

ESKOM HOLDINGS (SOC) LTD

FINAL BASIC ASSESSMENT REPORT FOR THE PROPOSED OLIEN-KARATS 132KV POWERLINE, KGATELOPELE LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE

GIBB REF: J34152

DEA REF: 14/12/16/3/3/1/1356

March 2015



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environmental affairs

Department: Environmental Affairs **REPUBLIC OF SOUTH AFRICA**

(For official use only)

File Reference Number: Application Number: Date Received:

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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	NO
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If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

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

GIBB (Pty) Ltd (GIBB) has been appointed by Eskom Holdings SOC Ltd, Eskom Distribution – Northern Cape Operating Unit (Eskom) to undertake an environmental authorisation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended (NEMA) and the Environmental Impact Assessment Regulations of 2010 for the construction of the proposed 132kV powerline from the Olien substation to the Karats substation, Northern Cape Province (refer to Figure 1 & Appendix 6). A 200m corridor will be assessed along each of the proposed routes to determine the environmental impacts and significance of these impacts associated with the proposed development. Eskom has applied for environmental authorisation from the National Department of Environmental Affairs (DEA), Reference number: 14/12/16/3/3/1/1356.

Study Area:

At a regional level, the study area lies within the Northern Cape Province and is situated within the Kgatelopele Local Municipality. Two route options exist for the proposed powerline extending from the Olien substation to the Karats substation, with an approximate distance of 20km. The two route options follow similar alignments and are located in close proximity to one another. Both alignments extend from the Olien substation in a north-easterly direction for approximately 6.8km. From there **Alternative 2** changes direction and extends in a south-south-easterly direction for approximately 5km towards the existing Silverstreams substation and lastly changes direction again to extend in a north-easterly direction for an approximate 11km before connecting to the existing Karats substation (total length of approximately 23km).

From the initial alignment, **Alternative 1 (preferred)** splits from Alternative 2 and changes direction to extend in a south-easterly direction for approximately 7.6km before changing to a north-easterly direction for an approximate 6km before connecting to the existing Karats substation (total length of approximately 20km).

The proposed project involves the construction of:

- An approximate 20 km 132kV overhead single circuit distribution powerline from the Olien substation to the Karats substation; and
- A new 132kV feeder bay at the Karats substation.

Based on the proposed route and nature of the project, several watercourses will be crossed by the 132kV powerline and as such a water use licence application (WULA) must be undertaken for the project.

It should be noted that the main purpose of the proposed powerline is to strengthen the existing electricity supply in the area, and as such provide the area with adequate and reliable power supply to meet current and future demands.



Figure 1: Olien – Karats 132kV powerline locality map

132 kV Pylons:

The pylon proposed for this project is the single circuit steel mono-pole structure (Figure 2). These self-supporting mono-pole structures will comprise the following characteristics:

- The footprint for the self-supporting mono-pole structures is approximately 1m² in size;
- The mono-pole structures will be buried to a depth of between **1.2m** and **2.0m**;
- The height of the mono-pole structures will range between **18m** and **24m**;
- The span lengths between the mono-pole structures will vary on average between **225m** and **250m** depending on terrain. Span lengths can be longer than 250m if the topography allows for this. These variations are due to a number of factors including the structure, the terrain, ground clearance requirements, topology and geology; and
- The operation and construction servitudes will be **31.0m** (i.e. **15.5m** on either side of the centre line).



Figure 2: Single circuit steel mono-pole structures to be used for the Pylon structures

In addition to this, various tower types can be used depending on the terrain and powerline profile. These tower types constitute the following:

- Mono-pole guyed intermediate suspension structures;
- Mono-pole self-supporting intermediate suspension structures;
- Mono-pole angle suspension structures;
- Mono-pole strain structures;
- H-Pole structures; and
- 3 Pole strain structures.

The pylons will be composed of steel and the average span between two towers can vary between 200m and 375m depending on the ground profile and the terrain it covers. The size of the foundation footprint is related to the type of structure to be used. The steel mono-pole structure has a concrete cap at the foot of each steel mono-pole structure (Figure 3) with a diameter of 750mm and 500m deep.



It is proposed that the Steel Mono-pole structures will be used along with the Intermediate structures located in between them, depending on the terrain. Please note that this will be finalised prior to construction. Refer to Appendix C for illustrations of the type of pylon structures that are under consideration.

Servitude Requirements and Clearances:

The servitude width for a 132 kV distribution line is 31 m (15.5 m on either side of the centre line of the powerline). The minimum vertical clearance to buildings, poles and structures not forming part of the powerline must be 3.8 m, while the minimum vertical clearance between the conductors and the ground is 6.7 m. The minimum distance of a 132 kV distribution line running parallel to proclaimed public roads is 95 m from the centreline of the distribution line servitude to the centreline of the road servitude. The minimum distance between any part of a tree or shrub and any bare phase conductor of a 132 kV distribution line must be 3.8 m to allow for the possible lateral movement of this vegetation that could be a potential hazard for distribution lines that are operational and energised. The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) provides for statutory clearances. Table 1 summarizes some of the key clearances relevant to the proposed 132 kV powerline.

Table 1:	Clearance	specifications	(Eskom,	2007)
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Clearances	Minimum Clearance Distance (m)
Ground clearance	6.7
Building structures not part of powerline	3.8
Above roads in townships, proclaimed roads	7.5
Telkom telephone lines	2.0
Spoornet Tracks	10.9

Should the preferred distribution line corridor receive positive environmental authorisation from the DEA, and following on from successful negotiations with landowners, the final delineation of the centreline for the distribution line and co-ordinates of each bend in the line will be determined. Optimal tower sizes and positions will be identified and verified through comprehensive ground survey of the preferred route and these positions will be reflected in, and appropriate management actions incorporated into the periodically updated Environmental Management Programme (EMPr).

Trees and large shrubs causing clearance issues will be trimmed or cleared. If any tree or shrub in other areas interferes with the operation and/or reliability of the distribution line it will be trimmed or

completely cleared. In areas where distribution lines cross existing orchards or agricultural lands in use, the footprint of the structures will be minimised and full scale clearing of the servitude avoided to allow continued use of the arable land, unless otherwise negotiated with the affected farmer/s. Clearing of vegetation will take place along approved profiles and in accordance with the approved EMPr and the Eskom Vegetation Management Standard 240-52456757.

Access:

Access is required during both the construction and operation/maintenance phases of the powerline's life cycle. Access to the 132kV powerline will be confined to the powerline servitude itself and existing access roads and tracks will be used to gain access to construction sites and the servitude. Therefore, transportation activities for construction (construction material and teams) and maintenance activities will make use of both existing access roads and the power line servitude.

It should be noted that there are existing tracks and access roads in and around the vicinity of the powerline for majority of the route. Where it is not possible to use existing tracks, transportation will occur along the approved powerline servitude.

Foundations:

The type of terrain encountered, as well as the underlying geotechnical conditions determines the choice of foundation. The actual size and type of foundation to be installed will depend on the soil bearing capacity (actual sub-soil conditions). Strain structures require more extensive foundations for support than in-line suspension structures, which contribute to the cost of the construction of the line. Foundations will be mechanically excavated then the pouring of concrete for the setting of the foundations. In areas where access to the structure position prohibits the use of concrete mixing trucks, uphill pumping or gravity feeding of concrete up to distances of 200 m will be implemented. Prior to erecting the structures and infilling of the foundations, the excavated foundations will be covered/fenced-off in order to safeguard unsuspecting animals and people from injury. All foundations are back-filled, stabilised through compaction, and capped with concrete at ground level.

