Municipality	**YES**		Please explain
A meeting was held with Thabo Mofutsanyana District Municipality and Maluti-a-Phofung Local Municipality. The two local structures support the project, as long as the potential socio-economic impacts are minimised. The municipalities have been and will continue to play a pivotal role in this project. **The municipality aims at ensuring that all citizens have access to basic services such as electricity. The project will assist it in reaching this as it will assist in supporting the local electricity supply through strengthening of power to the Witsieshoek Substation. The success of the project will create upliftment of the community through the required Economic Development.**			
(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?)		**NO**	Please explain
There is no EMF for the Municipality. The project is situated in a Critically Endangered and Vulnerable vegetation. However, all feasible and reasonable alternatives have been assessed. The least sensitive corridor that avoids sensitive environment and follows an existing linear infrastructure has been recommended.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain

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)?	**YES**		Please explain
Thabo Mofutsanyana District Municipality Spatial Development Framework (SDF) and Phuthaditjhaba Integrated Development Plan (IDP) show that the main objective of the two documents is to provide access to electricity to all households in the district by 2014. To achieve this, the district aims at fast-tracking the delivery of free basic electricity and co-ordinate the maintenance and upgrading of existing electricity infr astructure. The project will not compromise any IDP it will assist it in reaching its objectives as it will assist in supporting the local electricity supply through strengthening of power to the Witsieshoek Substation			
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.)	**YES**		Please explain
The area is predominantly crop farming. The existing 132kV that supplies Witsieshoek, QwaQwa, Phuthaditjhaba and Tsheseng is a single Wolf line. This resulted in a forced load shedding on this network in August 2011. The surrounding Harrismith and Phuthadijaba areas expect about 25 000 connections over the next 5 years. There are existing voltage problems on the 132kV networks that supply the Sorata, Groenkop and Jordan bus bars. The Wolf conductor has already operated at 117% (101.86MVA) of its thermal rating and has also tripped on overload in 2011.Therefore the upgrading or strengthening will contribute greatly in ensuring continuous reliability of supply as well as making provision for capacity for future developments in the area.			
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.)	**YES**		Please explain
The development does not require services from the Municipality. However, meetings with the Maluti a Phofung Local Municipality and Thabo Mufutsanayana District Municipality have been held to discuss the project. Please refer to PPP report on Appendix E			

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 E.)	**YES**		Please explain
The Municipality has embraced the project as it addresses Thabo Mofutsanyana District Municipality Spatial Development Framework (SDF) and Phuthaditjhaba Integrated Development Plan (IDP) which show that the main objective of local government is to provide access to electricity to all households in the district by 2014. **The following comment is noted from the Municipal Manager "The Thabo Mofutsanyana District Municipality hereby acknowledges a receipt of your communiqué on the subject matter. While appreciating the main objectives of the increasing the existing distribution power line, you are encouraged to follow due EIA processes for the proposed activity to ensure that environment is not compromised" Please refer to Appendix E for a written comment.**			
7. Is this project part of a national programme to address an issue of national concern or importance?	**YES**		Please explain
Eskom is mandated by the Government of the Republic of South Africa to supply sufficient and reliable electricity required for sustainable developments and future growth of the country's economy. The proposed project will enhance the security of power supply for Maluti a Phofung area. This will have a positive impact on the local network. Over time, Eskom's ability to provide efficient and reliable service to its customers and its' capability to support future developments in the area will be enhanced. The future demand for additional household and commercial connections will be met and as such the wellbeing of local residents would be improved, any expansion plans of the municipal operations within the general study area would be boosted and potential job creations will be generated. **Impacts to the national economy will increase, which would invariably result in increasing contributions to the national economy.**			

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.)	**YES**		Please explain
The landscape is dominated by low hills / undulating plains and land use includes agriculture (grazing and crop production) mixed with the low to medium density residential areas of Diyatalawa. High-density residential areas dominate the southern section of the study area. Bluegum Bosch lies south east, with University of Free State (UFS) - QwaQwa Campus lying south west of the study area. Infrastructure includes the existing Diyatalawa Township and associated supporting infrastructure, Sorata Switching Station, Witsieshoek Substation, Afrimat Quarry, existing power lines, tarred and dirt roads as well as telecommunications lines			
9. Is the development the best practicable environmental option for this land/site?	**YES**		Please explain
The site for the proposed Witsieshoek-Sorata power line was determined through the consideration of technical, economic and environmental criteria and is considered to be the best practicable environmental option for the power line. The proposed power line corridor is considered to be the most appropriate routing of this infrastructure, taking technical and environmental (social and biophysical) issues into consideration. The specialist studies undertaken as part of this Basic Assessment conclude that the development of the 132kV power line within the corridor investigated will have low environmental impacts.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	**YES**		Please explain
The study area has largely been transformed by agricultural activities, residential developments, existing roads and power lines. However, wetlands and sensitive vegetation exist. The least sensitive route that follows an existing power line has been recommended including mitigation measures. An Environmental Management Programme has been produced. These will minimise any potential impacts to the proposed development. **The specialist studies undertaken as part of this Basic Assessment conclude that the development of the 132kV power line within the corridor investigated will have low environmental impacts. The proposed project will enhance the security of power supply for Maluti a Phofung area. This will have a positive impact on the local network. Over time, Eskom's ability to provide efficient and reliable service to its customers and its' capability to support future developments in the area will be enhanced. This will have a positive impact at a local, regional and national level.**			

11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	**YES**		Please explain
The study area has largely been transformed by agricultural activities, residential developments, existing roads and power lines. The least sensititve route that follows an existing power line. The study area already has power line infrastructure. Linear infrastructure development tends to follow existing linear structures to allow for corridor sharing. **However, an EIA process is without prejudice and as such any other 'proposed infrastructure' would be the subject of a BAR/EIA albeit that the baseline would now contain infrastructure.**			
12. Will any person's rights be negatively affected by the proposed activity/ies?	**YES**		Please explain
The proposed distribution line will be mostly located on agricultural land, thus impacting on the rights of certain individuals owning the land in the area. Eskom will have to reach agreements with all affected land owners to decide upon appropriate compensation measures.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	**YES**		Please explain
The project area is located North West of the town of Qwaqwa in the Free State and falls outside of the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	**YES**		Please explain
SIP 9: Electricity Generation to support socio-economic development - Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances. **SIP 10: Electricity Transmission and Distribution to All - Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development. Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.**			