Insulators:

Composite insulators have a glass-fibre core with silicon sheds for insulation and are used to connect the conductors to the towers. Glass and porcelain have been used to connect the conductors for many years, and is the most common. These products are, however, heavy and susceptible to breakage by vandals, as well as contamination by pollution. Composite insulators are lightweight and resistant to both vandalism and pollution. Composite (Long rod type) insulators with silicone based weathershed material will be used.

Construction Process for distribution lines:

The powerlines will be constructed in the following simplified sequence:

Step 1: Determination of technically feasible distribution line alternatives;

- Step 2: EIA input into route selection and obtaining of relevant environmental permits;
- Step 3: Negotiation of final route with affected landowners;
- Step 4: Survey of the route;
- Step 5: Selection of best-suited structures and foundations;
- Step 6: Final design of distribution line and placement of towers;
- Step 7: Issuing of tenders and award of contract to construction companies;
- Step 8: Vegetation clearance and construction of access roads (where required);
- Step 9: Pegging of structures;
- Step 10: Construction of foundations;
- Step 11: Assembly and erection of structures;
- Step 12: Stringing of conductors;
- Step 13: Rehabilitation of disturbed area and protection of erosion sensitive areas;
- Step 14: Testing and commissioning; and
- **Step 15:** Continued maintenance.

Stringing of Conductors:

Automatic stringing gear is used to string the conductors between towers. The line is strung in sections (from bend to bend). Cable drums are placed at 5 km intervals (depending on the length of the conductor) during this stringing process. In order to minimise any potential negative impacts on the surrounding area, these cable drums should be placed within the servitude.

Construction Period:

An estimated construction period of 6-12 months is envisaged. The construction period will however depend on the season and environmental conditions in which construction is undertaken and may be fast tracked.

On-going Maintenance:

During the life span of the powerlines, which is approximately 25 years, on-going maintenance will be performed from time to time. Due to the climate and weathering conditions experienced in the Northern Cape Province (less stringent), it is estimated that the lifespan the mono-pole structure will have an increased lifespan of approximately 50 years. Eskom maintenance staff and contractors employed by Eskom will undertake the maintenance works as required.

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 that triggers listed activity – if activities in GN R. 546 are triggered, indicate the triggering criteria as described in the second column of GN R. 543
e.g. GN R.544 Item XX(x): The construction of a bridge within 32m of a water course	e.g. A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Vaal river
 GN R.544 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 	The proposed distribution line connecting Olien Substation to the Karats Substation will be 132kV and lies outside an urban area.
less than 275 kilovolts;-	
GN R.544 Item 11(xi): The construction of: (xi) infrastructure or structures covering 50 square metres or more	Several watercourses may be crossed along the powerline route, and as such pylons may be constructed within 32 metres of the watercourse.
Where such construction occurs within a watercourse or within 32 metres of watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	
GN R.544 Item 18(i): The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from:	Several watercourses may be crossed along the powerline route, and as such pylons may be constructed within the watercourse.

(i) a watercourse;	
 but excluding where such infilling, depositing , dredging, excavation, removal or moving; (a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line. 	
GN R.546 Item 14 (a) (i):	Vegetation will be cleared to allow for the erection of the
 The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for: (1) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes; (2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list; 	required for the 132kV powerline.
(3) the undertaking of a linear activity falling	
 (a) In Eastern Cape, Free State, KwaZulu-Natal, Gauteng, Limpopo, Mpumalanga, Northern Cape, Northwest and Western Cape: (i) All areas outside urban areas. 	

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.

DESCRIPTION OF ALTERNATIVES:

There are two route alternatives between the Olien and Karats substations (see Figure 4 below).

Alternative 1 (Preferred alternative) :

Alternative 1 (preferred) is approximately 20km in length and extends from the Karats substation in a north-easterly direction for approximately 6.8km before it changes direction to extend in a south-easterly direction for a further 7.6km. From there the alignment changes direction again to extend in a north-easterly direction for approximately 6km before connecting to the existing Olien substation.

Alternative 2:

Alternative 2 is approximately 23km in length and follows the same initial alignment of alternative 1 where it extends from the Karats substation in a north-easterly direction for approximately 6.8km. From there, alternative 2 changes direction and extends in a south-south-easterly direction for approximately 5km towards the silverstreams substation and lastly changes direction again to extend a further 11km before connecting to the existing Olien substation.

GPS coordinates for both alternative routes has been provided in Appendix A2.

Topography, hydrology, land ownership, servitude negotiations, line maintenance, socio-economic and environmental aspects were considered during the assessment of each routing alternative as shown in Section D below.

Please refer to Figure 3 below which outlines both distribution route alignments.

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Figure 4: Alternative 1 (preferred – green line) & Alternative 2 (red line) powerline alignments

Site alternatives a)

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS) L	ong DDMMSS)
Alternative 2		
Description	Lat (DDMMSS) L	ong DDMMSS)

In the case of linear activities:

Alternative: Alternative S1 (preferred)	Latitude (S):	Longitude (E):
Starting point of the activity Karats substation	28°22'32.20"S	23°26'55.07"E
Bend 1	28°19'39.10"S	23°29'26.92"E
Bend 2	28°20'48.00"S	23°33'54.06"E
Middle/Additional point of the activity	28°20'22.96"S	23°32'31.00"E
 End point of the activity Olien substation 	28°19'58.96"S	23°37'22.93"E
Alternative S2		
 Starting point of the activity Karats substation 	28°22'32.20"S	23°26'55.07"E
Middle/Additional point of the activity	28°21'03.34"S	23°32'11.45"E
Bend 1	28°19'35.31"S	23°29'30.48"E
• Bend 2	28°21'12.63"S	23°31'32.25"E

End point of the activity Olien substation

28°22'32.20"S	23°26'55.07"E
28°21'03.34"S	23°32'11.45"E
28°19'35.31"S	23°29'30.48"E
28°21'12.63"S	23°31'32.25"E
28°19'58.96"S	23°37'22.93"E

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.

REFER TO APPENDIX A2 FOR GPS CO-ORDINATES TAKEN EVERY 250m.

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 – N/A

Layout alternatives are not applicable to the construction of the proposed Olien-Karats 132kV powerline.

c) Technology alternatives – N/A

Alternative technologies have not been considered as the technology to be used is already considered as the most appropriate technology and in some cases has been specifically designed for the existing environmental conditions and terrain, as specified by standard Eskom specifications and international best practice. The pylons under consideration for this project are the most appropriate based on the terrain and design integrity as well as for the purpose for which the powerline is to be constructed.

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

No other alternatives have been considered

e) No-go alternative

The No-go alternative in the context of this project implies that the powerline is not to be constructed. If the project does not proceed, the potential negative impacts related to the risk of collisions of birds, clearing of vegetation, soil erosion and wetland degradation would be avoided. The surrounding area will however, will be negatively affected due to the lack of a constant and reliable electricity supply. This will directly inhibit future developments and economic growth in the area. The need for stable and reliable power supply to meet current and future demand (considering the growth of nearby large companies such as Assmang Limited, Transnet and Sishen Iron Ore mine) will outweigh the potential impacts to the surrounding environment. The impacts to the surrounding environment can be proactively mitigated to acceptable levels.

The No-Go Alternative is therefore not recommended.

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: Alternative A1¹ (preferred activity alternative) Alternative A2 (if any) or, for linear activities:

Alternative S1 (preferred activity alternative) Alternative S2

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

Alternative:

Alternative 1 Alternative 2 (preferred activity alternative)

4. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

Size of the activity: N/A

Length of the activity:	
20 km	
23 km	

Size	of	the
site/serv	itude:	

YES	NO
Х	
m	

¹ "Alternative S" refers to site alternatives.

Describe the type of access road planned:

Due to the close proximity of distribution powerlines in the area, existing roads and tracks will be used during construction and maintenance activities. Where no access roads exist in close proximity to the proposed powerline route, all impacting activities will take place within the servitude for the approved powerline alignment. The approved servitude will in this instance be utilised for the construction of the powerline and also to allow the maintenance team to gain access to the proposed line itself once constructed for on-going maintenance. No additional formal access roads will be constructed for this purpose.

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 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 X	NO	Please explain
The powerline and structures will be located in a servitude area that upon completion of landowner consideration negotiations. The propose to existing powerlines for majority of the route.	will be ed powe	register erline is	red by Eskom also adjacent

2. Will the activity be in line with the following?							
(a) Provincial Spatial Development Framework (PSDF)	YES X	NO	Please explain				
The Northern Cape Provincial Development and Resource management Plan/ Spatial Development Framework (PSDF) was completed on 31 July 2012 and is valid from the date of approval. The PSDF draws upon and aims to give effect to the vision put forward in the Northern Cape Provincial Growth and Development Strategy (PGDS), namely building a prosperous, sustainable growing provincial economy to eradicate poverty and improve social development. Ensuring the sustainability of the resource base upon which the general well-being of the people of the Northern Cape depend.							
The PSDF was prepared in accordance with the principles of bioregic the requirements of the Northern Cape. The Northern Cape has the country and the construction of the proposed powerline will have a economy of the area. This is due to the provision of consistent and re surrounding area which promotes economic growth. The economic gro in the area is much needed as members of the community will of opportunities created.	onal pla e small positive liable su owth in t directly	nning a est pop impac upply el the loca benefit	dapted to suit pulation in the at on the local ectricity to the communities from the job				
The Northern Cape Provincial Spatial Development Plan recognises under stress in the province and large development projects area limitations.	that the	e electr ed by	icity supply is the electricity				
(b) Urban edge / Edge of Built environment for the area	YES	NO X	Please explain				
Kgatelopele Local Municipality (formerly known as Danielskuil Municipal District or area) is a category B municipality (NC086) and includes the towns of Danielskuil and Lime Acres. It serves a geographical area of 2,478 km ² and has a population of 18,687 with an average of approximately 8 people per km ² . The proposed development will take place outside the urban edge and it is important to note that							
majority for the proposed powerline corridors will extend parallel to the area.	he exist	ing pov	verlines in the				

(c)	Integrated Development Plan (IDP) and Spatia 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 X	NO	Please explain
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The Integrated Development Plan (IDP) for the Kgatelopele Local Municipality (KLM) has identified electricity as a service delivery need and prioritises the need to provide universal access to this service. The KLM has identified insufficient provision and maintenance of electricity as a priority concern (Siyanda District Municipality Integrated Development Plant (IDP) 5 years plan 2010/2011-2012). In the ZF Mgcawu District Municipality (previously known as Siyanda District Municipality) (which encompasses KLM) insufficient electricity infrastructural development is regarded as a priority concern. In light of this, it is clear that the proposed development is aligned and supports the municipal objectives and priorities for service delivery and infrastructural development in the area.

The poverty level is also a major concern in the District. Qualified people are leaving the District and the necessary facilities should therefore be established to improve this situation and retain skills in the local communities. This clearly indicates again that economic development and job creation is one of the urgent developmental concerns in the District.

In line with the National outcomes set for the implementing the IDP, the proposed project will assist in speeding up the growth and transformation of the economy to create decent working environments and sustainable livelihoods throughout the surrounding area.

(d) Approved Structure Plan of the Municipality	YES X	NO	Please explain
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The proposed development falls within the category of service infrastructure and as such will have no bearing on the municipality's Structure Plans.

(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?)	YES X	NO	Please explain
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The Environmental Management Framework (EMF) aims to ensure that environmental limits to development are included in spatial planning documents. The need for spatial environmental information is critical both as a guide to areas that should be protected from excessive development, as well as to highlight to other planning disciplines the opportunities those environmental resources present to enhancing development. A challenge facing the Northern Cape Province is to engage in a multi-dimensional approach to spatial planning and development that goes beyond single perspectives to, both space and time.

The proposed development falls within Environmental Control Zone 1 and 4 of the EMF for ZF Mgcawu District Municipality. Zone 1 is sensitive with respect to abstraction and potential groundwater pollution; and Zone 4 is sensitive with respect to potential wind erosion areas occurring throughout the district.

The proposed project is in line with the desired outcomes and objectives of the Environmental Management Framework adopted by the Department and will not compromise the integrity of the existing environmental management priorities for the area. Appropriate and effective mitigation measures, aligned to the desired outcomes of Zone 1 & 4, will be incorporated into the EMPr and adhered to throughout the various development phases of the proposed project. It should be noted that the pylon structures will have a minimal impact on the vegetation and all impacts have been rated as <u>low negative</u> by the ecological specialist given that the mitigation measures are implemented effectively.

In addition to this, the EMF recognises the need to provide electricity to all areas within the district. Therefore, the proposed development is aligned to the EMF for the district as it will assist with the provision of electricity.

(f) Any other Plans (e.g. Guide Plan)	YES	NO X	Please explain
No other plans applicable			

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 X	NO	Please explain
----	---	----------	----	----------------

The proposed development is situated within the Kgatelopele Local Municipality which forms part of the ZF Mgcawu District Municipality. The IDPs for the abovementioned municipalities have identified electricity as a service delivery need and prioritises the need to provide universal access to this service. The Current land use for the affected area mostly consists of Agriculture. Apart from farming, various projects and programmes have been identified within the credible IDPs of the abovementioned local and district municipalities, to initiate skills development, economic development, and increase social economic growth, create much needed job opportunities and promote tourism development throughout the district.

The Kgateloplele Local Municipality specifically identifies insufficient provision and maintenance of electricity as a priority concern that needs to be resolved in order to meet their objective of providing electricity to all residents in this municipal area by 2020 (Kgatelopele Local Municipality IDP, 2013/2017). In the ZF Mgcawu District Municipality, insufficient electricity infrastructural development is regarded as a priority concern (Siyanda District Municipality IDP, 2011/2012). In this way, the proposed development is aligned with the priority projects and programmes identified within the IDPs for the local and district municipalities.

Based on the information outlined above, it is clear that the proposed project is aligned to the desired outcomes and objectives of the projects and programmes identified within the IDP specific to the area affected by the proposed development.

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 X	NO	Please explain
----	---	----------	----	----------------

Electricity provision in South Africa is a critical issue and it is impossible to create an economically sound country without a secure and reliable electricity source. As previously mentioned, the proposed development forms part of the country's strategies to meet future electricity consumption requirements.