15. What will the benefits be to society in general and to the local communities?	Please explain
The existing 132kV that supplies Witsieshoek, QwaQwa, Phuthaditjhaba and Tsheseng is a single Wolf line. This resulted in a forced load shedding on this network in August 2011. The surrounding Harrismith and Phuthadijaba areas expect about 25 000 connections over the next 5 years. There are existing voltage problems on the 132kV networks that supply the Sorata, Groenkop and Jordan bus bars. The Wolf conductor has already operated at 117% (101.86MVA) of its thermal rating and has also tripped on overload in 2011. The proposed project will enhance the security of power supply for Maluti a Phofung area. This will have a positive impact on the local network.	
16. Any other need and desirability considerations related to the proposed activity?	Please explain
17. How does the project fit into the National Development Plan for 2030?	Please explain
• **The proportion of people with access to the electricity grid should rise to at least 90 percent by 2030, with non-grid options available for the rest.** • **The country would need an additional 29 000MW of electricity by 2030. About 10 900MW of existing capacity is to be retired, implying new build of more than 40 000MW.**	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
According to Section 23 of NEMA, appropriate environmental management tools must be utilised to ensure the integrated environmental management of activities. The potential impacts of the proposed project and the alternatives have been investigated to avoid impacts and minimise the possible harm on the environment. Furthermore, socio-economic conditions and cultural heritage were also taken into consideration. • **Thabo Mofutsanyana District Municipality Spatial Development Framework has been consulted and depicts the area as earmarked for agricultural development.** • **Phuthaditjhaba Integrated Development Plan shows that the project area falls within farming area.**	

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.
Section 2 of NEMA states that environmental management must place people and their needs at the forefront, and serve their physical, psychological, developmental, cultural and social interests equitably. These principles of NEMA include the following: • **Development must be sustainable;** • **Pollution must be avoided or minimised and remedied;** • **Waste must be avoided or minimised, reused or recycled;** • **Negative impacts must be minimised; and** • **Responsibility for the environmental health and safety consequences of a policy, project, product or service exists throughout its life cycle.** **The principles of NEMA have been considered in this assessment through compliance with the requirements of the relevant legislation in undertaking the assessment of potential impacts, as well as through the implementation of the principle of sustainable development where appropriate mitigation measures have been recommended for impacts which cannot be avoided. In addition, the successful implementation and appropriate management of this proposed project will aid in achieving the principle of minimisation of pollution and environmental degradation. This process has been undertaken in a transparent manner and all effort has been made to involve interested and affected part ies, stakeholders and relevant Organs of State such that an informed decision regarding the project can be made by the Regulating Authority. In this regard, the following has been undertaken for this BAR:** • **All feasible and reasonable alternatives have been assessed by competent specialists;** • **Adequate stakeholder consultation has been undertaken;** • **Relevant municipal and national planning schemes have been consulted;** • **Proper mitigation measures have been proposed for possible negative impacts;** • **Environmental Management Programme has been developed; and** • **Sensitivity analysis has been undertaken to recommend the least sensitive alternative.**

11. 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:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)	**The application is for the construction of a 132kV distribution power line approximately 30 kilometres.** **The total footprint is approximately 8 000 hectares**	**National and Provincial**	**27 November 1998**
National Water Act 36 of 1998	**The power line will cross Elands and Namahadi rivers. Some areas will either cross**	**National and Provincial**	**1998**

	the river or run adjacent to it. Several wetlands have also been identified within the study area.		
National Environmental Management: Air Quality Act 39 of 2004	**During construction, limited amount of dust will be produced.**	**National and Provincial**	**February 2004**
National Environmental Management: Biodiversity Act 10 of 2004	**Clearing of vegetation will be undertaken on the approved servitude. Threatened grasslands have been identified within the study area.**	**National and Provincial**	**June 2004**
National Heritage Resources Act 25 of 1999	**Approximately 33 heritage resources, including graves, battlefields, historic ruins, historic farm building and other heritage resources occur within the study area.**	**National and Provincial**	**April 1999**
National Building Regulations & Building Standards Act 103 of 1977	**Construction of towers and stringing of power lines will need to comply to relevant construction regulations.**	**National and Provincial**	**June1977**
Noise Control Regulation PN 627 of 1998	**During construction, limited amount of noise will be produced.**	**National and Provincial**	**November 1998**
SANS 10103:2008	**The standard covers methods and gives guidelines to assess working and living environments with respect to acoustic comfort, and possible annoyance by noise.**	**National and Provincial**	**November 2008**
Occupational Health & Safety Act 85 of 1993	**Construction of power lines involves working with potentially dangerous equipment and heavy machinery. This act will provide guidelines for working safely for all workers.**		**January 1993**

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	**YES** ■
If YES, what estimated quantity will be produced per month?	**Unknown (limited quantities)** m^3

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

The construction waste will be transported via waste dump truck to a registered landfill site. The exact quantity of waste produced is not known at this stage.