Given that the provision and maintenance of electricity supply has been highlighted as key areas of concern in both the local and district municipal IDPs, increasing the capacity of the electrical infrastructure throughout the study area will provide a stable and reliable supply of electricity which will encourage development in areas which have previously been limited. In addition to this, the proposed development could also improve the livelihoods of local communities by assisting the Local Government in providing electricity to them. Local employment opportunities will also be created during the construction phase of the proposed development.

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 X	NO	Please explain	
No additional services will be required to cater for the new electric construction phase, workers will be accommodated and housed with adjacent towns.	ty infras in the to	structur wn of I	e. During the Lime Acres or	
Water will be sourced commercially and locally from the municipality; however large volumes will not be required. During the construction phase, water will only be used for concrete batching activities and potable water will be required for drinking and cleaning activities. The relevant local municipality has been provided an opportunity to comment on this BAR. Proof of this communication (request for comments from the Municipality) will be included in Appendix E4 of the Final BAR to be submitted to the competent authority (DEA) for decision making.				
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES X	NO	Please explain	
Provision and maintenance of electricity supply has been highlighted both the local and district municipal IDPs. The development w infrastructure of the municipality and the municipalities are therefor upgrade of the electricity supply network. The relevant local munic opportunity to comment on this BAR and proof of this communication E4 of the Final BAR for submission to the competent authority for decise	as a ke vill contri e manda ipality ha will be i sion mak	ey area bute to ated to as beer include ing	of concern in the service prioritise the provided an d in Appendix	
7. Is this project part of a national programme to address an issue of national concern or importance?	YES X	NO	Please explain	
The project forms part of the national programme to address the need for social and economic growth within the local communities of the Northern Cape.				
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 X	NO	Please explain	
It should be noted that the powerline extends parallel to existing powerlines within the study area for various sections of the alignment. The development will also confirm to the typical visual character and pattern of elements that make up the landscape form.				
Thus the proposed development is within context for a section of the highly incongruous within this setting.) powerli	ne and	would not be	

9. Is the development the best practicable environmental option for this land/site?	YES X	NO	Please explain			
The proposed powerline crosses mostly non-arable farmland with minimal environmental impact. The regional importance of the development in terms of the improved reliability of electricity supply, economic and social growth in the surrounding communities, outweighs the potential loss of a minor amount of natural vegetation.						
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES X	NO	Please explain			
Most of the negative impacts associated with the proposed develop following mitigation measures. Improved reliability of electricity supply the surrounding areas will result in both social and economic growth high significance. The development will also create temporary employ construction and possibly the operational phases which is consider significance.	oment are and the which is ment opp red to be	e of lo increas consid portuni e of a	w significance se of supply to dered to be of ties during the <u>High positive</u>			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO X	Please explain			
The construction of the electricity grid is not driven by profit gains but to ensure service delivery to the surrounding area and communities. This will inherently have a positive impact on the surrounding communities and region in terms of social and economic growth as well as economic stability. Infrastructure for service delivery will not set a precedent for similar activities in the area at large. However, should additional powerlines be required in the area in future it may be beneficial to align them parallel to one another in order to consolidate the impacts and lessen the severity thereof.						
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO X	Please explain			
Potentially affected landowners (both directly and adjacently affected) have been notified timeously (please refer to Appendix E2) with regards to the proposed development and provided an opportunity to comment. A public open day was held at the Finsch Mine Training Centre on Wednesday, 25 February 2015, during which time various concerns were raised by Interested and Affected Parties (I&APs) and adequately responded to by GIBB. From the discussions held and concerns raised, it was evident that the concerns were note related to human rights being negatively affected by the proposed activity.						
I he proposed powerline will ultimately be owned by Eskom during th phases thereof. Therefore, the proposed servitude and powerlines are Eskom and all Eskom procedures will be implemented and adhered negotiations, land acquisition and access.	e operations being as to with re	on and ssesse egards	a maintenance d on behalf of to landowner			
As such, no juristic or natural person's right will be adversely affected.						

13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO X	Please explain
Urban edge is essentially a strategy to counter urban sprawl, encournatural resources.	age dens	ificatio	on and protect
To promote integration of the social, economic, institutional and development is one of the strategies that the urban edge for the Kgat the Northern Cape sets out to accomplish. The proposed construct powerline will be in line with this strategy and is therefore not seen edges of the local municipality.	d physica teloplele tion of th as comp	al asp Local ne 132 promisi	bects of land Municipality in 2kV overhead ng the urban-
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES X	NO	Please explain
SIP 10. Electricity transmission and distribution to all.			
15. What will the benefits be to society in general and to communities?	the lo		Please explain
The potential benefit of the proposed powerline and associated infrast is centered on the stimulation of the local economy through the addition created and supplied by the powerline construction and mainten surrounding households are still reliant on domestic fires, which in tu environment in terms of air quality as well as through the uncontrolled h	ructure to nal emplo ance the rn negationarvesting	o the N oymen ereof. ively ir g of wo	Northern Cape t opportunities Some of the npacts on the podlands.
On a local and regional scale, economies will also be stimulate employment opportunities which will act as a catalyst promoting econ proposed development will align with Eskom's long term planning fo platform for future electrification of the surrounding households.	d in the omic grov r the are	form wth in a and	of additional the area. The will provide a
16. Any other need and desirability considerations related to the activity?	e propos	sed	Please explain
As outlined previously, the proposed development is needed in order to electricity supply throughout the area and to support the various elec- within the ZF Mgcawu District Municipality. The project will promote the area and furthermore decrease the number of residents within the reliant on domestic fires. The use of domestic fires for household us environment in terms of air quality as well as through the uncontrolled h	o improve tricity imp economi Norther se impac narvesting	e the re proven c grow n Cape ts neg g of wo	eliability of the ment initiatives who throughout e who are still atively on the podlands.
The proposed project will therefore assist in speeding up the grow economy to create work, sustainable livelihoods and a stable economy	th and tr	ansfor	mation of the

47. How does the ansist fit into the National Development Disp for 00000	Please
17. How does the project fit into the National Development Plan for 2030?	explain

The National Development Plan (NDP) for 2030 has a vision that by 2030 South Africa will have an energy sector that promotes economic growth and development through adequate investments in energy infrastructure and the provision of quality energy services (National Development Plan, 2011). It furthermore emphasises the need to create 11 million more employment opportunities.

Based on the abovementioned statement and requirements associated with achieving this goal, the proposed development is aligned with the NDP in that it will assist with the promotion of economic growth by means of producing electricity, strengthening the local electrical feed supply and additional employment opportunities.

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

The proposed development has been adequately considered by the Environmental Assessment Practitioner (EAP) and identified specialists, and all potential impacts that may have a significant impact on the receiving environment have been considered and mitigated to acceptable levels as required by the NEMA 2010 EIA regulations. The findings of the specialist reports have been integrated into this assessment thus giving effect to holistic environmental management.

The conclusions of the environmental impact assessment have been concisely summarised to adequately inform decision-making by the competent authority. A comprehensive Public Participation Process will be undertaken, which will conform to requirements in Chapter 6 of the Environmental Impact Assessment Regulations. Furthermore, all Interested and Affected Parties will be given an opportunity to review and comment on all documents and reports related to this project.

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

The primary objective of the project is to provide a stable electricity supply to the town of Lime Acres and surrounding areas. Provision of a stable electricity supply with spare capacity will encourage future development in the area and will potentially improve the economic situation through additional employment opportunities.

The social, economic and environmental impacts have been identified and rated by the EAP with the assistance of numerous specialists. The Basic Assessment Process was advertised and members of the public will be given the opportunity to register as an Interested and Affected Party (I&AP) as described in Section C: Public Participation and a comment and response report (CRR) will be attached to the Final BAR (Appendix E).

Most of the negative impacts associated with the project will occur during the construction phase. Where negative impacts are unavoidable, they will be mitigated accordingly as stipulated in the EMPr. Recommendations and mitigations presented in the EMPr will reduce the disturbance to ecosystems and the loss of biodiversity. Where negative impacts are unavoidable, strict management and rehabilitation is recommended to minimise these potential impacts. The use of potentially polluting substances will be managed according to requirements stipulated in the EMPr. The Developer is bound to the stipulations of the EMPr and will be held accountable should the EMPr not be implemented as stated.

The impacts of the proposed powerline on wetlands will be reduced by micrositing of pylons to avoid placing them within wetland areas or their buffer zones (unless agreed upon). The workers will be given environmental health and safety training prior to commencing any work. Daily 'tool box talks' will be used to inform workers of any specific environmental issues or health and safety concerns relating to the activities or location. The cost of rehabilitation required due to pollution or unnecessary environment degradation resulting from the activity will be the responsibility of the developer.

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 quideline	islation, policy Applicability to the project Administering authority			
Constitution of the Republic of South Africa	The constitution paved the way for the protection of the natural environment and heritage resources through the recognition of the rights to a safe and healthy environment	South African Government		
National Environmental Management Act, 1998 (Act No. 107 of 1998)	NEMA is the key environmental management legislation and states in section 2(4)(k) that "the environment is held in public trust for the people, the beneficial use of resources must serve the public interest and the environment must be protected as the people's common heritage" thereby paving the way for EIA process to assess developments that may have a harmful impact on the environment	DEA	1998	
Environmental Impact Assessment (EIA) Regulations, 2010 (Government Notice No. R543, R544 and R546, 18 June 2010)	The EIA regulations describe the EIA process to be followed including the public participation process, and the listed activities that may have a harmful impact on the environment and must be assessed.	DEA	2010	
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	Under section 38(1) of the NHRA any person who intends to construct a powerline or other linear development exceeding 300m in length must notify the responsible heritage resources agency of its intention.	SAHRA	1999	
National Water Act, 1998 (Act No. 36 of 1998)	This Act provides for the protection and management of water resources. A Water Use License Application is made to authorise water use activities pertaining to the altering of the bed and banks of a watercourse and diverting the flow of water in a watercourse. A WUL Application will be submitted as the need for construction of a powerline over a	DWA	1998	

Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	watercourse has been identified, and the construction of tower structures within 500m of a wetland may occur. In terms of section 6 of the Act, the Minister may prescribe control measures with which all land users have to comply. The control measure may relate to the regulating of the flow pattern of run-off water, the control of weeds and invader plants, and the restoration or reclamation of eroded land or land which is otherwise disturbed or denuded. This act will regulate construction activities to prevent the spreading of invasive species and to ensure successful rehabilitation of the receiving environment.	DEA	1983
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The Biodiversity Act provides for the management and protection of the country's biodiversity within the framework established by NEMA. It provides for the protection of species and ecosystems in need of protection, sustainable use of indigenous biological resources, and equity in bio- prospecting. Some Critical Biodiversity Areas and vulnerable and endangered ecosystems have been identified by the vegetation specialist in the study site.	DEA	2004
National Forests Act, 1998 (Act No. 84 of 1998)	The proposed project may result in the disturbance or damage to a tree protected under the NFA.	Department of Agriculture, Forestry and Fisheries (DAFF)	1983
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	The Protected Areas Act provides for the protection and conservation of ecologically viable areas representative of the country's biological diversity, its natural landscapes and seascapes. The proposed routes both preferred and alternative routes runs through a non- statutory protected area.	DEA	2003
2006 (Act No. 4 of 2006)	nis act establishes a nationally regulatory framework for the electricity		2006

	supply industry, and provides for licenses and registrations as the manner in which generation, transmission, distribution, reticulation, trading and the import and export of electricity are regulated. The erection of new electricity distribution infrastructure is thus regulated in terms of this act.		
National Energy Act, 2008 (Act No. 34 of 2008)	The Act allows for the regulation, construction and maintenance of security of energy supply in South Africa. The act empowers the energy regulator to invest in the construction and maintenance of energy infrastructure, which includes the installation of electrical infrastructure in areas where the grids are operating at near maximum capacity as well as where electricity is needed for the successful operation of various economically empowering procedures.	South African National Energy Development Institute.	2008
National Road Traffic Act, 1996 (Act No. 93 of 1996)	All the requirements stipulated in the NRTA regarding traffic matters will need to be complied with during the construction, operation and decommissioning phases of the proposed powerline.	South African National Roads Agency Limited (SANRAL)	1996
Kgateloplele Local Municipality Integrated Development Plan (IDP)	The IDP identifies the need to install, upgrade and increase the electricity grid in the local municipality, thus supports the proposed installation of distribution line.	Kgateloplele Local Municipality	2013 – 2017
Siyanda District Municipality IDP	ZF Mgcawu District Municipality IDP addresses pertinent concerns and the proposed development should be aligned with the IDP.	ZF Mgcawu District Municipality	2011/2012
Siyanda District Municipality EMF	ZD Mgcawu District Municipality EMF is a decision making tool that should be used to facilitate the consideration of applications for environmental authorisation in order to protect the natural resources within the district.	ZF Mgcawu District Municipality	2008
Nature and Environmental Conservation Ordinance (No. 19 of 1974)	Regulates various nature and environmental conservation aspects such as control animals, game and pollution. This ordinance regulates and	DEDEAT	1974

	prohibits the removal or killing		
	of animal or game on site and		
	regulates pollution activities		
	on site		
Northern Cone Diadiversity	This Concentration plan		2007
Northern Cape Biodiversity	This Conservation plan	DEA	2007
Conservation Plan	provides the boundaries and		
	areas where critical		
	biodiversity zones and		
	important support areas have		
	been identified and accepted		
	by the provincial authority.		
	The location of the CBAs in		
	the NCBCP have been taken		
	acknowledged and mitigation		
	measures to minimise impacts		
	on these CBAs have been		
	proposed by the competent		
	vegetation specialist		
Northern Cape Provincial	This PSDE was used to	Office of the Premier	2012
Spatial Development	determine whether the	of the Northern Cape	2012
Framowork	proposed development is	or the Northern Cape	
Tranework	aligned to the outcomes and		
	angle out in the Drevincial		
	goals set in the Provincial		
	Spatial Development		
	Framework drawn up for the		
	Northern Cape.		
Municipal by-laws	All municipal by-laws	ZF Mgcawu District	Varies
	applicable to the study area	Municipality,	
	will need to be complied with	Kgatelopele Local	
	during the construction,	Municipality	
	operation and		
	decommissioning phases of		
	the proposed powerline		
	development		

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If YES, what estimated quantity will be produced per month?