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

The construction waste will be disposed at the nearest landfill site i.e. Phuthaditjhaba landfill site in the Phuthaditjhaba area

Will the activity produce solid waste during its operational phase?	**NO**
If YES, what estimated quantity will be produced per month?	m^3

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

Once the power line is in operation, no waste will be produced.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Phuthaditjhaba landfill site in the Phuthaditjhaba area

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?	**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?	**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?	**NO**
If YES, what estimated quantity will be produced per month?	m^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	**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.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	**NO**

If YES, provide the particulars of the facility:

Facility name:	**N/A**
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:

N/A

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	**YES**	
If YES, is it controlled by any legislation of any sphere of government?		**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:

During the construction phase, it is expected that there will be short term dust generation and emissions from vehicles and machinery. However the dust and emissions will have a medium to short term duration and have a limited impact on the very immediate surrounding rural areas. Where appropriate dust suppression measures will be implemented to reduce the impacts. It is recommended that construction vehicles be serviced and kept in good mechanical condition to minimise possible exhaust emission.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?		**NO**

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**	
If YES, is it controlled by any legislation of any sphere of government?		**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:

Short term noise impacts are anticipated during the construction phase of the project. It is however anticipated that the noise will be localised and contained within the construction site.

In order to minimise the impacts of noise during the construction phase, construction activities should be restricted to between 07H00 and 17H00 Monday to Friday, and 8h00-13h00 on Saturdays. This is required to avoid noise disturbances outside normal working hours. All construction equipment must be maintained and kept in good working order to minimise associated noise impacts. The applicant must adhere to the relevant provincial noise control legislation (if any) as well as SANS 10103.

13. 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**

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:	**Limited water quantities will be brought from offsite sources during construction.**
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	**YES**

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

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

N/A

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

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** [ ]

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.

Property description/physical address:

Province	**Free State**
District Municipality	**Thabo Mofutsanyana**
Local Municipality	**Maluti-a-Phofung**
Ward Number(s)	**19**
Farm name and number	**The farms in the study area are in the process of being registered from the Department of Rural Development (DRD) and therefore appear in the Deed's Search as "Unknown". However, the EAP has engaged with the DRD and have attached proof of consultation. These farms will be transferred into 1 farm which is called farm 1903 Harrismith which other adjacent farms will be converted to the main farm portions.**
Portion number	
SG Code	

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.

Current land-use zoning as per local municipality IDP/records:

Agriculture

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.

Is a change of land-use or a consent use application required? **YES** [ ]

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

2. 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	

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

4. 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).

Natural veld - good condition[E]	**Natural veld with scattered aliens[E]**	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E]	Gardens
Sport field	**Cultivated land**	Paved surface	Building or other structure	Bare soil

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.

5. SURFACE WATER

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

Perennial River	**YES**	
Non-Perennial River		**NO**
Permanent Wetland	**YES**	
Seasonal Wetland		**NO**
Artificial Wetland	**YES**	
Estuarine / Lagoonal wetland		**NO**

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

Perennial Rivers – Namahadi and Elands rivers
Permanent Wetland - Valley Bottom with Channel wetlands and Depressions. These have been mapped and delineated (refer to Wetland Assessment in Appendix D)
Artificial Wetland – several farm dams occur within the study area.

6. 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	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station [H]
Medium density residential	**School**	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential[A]	Church	**Agriculture**
Retail commercial & warehousing	Old age home	**River, stream or wetland**
Light industrial	Sewage treatment plant[A]	Nature conservation area

Medium industrial **AN**	Train station or shunting yard **N**	**Mountain, koppie or ridge**
Heavy industrial **AN**	Railway line **N**	Museum
Power station	Major road (4 lanes or more) **N**	**Historical building**
Office/consulting room	Airport **N**	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam**A**	Sport facilities	**Archaeological site**
Quarry, sand or borrow pit	Golf course	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?

N/A

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:

N/A

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:

N/A

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

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

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

7. 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**

A heritage impact assessment has revealed that the 3 proposed corridors (i.e. Corridor 1, Corridor 2 & Corridor 3) yielded a total of 33 sites of which 4 are considered not to be historical or heritage sites. In terms of sites distribution, Corridor 3 yielded more sites than both Corridor 1 and Corridor 2 (combined (i.e. 48%). However, when one assesses a corridor with a high number of Highly Significant sites - Corridor 3 (according to the heritage studies see pg 10 & 11) has most Highly Significant (4) heritage sites followed by Corridor 2 (according to the specialist report see pg 10 & 11).

Identified heritage resources include:

- **Iron Age implements or ceramics**
- **Iron Age graves and burials**
- **Iron Age stone settlements and kraals**
- **Historic monuments – some associated with the South African Wars (commonly known as the Anglo-Boer Wars)**
- **Historical cemeteries and graves**
- **Historic houses/buildings**
- **Farming heritage resources**

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:

Please see 7 above

Will any building or structure older than 60 years be affected in any way?	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	**NO**

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. 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:

41.8% (StatsSA,2011)

Economic profile of local municipality:

Maluti-a-Phofung (MaP) has one of the highest population densities in the Free State. The Harrismith area – including Intabazwe and Tshiame - accounts for about 15% of the total population of the MaP area (The Water Dialogues, 2009). The former QwaQwa is the home of 84% of the population of MaP. During the homeland administration of Qwa Qwa, Phuthaditjaba served as the urban centre. It still serves as the urban centre and the site of the headquarters of MaP Local Municipality as

well as Thabo Mofutsanyane District Municipality (TMDM).

Of the municipalities in the TMDM, MaP has the highest population, but the lowest growth rate in terms of conventional economic growth measures. Furthermore, MaP accounts for 54% of the population of TMDM but holds only 16% of the land within TMDM (Maluti-a-Phofung WSDP 2004/5). MaP's unemployment rate is double that of the rest of the district, and it accounts for 66% of the district's unemployment (Maluti- a-Phofung WSDP 2004/5).

Level of education:

No schooling - 8,9%
Higher Education -7,9%
Matric - 26,8%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R **It's currently estimates at R55 000 000.00**
What is the expected yearly income that will be generated by or as a result of the activity?	R **Unknown**
Will the activity contribute to service infrastructure?	**YES**
Is the activity a public amenity?	**YES**
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Eskom will go on open tender for the appointment of a contractor to carry out the construction. These contractors often subcontract. Eskom requires that contractors employ local unskilled labourers to perform unspecialised work.
What is the expected value of the employment opportunities during the development and construction phase?	
What percentage of this will accrue to previously disadvantaged individuals?	>90%
How many permanent new employment opportunities will be created during the operational phase of the activity?	0
What is the expected current value of the employment opportunities during the first 10 years?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	%

9. 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. 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)	Refer to Biodiversity Report in Appendix D.