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

All solid waste which is not reusable will be collected at a central location and will be stored temporarily until removed to a recognised landfill site. Waste will under no circumstances be allowed to be burned or buried on site. Please note that due to the nature of the project the amount of construction waste that will be generated will be minimal.

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

An approved registered municipal landfill site.

Will the activity produce solid waste during its operational phase?

If YES, what estimated quantity will be produced per month?

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

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

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?

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?

VEC	NO
TES	Х

NO

Х

YES

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?

If YES, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

I	YES	NO X
	m ³	
I	YES	NO X

YES X	NO
Minima	

YES	NO X
m ³	

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

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

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?

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

IE2	X
YES	NO
	X

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?



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?

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

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.

YES X	NO
YES	NO X

If NO, describe the noise in terms of type and level:

<u>Noise control regulations and SANS 10103</u>: 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. The applicant must adhere to the relevant provincial noise control legislation (if any) as well as SANS 10103. Working hours should be restricted to 07h00 to 18h00 Monday to Friday excluding public holidays unless otherwise agreed with adjacent landowners.

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 not use water	will
--	-----------	-------------	-------------	----------------------------	--------	----------------------------	------

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: Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES NO

This powerline crosses drainage lines and watercourses along various sections of the proposed alignment. The main impact of the powerline is due to construction of the pylon structures (which has a very small local footprint). The pylon structures will be positioned to avoid the actual drainage lines and watercourses, where applicable, but may occur within the buffer area of the watercourses.

A water use license application (WULA) will be applied for from the Department of Water Affairs in a separate process. Please note that Section 21 (c) and (i) activities likely to be triggered

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?

1E2	NO
Х	NO

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.

Alternative 1 (Preferred alternative):

Property	Province	Northern Cape
description/physi	District	Mgcawu District Municipality
cal address:	Municipality	с , , ,
	Local Municipality	Kgatelopele Local Municipality
	Ward Number(s)	Ward 2 & 4
	Farm name and	Refer to Appendix E for farm details
	number	
	Portion number	Refer to Appendix E for farm details
	SG Code	Refer to Appendix E for SG codes.
	Where a large number	r of properties are involved (e.g. linear activities), please

attach a full list to this application including the same information as indicated above.

List attached in Appendix E

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	NO
	Х

Alternative 2:

Property description/physi cal address:

Province	Northern Cape
District	Maanuu District Municipality
District	Nigcawu District Municipality
Municipality	
Local Municipality	Kgatelopele Local Municipality
Ward Number(s)	Ward 2 & 4
Farm name and	Refer to Appendix E for farm details
number	
Portion number	Refer to Appendix E for farm details
SG Code	Refer to Appendix E for SG codes.

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.

List attached in Appendix E

Current	land-use	Agriculture
zoning local mu IDP/recor	as per nicipality ds:	

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	NO
	Х

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1 (Preferred alternative):

	·	4 9 9 4 4 7	4 4 - 4 4 0			01
Flat	1:50 – 1:20	1:20 - 1:15	1:15 - 1:10	1:10 - 1:7.5	1:(.5 - 1:5)	Steeper
				,0	,00	0.000000
						than 1.5
						110111.0

Alternative S2:

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): N/A					
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:



3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

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

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).

Alternative 1 (Preferred alternative):

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

Alternative 2:

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

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

This powerline alignment Alternative 1 and 2 crosses numerous drainage lines and/or watercourses in various places along the route. The main impact of the powerline is related to construction of the tower structures, each of which occupies only a very small local footprint. The tower structures will be positioned to avoid drainage lines and watercourses, where applicable.

All rivers in the immediate vicinity of the powerline routes are non-perennial and the wetlands have been identified as being non-permanent due to their inundation and saturation periods. The proposed powerline falls within the Lower Vaal Water Management Area (WMA) and the Lower Orange WMA of Department of Water and Sanitation, for both alternative routes. The eastern portion of the study area falls within sub quaternary reach C92A with the western portion falling in C92C. The sub quaternary reach was not further assessed as both tributaries of the Riet-River associated with the study area fall within sub quaternary reach C92A. The Present Ecological State (PES) for C92A is indicated to be category D (largely modified) and Category E (seriously modified, depending on feature assessed.

Two tributaries of the Klein-Riet River intercept the alternative alignments and confluence shortly after they cross the powerline route alternatives. Please refer to Figure 4(a) & (b) below for images of these two tributaries associated with the proposed development.



Figure 5(a): Tributariy of the Klein-Riet River intercepting the alternative alignments



Figure 6(b): Tributariy of the Klein-Riet River intercepting the alternative alignments

A detailed study on the wetlands and drainage lines were undertaken by a wetland specialist (Mr Steven van Staden from Scientific Aquatic Services) and the full report is attached in Appendix D.
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 [►]	Mountain, koppie or ridge
Heavy industrial AN	Railway line [™]	Museum
Power station	Major road (4 lanes or more) [№]	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?

The powerline will cross the Postmasburg-Kimberley railway line, but there will be no impact on the railway line. All height restrictions will be adhered to.

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:

PPC Lime and the Finch Petra Diamonds Mine are located in close proximity to the proposed powerline alignments. The proposed powerline will extend over sections of the quarry and mining areas respectively, however no impact on the mining and quarry activities will occur. The powerline alignment has taken into consideration future expansion of the PPC quarry.

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)	YES	NO
Core area of a protected area?	YES	NO
Buffer area of a protected area?	YES	NO
Planned expansion area of an existing protected area?	YES	NO
Existing offset area associated with a previous Environmental Authorisation?	YES	NO
Buffer area of the SKA?	YES	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 X	NO
Uncertair)

The only heritage resource of any significance is the graveyard near Shaleje and the Stone Age archaeological sites and engravings north of Lime Acres. Due to graves carrying a high significance they are provisionally graded 3A, while the engraving site and surrounding artefact scatters are probably grade 3C resources (the very high density of archaeological sites in this area), however a grade of 3B can be applied to the whole area. Fossils may be impacted but without knowing exactly what is present, no provisional grading can be suggested.

Paleontological resources are likely to be very rare in the affected areas, particularly since the necessary excavations are small and quite shallow.

A detailed study on the Heritage resources of the affected area was undertaken by a Heritage specialist (Dr Jayson Orton from ASHA Consulting) and the full report is attached in Appendix D.

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:

GIBB appointed ASHA Consulting to assess the potential impacts to heritage resources that may occur throughout the construction of a proposed distribution powerline in the Northern Cape Province, in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended, in compliance with Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), (NHRA) as amended.

ASHA Consulting identified that the Archaeological resources are widespread, but that there are only a few of high heritage significance. Impacts would generally be of low to very-low significance, but all of the impacts listed in the Heritage Impact Assessment Report (Appendix D) can be reduced to very-low with the suitable mitigation measures implemented.

Based on the Heritage Assessment conducted, it has been concluded that the proposed powerline development may proceed along either one of the proposed routes. However, Alternative 1 is preferred from a heritage point of view due to this alignment crossing the most sensitive zone for a shorter distance than that for Alternative 2. However, as stated by the Heritage specialist, either one of the alternatives may be used, given that the required mitigation measures or recommendations are implemented.