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	15%	**The study area is situated within the Grassland biome. The vegetation pattern in the study area is comprised of two main types: Basotho montane shrubland and the Eastern Free State Sandy Grassland – this vegetation type is Endangered, with around 2% conserved in the Golden Gate Highlands and Qwaqwa National Parks. Almost 50% of Eastern Free State sandy grassland has already been transformed for cultivation and building of dams.**
Near Natural (includes areas with low to moderate level of alien invasive plants)	10%	**Alien invasive plants present in this area include species such as *Cirsium vulgare, Cosmos bipinnatus, Hypochaeris radicata, Plantago virginica, Tagetes minuta, Verbena bonariensis, Richardia brasiliensis* and *Guilleminea densa.***
Degraded (includes areas heavily invaded by alien plants)	5%	**Alien invasive plants present in this area include species such as *Cirsium vulgare, Cosmos bipinnatus, Hypochaeris radicata, Plantago virginica, Tagetes minuta, Verbena bonariensis,**

		Richardia brasiliensis* and *Guilleminea densa.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	70%	**This area predominantly falls within agricultural land. Department of Rural Department has embarked on a project to transfer some of the farms to the local population in support of crop cultivation and apple production.**

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)	[redacted]	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)	Estuary	Coastline	
	Least Threatened	**YES**	[redacted]	**NO**	[redacted] **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 study area is situated within the Grassland biome. The vegetation pattern in the study area is comprised of two main types: Basotho montane shrubland and the Eastern Free State Sandy Grassland – this vegetation type is Endangered, with around 2% conserved in the Golden Gate Highlands and Qwaqwa National Parks. Almost 50% of Eastern Free State sandy grassland has already been transformed for cultivation and building of dams.

A breeding pair of Blue Cranes was spotted on a Depression on Corridor 3 – see Avifauna Report.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	**Eastern Free State Express**	
Date published	**Eastern Free State Express on 16 January 2013**	
Site notice position	**Latitude**	**Longitude**
	28°28"40.35' **28°25"30.30'** **28°22"33.52'** **28°28"40.35'** **28°17"46.39'** **28°29"09.70'** **28°32"07.19'** **28°31"20.30'** **28°28"59.08'**	**28°49"49.52'** **28°48"42.92'** **28°51"38.16'** **28°49"49.52'** **28°52"50.26'** **28°49"24.77'** **28°48"28.44'** **28°48"58.15'** **28°51"10.54'**
Date placed	**22 January 2013 and 23 January 2013**	

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

2. 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.

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

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr. Sello Malakoane	**Ratanang Trust**	**083 716 3347**
Mr Jonas Mokoena	**Farm owner**	**073 200 6547**
Ms Lucy Motsima	**Farm owner**	**078 119 7190**
Mr. P Nhlapo	**Farm owner**	**078 307 6221**
Mr Swart Gerhardus Daniel	**Farm owner**	
Mr. P Hine	**Specialist SAHRA**	**021 462 4502**
Regional Manager	**WESSA**	**033 330 3931**
Regional Manager	**SANRAL**	**033 392 8100**
Regional Manager	**WWF**	**011 447 1213**
Regional Manager	**SANParks**	**012 428 9111**
Regional Manager	**SANBI**	**051 436 3530**
Mr. Y Friedmann	**CEO EWT**	**011 372 3600**
CEO	**SACAA**	**011 545 1000**

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.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
How is Eskom going to compensate affected landowners.	**Most of the I&AP's will be happy to negotiate with Eskom regarding compensation for usage of a portion of their land. Where I&AP's have formally responded to the consultation process, comments have been recorded in the comments and response document. It should however be noted that the process of servitude and substation site acquisition does not form part of this BAR. It is understood that Eskom will follow a process for the financial compensation for the usage of the route on the different farms including any conditions related to the ongoing use of the land by current owners will be part of the negotiations undertaken by Eskom.**

4. 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.

5. 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
Thabo Mofutsanyana District Municipality	Clr. M Mopedi	058 718 1014	058 718 1078		Private Bag X 810 Witsieshoek 9870
Thabo Mofutsanyana District Municipality	Ms. M R Mogopodi	058 718 1036	058 718 1034		Private Bag X 810 Witsieshoek 9870
Thabo Mofutsanyana District Municipality	Mr. M Mphahlele	058 718 1048	058 713 0940	Malemothob@Yahoo.Com	1 Mampoi Street Witsieshoek 9870
Maluti-A-Phofung Local Municipality	Mr. Lmd Ntombela	058 718 3767	058 713 6706	Ntombela@Map.Fs.Gov.Za	Private Bag X 805 Witsieshoek 9870
Maluti-A-Phofung Local Municipality	Mr. W Matjele	058 718 3756	058 718 3775	Pubsafety@Map.Fs.Gov.Za	Private Bag X 805 Witsieshoek 9870
Maluti-A-Phofung Local Municipality	Mr. S Mhlambi	058 718 3745	058 718 3777	Smhlami@Map.Fs.Gov.Za	Private Bag X 805 Witsieshoek 9870
Maluti-A-Phofung Local	Ms. M Hleli	058 718 3712	058 718 3775	Machela@Map.F	Private Bag X 805