As recommended, the proposed powerline should be realigned to extend as close to the existing road as possible in order to avoid potential archaeological impacts at the foot of the hill and to reduce visual impacts by clustering the linear developments. The final alignment should also be considered by an archaeologist to determine the likelihood of impacts on archaeological resources along the foot of the hill, should the powerline be located to the north-west of the midline of the study area corridor. Should any palaeontological material, archaeological material or human burials be uncovered during the course of the development, work should be stopped immediately and the findings needs to be reported to the relevant heritage authorities.

Based on the information provided above, ASHA Consulting recommends that the development proceed with the proposed heritage mitigation and have submitted their full HIA report to SAHRA in fulfilment of the requirements of the NHRA. Mitigation measures recommended by ASHA Consulting have been incorporated into the EMPr and should be implemented. Please refer to Appendix D for the complete HIA.

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO X
YES	NO X

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

Please refer to Annexure D for the full Heritage Impact Assessment specialist report.

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:

Kgatelopele Local Municipality:

Employment opportunities are an area of concern in the municipality. The total population size of this municipality is 18,687 and the unemployment rate is estimated at 22.3%. Amongst the youth (15–34 years) in the area, constituting of 66.4% of the total population, it is estimated that 29.1% are unemployed. One of the main reasons for the low levels of self-employment can be attributed to the low skills base in the municipality, especially skills related to entrepreneurship. Only 9.1% of the population aged 20+ partook in higher education enrolment.

The slow pace at which the largest sector (mining, agriculture, manufacturing, and business services) is growing also contributes to the growing unemployment of the area. Employment opportunities and average salary base are also somewhat limited in terms of the type of opportunities that exists. As a result, most individuals obtaining a higher education relocate to a different area or province where employment in a specific field of interest exists.



The average household in Kgatelopele earns approximately R8,700.00 in income per month.

Economic profile of local municipality:

The lack of energy resources within rural areas of South Africa is recognised as a major factor retarding socio-economic development.

Kgatelopele Local Municipality:

The total population of the Kgatelopele Local Municipality is 18 687, and the key economic sectors contributing to the overall economy are made up of mining, agriculture, manufacturing, and business services.

Mining and agriculture are by far the largest economic sectors contributing to employment opportunities in the area. Danielskuil obtained official status in 1892 and mainly provided support for the farming community during which time diamonds were discovered in Kimberley with the colonization of the Griqualand by the English to follow. Large-scale mining of lime at Danielskuil has led to growth and development in this area over the years; and the "evaporating gravestones" near Danielskuil was the first clue to the rich limestone deposits found at what was to become the mining village of Lime Acres. The large-scale mining of lime at Danielskuil has led to its growth and development.

Level of education:



In 2011, an approximate 3.8% of the total population residing in the Kgatelopele Local Municipality had no form of schooling. Coupled with those individuals who only completed some form of primary education (a further 44.5%). As such approximately half of the population had limited educational skills, which in turn would hinder their employability on the general employment market. It is statistically proven that an estimate 1.1% of the population obtained a higher education.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	Unknown
What is the expected yearly income that will be generated by or as a result of the activity?	Unknown
Will the activity contribute to service infrastructure?	YES X NO
Is the activity a public amenity?	YES X X
The proposed 132kV powerline will serve its purpose in upgrading and existing electrical feed supply in the area.	strengthening the
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Eskom does an open tender to employ suitable contractors to carry out the construction. Contractors are required to employ local unskilled labourers for non-
What is the expected value of the employment opportunities during the development and construction phase?	This can only be established once the contractor is appointed
What percentage of this will accrue to previously disadvantaged individuals? How many permanent new employment opportunities will be created during the operational phase of the activity?	<pre>>/= 90 % None. Eskom will maintain the powerline once constructed</pre>
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?	N/A

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	Ecological	Other Natural	No Natural	Endangered vegetation types from the NCBCP and the WCBCP
Biodiversity Area (CBA)	Support Area (ESA)	Area (ONA)	Remaining (NNR)	Vulnerable vegetation types from the STEP and NCBCP and WCBCP

b)	Indicate and	describe	the habitat	condition	on site
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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	90%	Majority of the potentially affected area consists of natural vegetation used for extensive livestock grazing. The majority of the site can be considered to be a moderate to good condition, with some heavily utilised or degraded areas around watering points and kraals. Areas closer to Lime Acres constitutes some bush thickening largely by <i>Acacia mellifera</i> . Alien plant abundance is low and a few scattered <i>Prosopis glandulosa</i> trees are present near the R385 at Lime Acres.
Near Natural (includes areas with low to moderate level of alien invasive plants)	5%	There are some road verges, railway and powerline servitudes along the powerline routes, which have been variously affected by disturbance and vegetation clearing. In general, the woody component has been significantly affected while the grass layer may be relatively intact.
Degraded (includes areas heavily invaded by alien plants)	0%	No areas exist which is heavily degraded and/ or invaded by alien plant species.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	5%	Throughout the study area, roads and railway lines are prominent along the proposed powerline route, where the vegetation has been transformed for infrastructure. Given these do not comprise a significant proportion of the study area and also emphasises the need for the proposed alignment to be located parallel to the existing powerlines in the area.

c) Complete the table to indicate:

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

Terrestrial Ecosystems	5	Aquatic Ecosystems		Aquatic Ecosystems				
Factoria diamant	Critical	Wetland (including rivers, depressions, channelled		/etland (including rivers.				
status as per the	Endangered			Cooptline				
National Environmental	Vulnerable flats,		flats, seeps pans, and		Estuary		Coastime	
Management:		artificial wetlands)		artificial wetlands)				
Biodiversity Act (Act No. 10 of 2004)	Least Threatened	YES NO UNSURE YES		NO	VES	NO		
		X		ONCORE		Х		X

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)

Vegetation:

Several vegetation types will potentially be affected by the proposed development. These vegetation groups present throughout the study area includes the Ghaap Plateau Vaalbosveld (SVk7), Olifantshoek Plains Thornveld (SVk10), Southern Kalahari Salt Pans (AZi4) and the Southern Kalahari Mekgacha (AZi3). The Ghaap Plateau Vaalbosveld covers most of the eastern half of the proposed routes and includes both open woodland and grassland areas. This vegetation group has Least threatened conservation status and is furthermore located in an area described as the Griqualand West Centre of Endemism. Based on this, it is likely that some endemic species may be found in the study area. Should this happen, conservation effort will have to be applied.

The Olifantshoek Plains Thornveld is located along the western part of the proposed alignment and is a species rich vegetation type. Little has been transformed throughout this area and constitutes a Least threatened conservation status.

The Southern Kalahari Mekgacha Salt Pans and Southern Kalahari Mekgacha area related in terms of their location in the sub region. Both these features are protected in formal conservation area. Their conservation status is Least threatened, however has been recorded that the Southern Kalahari Mekgacha is under pressure from domestic farm stock and game species for overgrazing. Some areas are also prone to invasion by various exotic species. Please refer to Figure 7 below which visually outlines the various vegetation groups with respect to the proposed development.



Topography, geology and soils:

The western section of the powerline route traverses the undulating foot slopes of the Asbestos Mountains that stretches between Griekwastad and Kuruman amongst other towns. Throughout this area you will find red Aeolian sand of Tertiary to Recent age of the Kalahari Group, with silcrete and calcrete and some andesitic and basaltic lava of the Griqualand West Supergroup (Mucina and Rutherford 2006).