Municipality				**s.Gov.Za**	**Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Mr. B Ungerer**	**058 718 3808**	**058 718 3775**	**Baby@Map.Fs.Gov.Za**	**Private Bag X 805 Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Ms. Pp Selepe**	**058 718 3800**	**058 718 3775**	**Memcoms@Map.Fs.Gov.Za**	**Private Bag X 805 Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Ms. S Moleleki**	**058 718 3844**	**058 713 6707**	**Mayoradmin@Map.Fs.Gov.Za**	**Private Bag X 805 Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Ms. M Mokoena**	**058 718 3795**	**058 718 6367**	**Mokoenamahadi@Map.Fs.Gov.Za**	**Private Bag X 805 Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Mr. T Mohlekwa**				**Private Bag X 805 Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Mr. S Nyembe**	**587 183 727**	**058 718 3777**	**Nyembes@Map.Fs.Gov.Za**	**1 Mampoi Street Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Mr. P J Letino**	**083 714 6860**	**058 713 6307**		**Private Bag X 805 Witsieshoek 9870**
Maluti-A-Phofung Local Municipality	**Clr. L Mokoena**				
Department Of Agriculture And Rural Development	**Ms. M Tlhobelo**	**051 861 8514**	**051 861 8578**	**Pacomm@Fs.Agric.Za**	**Private Bag X 01 Bloemfontein 9300**
Department Of Economic, Dev, Tourism & Env Affairs	**Mr. K Tau**	**051 400 9544**	**051 400 9593**		**Private Bag X 20807 Bloemfontein 9300**
Department Of Corporate Governance & Traditional Affairs	**Ms. S Bogatsu**	**051 403 3224**		**Hod@Fscogta.Gov.Za**	**P O Box 211 Bloemfontein 9300**
Department Of Police, Roads & Transport	**Mr. Z Walaza**	**051 403 7473**	**051 403 7421**		**P O Box 119 Bloemfontein 9300**
Department Of Public Works	**Ms. W Direko**	**051 403 3422**	**051 405 4490**		**P O Box 960 Bloemfontein 9300**
Department Of Mineral Resources	**Ms. S Kewuti**	**057 391 1300**	**057 357 1241**	**Kalipa.Kewuti@Dmr.Gov.Za**	**Private Bag X 33 Welkom 9460**
Department Of Rural Development & Land Reform	**Mr. P Raseobi**	**051 400 4200**	**051 400 4200**	**Kpraseobi@Ruraldevelopment.Gov.Za**	
Istrict Department Of Rural Development & Land Reform	**Mr. M Nchapi**	**058 303 3021**	**058 303 3055**	**Menchapi@Ruraldevelopment.Govza**	**P O Box 2566 Bethlehem 9700**
Istrict Department Of Rural Development & Land Reform	**Mr. M Mollo**	**058 303 3021**	**058 303 3055**	**Mamollo@Ruraldevelopment.Gov.Za**	**P O Box 2566 Bethlehem 9700**

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.

6. 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.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Planning and Design			
Use of vehicles during field survey	***Direct impacts:*** **Roads and vegetation damage**	**Medium**	• **Make use of existing access roads only**
	Indirect impacts: **N/A**		
	Cumulative impacts: **N/A**		
Construction Phase			
Site clearing for construction/placement of: **Access roads;** • **Foundations;** • **Steel framework i.e. towers or poles**	***Direct impacts:*** **Loss of vegetation and erosion**	**Medium**	• **Vegetation clearing to be kept to a minimum. No unnecessary vegetation to be cleared.** • **The final development area should be surveyed by an appropriately qualified ecologist for species suitable for search and rescue, which should be translocated prior to the commencement of construction.** • **No collection of plants or plant parts to be allowed by construction personnel. The ECO should provide environmental induction to all construction staff to ensure that they are aware of this and other environmental sensitivities at the site.** • **No fuelwood collection should be allowed on-site**
	Fauna will be impacted by the development as a result of construction activities and human presence at the site.	**Medium**	• **Any fauna directly threatened by the construction activities should be removed to a safe location by the ECO or other suitably qualified person.**

Activity	Impact summary	Significance	Proposed mitigation
			• **The collection, hunting or harvesting of any plants or animals at the site should be strictly forbidden.** • **Personnel should not be allowed to wander off the construction site. If the site must be lit at night for security purposes, this should be done with low-UV type lights (such as most LEDs), which do not attract insects.** • **All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel or oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.** • **No unauthorized persons should be allowed onto the site.** • **All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.**
	Disturbance and the construction activities are likely to result in habitat degradation, impact on biodiversity as well as deter fauna from moving through the area	**Low**	• **Hardened surfaces should be kept to a minimum** • **Roads should be as narrow as possible and as short as possible. A natural surface such as gravel would be preferable to a tarred or concrete road, except in very steep areas where it would be difficult to prevent erosion of natural surfaces.** • **Should a service road beneath the power line be required, this should be restricted to a track and a formal cleared road should not be necessary, especially through the rocky hills and drainage lines.** • **Vegetation should be allowed to remain alongside or encroach on the roads as much as possible.** • **Temporary lay-down areas should be in previously transformed areas or areas that will be used by the development.** • **Regular monitoring for erosion during construction to ensure**

Activity	Impact summary	Significance	Proposed mitigation
			that no erosion problems have developing as result of the construction disturbance. • **All erosion problems observed to be associated with the project should be rectified as soon as possible, using the appropriate erosion control structures and revegetation techniques**
	Disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological and paleontological material or objects.	**Medium**	**Observed sites are all of low significance and are sufficiently recorded and no further mitigation will be necessary as the impact of the pylon positions are considered to be extremely low and comparative material will remain on the unaffected areas of the site.**
	Creation of employment and business opportunities	**Low**	**Maximise the use of local labour for low – semi skilled** **jobs far as possible.**
	Construction on sensitive visual receptors in close proximity to the proposed power line.	**Low**	• **Ensure that vegetation is not unnecessarily removed during the construction period.** • **Reduce the construction period through careful logistical planning and productive implementation of resources. Plan the placement of lay-down areas and temporary construction equipment camps in order to minimise vegetation clearing (i.e. in already disturbed areas) wherever possible.** • **Restrict the activities and movement of construction workers and vehicles to the immediate construction site and existing access roads.**
	Indirect impacts: **Irreplaceable loss of archaeological heritage resources.**	**Low**	• **N/A**

Activity	Impact summary	Significance	Proposed mitigation
	Once the construction phase is complete, locals employed on the site may not be able to find future employment	**Low**	• **N/A**
	Cumulative impacts: **Possible erosion of areas lower than the access road**	**Medium**	• **Cumulative impacts of developments on population viability of species can be reduced significantly if new developments are kept as close as possible to existing developed areas or, where such is not possible, different sections of a development be kept as close together as possible.**
	Irreplaceable loss of archaeological heritage resources	**Low**	• **N/A**
	The development together with other project in close proximity serves to increase the potential for job creation.	**Low**	• **N/A**
• **Stripping, levelling and compaction of soil; (power line and access roads)** • **Drilling/excavations;** • **Usage of construction equipment and vehicles**	***Direct impacts:*** **Soil erosion on construction sites due to decreased vegetation cover and increased water run-off**	**Low**	• **If it is not possible to retain a good plant cover during construction, technologies should be employed to keep the soil covered by other means, i.e. straw, mulch, erosion control mats, etc., until a healthy plant cover is again established.** • **Compile and implement an appropriate stormwater management plan**
	Dust production and dust pollution of grazing plants	**Low**	• **Apply dust control measures, e.g. water spraying or use of commercial dust suppressant.**

Activity	Impact summary	Significance	Proposed mitigation
	Contamination and degradation of the soil due to spillages of oil, petrol, diesel and other contaminants used by vehicles and equipment on the site or stored on the site	**Low**	• **Vehicles and equipment must be serviced regularly and maintained in a good operating condition.** • **Storage of contaminants must be limited to low quantities and done under strict industry standards.** • **There must be strict control over the safe usage of vehicles and equipment to minimise vehicle accidents and damage to vehicles by rocks and boulders which may cause spillages.**
	Disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological and paleontological material or objects.	**Low**	• **If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) so that systematic and professional investigation/ excavation can be undertaken.**
	Indirect impacts: **Destruction of natural bird habitat on and near site**	**Medium**	• **Provide protection for sensitive habitats** • **Conduct avifaunal walk through to identify these areas**
	Cumulative impacts: **N/A**		
• **Storage and usage of hazardous chemicals;** • **Storage of hazardous waste**	***Direct impacts:*** **Inappropriate storage of hazardous materials and/or waste may lead to leaching and ground water pollution**	**Low**	• **Hazardous material should be properly stored.**

Activity	Impact summary	Significance	Proposed mitigation
	Contamination and degradation of the soil due to spillages of oil, petrol, diesel and other contaminants used by vehicles and equipment on the site or stored on the site	**Low**	• **Vehicles and equipment must be serviced regularly and maintained in a good operating condition.** • **Storage of contaminants must be limited to low quantities and done under strict industry standards.** • **There must be strict control over the safe usage of vehicles and equipment to minimise vehicle accidents and damage to vehicles by rocks and boulders which may cause spillages.**
	Indirect impacts: **N/A**		
	Cumulative impacts: **N/A**		
Operational Phase			
• **Maintenance of power line ;** • **Use of vehicle during maintenance.**	***Direct impacts:*** **Maintenance or repair activities could impact intact vegetation and individuals of listed or protected plant species**	**Low**	• **Site access should be controlled and only authorised staff and contractors should be allowed on-site.** • **Notice boards stating that fauna and flora may not be collected, harvested etc should be placed at the entrances to the site.** • **Any maintenance activities should avoid listed plant species and strive to keep the disturbance footprint as limited as possible.** • **No herbicides should be used and if vegetation clearing needs to take place, this should be done by hand.** • **Although it is not likely to be required, if any taller vegetation needs to be cleared beneath the power line to comply with the Eskom requirements, this should be done by hand and protected species should be avoided where possible. Alternatively, it may be possible to reduce the height of some species by cutting the trees back and allowing them to resprout**

Activity	Impact summary	Significance	Proposed mitigation
			without destroying them. As the growth rate of important species is very slow, this would not need to be occur very often. Appropriate permits must be obtained before any protected species is pruned or destroyed.
	Electrocution of birds whilst perched or roosting on pylons or towers	**Medium**	• **Use bird friendly pole structures** • **Conduct avifaunal walk through to identify any high risk areas**
	Collision of birds with overhead cable	**Medium**	• **Install anti bird collision line marking devices on high risk sections of power line** • **Conduct avifaunal walk through to identify these high risk areas**
	Damage to roads	**Low**	• **All staff must make use of existing roads**
	Potential visual impact on the intrinsic value and sense of place	**Low**	• **Maintain the general appearance of the power line servitude as a whole.**
	Visual impact on residents of homesteads and settlements in close proximity to the proposed power line	**Low**	• **Maintain the general appearance of the servitude as a whole.**
	Indirect impacts: **The presence of the power line, and associated infrastructure will impact fauna as a result of some permanent habitat loss as well as from increased levels of human activity likely to be associated with the operation and maintenance of the**	**Low**	• **The collection, hunting or harvesting of any plants or animals at the site should be strictly forbidden.** • **No unauthorised persons should be allowed onto the site.** • **All maintenance vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.**

Activity	Impact summary	Significance	Proposed mitigation
	infrastructure.		
	The presence of the infrastructure and the alterations to the habitat will disrupt the connectivity of the landscape for some fauna which may avoid passing through the area and the residual disturbance from the construction phase will leave the site vulnerable to alien plant invasion and erosion	**Medium**	• **Hardened surfaces should be kept to a minimum** • **Any new roads required should be as narrow as possible and as short as possible. A natural surface such as gravel would be preferable to a tarred or concrete road.** • **Vegetation should be allowed to remain alongside or encroach on the roads as much as possible.** • **Regular monitoring for erosion post-construction to ensure that no erosion problems have developed as result of the past disturbance.** • **All erosion problems observed should be rectified as soon as possible, using the appropriate erosion control structures and revegetation techniques.** • **Regular monitoring for alien plant invasion, which is likely to occur in previously disturbed areas or in areas receiving runoff from the hardened surfaces of the infrastructure.** • **Appropriate measures should be implemented to remove alien vegetation within the development footprint**
	Disturbance of birds on site and in surrounding area	**Medium**	• **Provide protection for sensitive habitats and any breeding sensitive species close to site** • **Conduct an avifaunal walk through as part of the site specific environmental management plan for this project**
	Cumulative impacts: **All of the above impacts will also occur at a cumulative level, although collision of birds with the power line will be of most**	**Medium**	• **The project specific impact mitigation is mentioned above**

Activity	Impact summary	Significance	Proposed mitigation
	concern.		
Decommissioning and Closure Phase			
• **Disassemble power line component according to regulatory requirements»** • **Impacts associated with erosion and alien vegetation invasion.** • **Disturbed areas will be rehabilitated**	***Direct impacts:*** **The major social impacts associated with the decommissioning phase are linked to the loss of jobs, in addition, the social impacts associated with final decommissioned are likely to be limited due to the relatively small number of permanent employees affected. Impacts associated with erosion and alien vegetation invasion**	**Low**	• **The potential impacts associated with the decommissioning phase can also be effectively managed with the implementation of a retrenchment and downscaling programme. With mitigation, the impacts are assessed to be Low (negative).** • **Avoid establishment of soil seed bank that would take decades to remove. Remove all alien plants in the project area.**
	Indirect impacts: **Impacts associated with erosion and alien vegetation invasion**	**Low**	• **Establish an on-going monitoring programme to detect and quantify any aliens that may become established**
	Cumulative impacts: **N/A**		

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

2. 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.

Alternative A (preferred alternative)

All of the route corridor alternatives pass through varied environmental conditions with features including the Elands and Namahadi rivers and several tributaries, agricultural lands and open grasslands. Taking into account all of the factors identified through extensive study, Corridor 2 is recommended. The route is able to follow existing infrastructure for the majority of its length and furthermore can be sited in the most part in such a way that it only passes through areas of low sensitivity. The mitigation measures outlined in specialist reports and the Environmental Management Plan appended to this document will need to be implemented as part of the proposed development.

Option 2 was selected as the preferred corridor in terms of its visual impact on the receiving landscape as it follows an existing power line entirely. There are some heritage resources along this corridor, the archaeologist and heritage specialist appointed for the EMP phase of the project will have to advise on the best possible location of pylons positions in order to avoid direct impacts on the identified heritage resources and minimise the associated impacts thereof. Due to its placement next to the existing line, this corridor again presents itself as a suitable site from Avifaunal point of view as it will be more visible to birds vulnerable to electrocution.

Alternative B

Corridor 3 is the second preferred corridor. A large extend of this corridor follows an existing tar road between Kestell and Phuthaditjhaba (R57 for approximately 12 kilometres). The habitat alongside Corridor 3 consists mainly of converted croplands, with three small freshwater dams and patches of undisturbed grassland areas. Important heritage sites were also identified along this corridor and mitigation measures measures proposed for Corridor 2 would also be implemented for this corridor. A sensitive Depression was identified on this corridor. A breeding pair of Blue cranes was identified on this depression. 12 % of this corridor was classified as greenfields. Visibility and Visual exposure would be high. Mitigation measures that include the use of less visually intrusive distribution power line tower designs (already employed by Eskom) and the careful positioning of infrastructure within the natural and man-made landscape should be employed in order to decrease the visual impacts associated with the proposed infrastructure of the Wetsieshoek-Sorata Project

Alternative C

Corridor 1 is the least preferred corridor. 14 % of this corridor was classified as "greenfields". Visibility and Visual exposure would be high. Proposed Corridor 1 will cross several wetlands as well as the adjacent Elands and Namahadi rivers and would transverse a

relatively large proportion of undisturbed grassland and a smaller proportion of agricultural land. This corridor is the least viable in an ecological sense. There are several Valley Bottom with Channel wetlands within corridors 1. Compliance to at least a 50m setback for all identified aquatic features within the delineated waterbodies should be implemented.

No-go alternative (compulsory)

In terms of the 'no-go option', in this case the proposed development is considered to be vital infrastructure both in the national interest as well as at a local and regional level. Delivering priority infrastructure such as the proposed scheme delivers on Eskom's agreed operational objectives of ensuring reliability of supply and providing for future demand growth. It also makes an essential contribution to wider governmental objectives associated with the provision of housing and basic utilities to a wider cross section of society. For this reason the 'no-go option' is not considered viable in these circumstances

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

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.

Margen Industrial Services (Margen) were commissioned by Eskom SOC Limited to undertake an Environmental Assessment of the proposed Sorata – Witsieshoek Power Line Project. It was established that a Basic Assessment Report is the appropriate level of assessment for this project. A total of three route corridor options have been considered as part of this Basic Assessment Report and the results and recommendations presented above.

In addition to an extensive public consultation exercise, a number of specialist studies were undertaken in order identify potential environmental impacts arising from the implementation of the proposed infrastructure. Based on the information gathered by specialists and received from Interested and Affected Parties (I&AP's) that responded during the public consultation process, a sensitivity analysis was undertaken to indicate the main social and environmental features present within the study area and the likely impact of distribution line infrastructure on them.

All of the route corridor alternatives pass through complex and varied environmental conditions with features including the wetlands, rivers and ridges. Despite these challenging conditions, the final evaluation of routes eliminated the 'no-go' option based on conformance with Eskom's own performance objectives and national, regional and local priorities for the provision new transmission infrastructure.

Thus, taking into account all of the factors identified through extensive study, Route Corridor Option 2 was recommended by specialists. The route is able to follow existing infrastructure for the majority of its length and furthermore can be sited in the most part in such a way that it only passes through areas of low sensitivity.

Eskom as the Applicant, has raised concerns with the recommended route (Route Option 2). It is proposing Route Option 1 and is prepared to have further consultations with the DEA to present this option: Some of the reasons that Eskom are putting forward include:

Route 1 is approximately 10km shorter that running the network as close to the existing route. This has many implications:

- **The cost per km is reduced. Current Rand value to build 1km of line is R1,2million/km which will result in a savings of R12million on the project.**
- **The network losses will be reduced. The conductor impedance is reduced with**

a shorter line length and this translates into a smaller I2R losses. This means that additional network capacity is released on the network for additional growth.

- **The aesthetic impact is reduced as the network will now run behind the mountainous area and away from the primary road linking Kestel to Witsieshoek.**
- **The shorter route is more accessible to fields staff and locating faults will be easier as the line will not be traversing the mountainous areas. This means faster return to service for customers.**
- **Constructability of the network will be simplified, and this means that the project can be executed faster, as opposed to building the network on the longer route.**

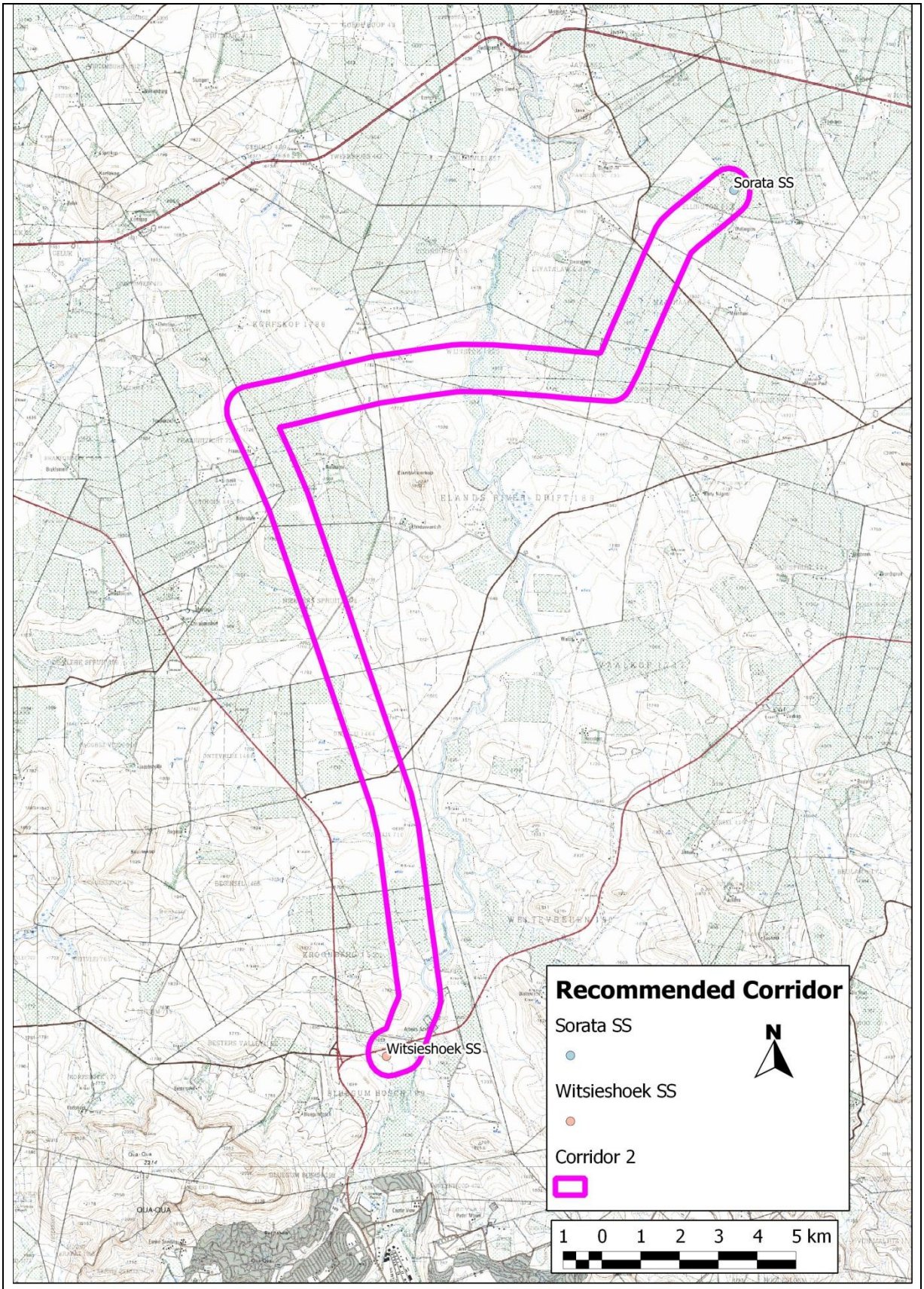

Figure 1: Route 2 – Recommended Route

The construction of the proposed power line should be implemented according to the EMPr (Appendix G) to adequately mitigate and manage potential impacts associated with construction activities. The construction activities and relevant rehabilitation of disturbed areas should be monitored against the approved EMPr, the Environmental Authorisation and all other relevant environmental legislation.

Mitigation measures that include the use of less visually intrusive distribution power line tower designs (already employed by Eskom) and the careful positioning of infrastructure within the natural and man-made landscape should be employed in order to decrease the visual impacts associated with the proposed infrastructure of the Wetsieshoek-Sorata Project. Compliance to at least a 50m setback for all identified aquatic features within the delineated waterbodies should be implemented. No towers or tracks must be placed within the wetland areas. Where river crossings occur or where there are ridges, towers must be fitted with the standard Eskom bird perch which will provide suitable, safe perching in particular for the vultures in the area.

Eskom must ensure compliance with the National Environment Management: Biodiversity Act, 2004 (Act 10 of 2004, section 56 (d) and section 57 (1) with, regards the protected and indigenous species. Any solid waste shall be disposed of at a waste disposal facility permitted in terms of Section 20(b) of the National Environmental Management Waste Act, 2008 (Act No. 59.of 2008).

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.

Margen Industrial Services

_____

NAME OF EAP

_____ 16 August 2013

SIGNATURE OF EAP DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information