The eastern section of the powerline route runs though mostly flat plains area. The soil can be described as limestone from the Tertiary to Recent age, and dolomite and chert from the Campbell group (Griqualand West Supergroup, Vaalian Era).

Two natural features within the landscape are salt pans and dry rivers. Most of the Southern Kalahari salt pans formed on the sandy sediments of the Cenozoic Kalahari Group. These pans are located in slightly higher-lying portions of dry riverbeds, where they are isolated from the river course by a raised, compact calcareous sand formation. The pan-like alluvium consists of sandy loam and a fairly high content of calcium and phosphate. The pan soils consist of white sand in shallow pans. The pan bottoms are exposed for most of the year and carry shallow pools for a short time only after very good rains.

The Southern Kalahari Mekgacha, or dry rivers, has soils containing silt, sandy and rocky, often poorly drained and rich in nutrients. The banks of these dry rivers can sometimes cut deep into calcrete soils, although the areas observed in the project area was shallow depressions. The mekgacha ("dry river") may stay without any water for a very long time and floods occur only in response to dramatic short term precipitation events.

Local Climate:

The study area normally receives about 246mm of rain per year, with most rainfall occurring mainly during the summer month. The chart below shows the average rainfall values for the study area per month. It receives the lowest rainfall (0mm) in July and the highest (59mm) in March. The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for the study area range from 15.9°C in June to 31.8°C in January. The region is the coldest during July when the mercury drops to -0.1°C on average during the night.



Biodiversity:

In the 2002 Southern African Red Data plant lists, 54 records exist for the Northern Cape of Extinct or Threatened species. The cause of these species threatened status is listed to be mainly collection, mining and grazing. Red data records for the site have not been forthcoming from SANBI (South African National Biodiversity Institute).

Biogeographically important taxa listed by Mucina and Rutherford (2006) include the following species: (GW – Griqualand West Endemic, K – Kalahari endemic, D – Broadly disjunct distribution).

Lebeckia macrantha GW	Nuxia gracilis D	Blepharis marginata GW
Putterlickia saxatilis GW	Tarchonantus obovatus GW	Euphorbia wilmaniae GW
Prepodesma orpenii GW	Digitaria polyphylla GW	Panicum kalaharense K
Corchorus pinnatipartitus GW	Helichrysum arenicola K	Orbea knobelii K

Most recent national floral mapping data suggests that these particular vegetation types that will be affected by the powerline are not presently under threat and has not significantly been altered by other land uses.

The biodiversity assessment indicates that several faunal and floral species have historically been recorded in the study area. Some of these species, in particular mammal and bird species have sensitivity ratings and are Red listed with an IUCN category. The study area further falls into one of South Africa's centres of endemism which alludes to the presence of possible endemic plant species in the study area.

As outlined in Figure 9 below is the vegetation sensitivity of the site and the sensitivity was divided into High, Moderate and low sensitivity classes. Based on the classification, and taking into account that the vegetation was predominantly natural; the woodland units were classified as High sensitivity value due to their higher species richness and more diverse habitats present. The grassland and dry river areas with lower habitat diversity and lower species richness were allocated a Moderate Sensitivity. Disturbed areas (town and substations) were indicated as Low sensitivity areas.



Figure 11: Vegetation Environmental sensitivity along Alternative 1 & 2 Route alignments

Fauna:

The habitats observed along the powerline route, included grassland, open woodland and closed woodland. No open water habitats were observed except for the Kalahari salt pans that formed depressions in the landscape and seldom had any water. The following species were recorded or is recorded for the area.

Birds

The habitats and structure that was present on site and available for birds, included tree clumps, open grassland, urban areas, powerlines and telephone poles. No open water habitats were observed. Approximately 168 species have been recorded for the Lime Acres area. During the site visit, 20 bird species were recorded.

Of all the species listed for Lime Acres area, 14 species have been red listed. During the site visit Lesser Kestrel * was observed on powerlines in the eastern open habitat of the study site.

Species	Scientific name	Status	Preferred habitat
Black Stork	Ciconia nigra	Near	Wetlands
		Threatened	
Greater Flamingo	Phoenicopterus	Near	Wetlands
	roseus	Threatened	
Secretary bird	Sagittarius	Near	Natural veld and farmland
	serpentarius	Threatened	
White backed vulture	Gyps africanus	Vulnerable	Woodland
Tawny eagle	Aquila rapax	Vulnerable	Natural open wooded areas.
Martial eagle	Polemaetus	Vulnerable	Natural open wooded areas.
_	bellicosus		
Black Harrier	Circus maurus	Near	Wetlands, farmland and
		Threatened	natural areas
Lesser kestrel*	Falco naumanni	Vulnerable	Natural veld and farmland
Blue crane	Anthropoides	Vulnerable	Croplands and pasture
	paradiseus		
Greater painted snipe	Rostratula	Near	Wetlands
	benghalensis	Threatened	
Yellowbilled stork	Mycteria ibis	Near	Wetlands
		Threatened	
Lesser flamingo	Phoenicopterus	Near	Wetlands
_	minor	Threatened	
African Marsh Harrier	Circus ranivorus	Vulnerable	Wetlands, farmland and
			natural areas
Lanner falcon	Falco biarmicus	Near	Natural veld and farmland
		Threatened	

Mammals

Species observed during the site visit included Scrub hare (Lepus saxatilis), Common duiker (Sylvicarpa grimmia), Springbok (Antidorcas marsupialis), Common mole-rate (Cryptomus hottentotus) and Rock hyrax (Procovia capensis). Additional species listed for the area were observations from farmers (pers communications during site visit Nov 2014).

Five species are listed as Threatened for the area. These include the Honey Badger and 4 bat species. (Friedman and Daly 2004).

Species	Scientific name	Status
Honey badger	Mellivora capensis	Near Threatened
Lesuer's Wing-gland bat	Cistugo lesueuri	Near Threatened
Geoffrey's horseshoe bat	Rhinolophus clivosus	Near Threatened
Dent's horseshoebat	Rhinolophus denti	Near Threatened
Littledale's Whistling Rat	Parotomys littledalei	Near Threatened

Reptiles & Amphibians

The Kalahari River Reserve in Kuruman to the north of the site, lists 49 reptiles species that may also be present in the study area. Not all the reptile species have conservation statuses allocated to them.

Amphibians are largely associated with wet areas such as rivers, streams, wetlands and pans. No large wet areas occur in the vicinity of the development corridors. The large Kalahari salt pan in the northeast of the study area, may have an occasional surface puddles after rains storms where frogs can occur

Amphibian Species	Scientific name
Bubbling Kassina (Hyperoliidae)	Kassina senegalensis
Drakensberg River Frog	Amietia quecketti
Common Platanna (Pipidae)	Xenopus laevis
Karoo Toad (Bufonidae)	Vandijkophrynus gariepensis
Power's Toad (Bufonidae)	Amietophrynus poweri
Banded Rubber Frog (Microhylidae)	Phrynomantis bifasciatus
Guttural Toad (Bufonidae)	Amietophrynus gutturalis
Common Caco (Pyxicephalidae)	Cacosternum boettgeri

Ecological Impact Assessment

Please refer to **Error! Not a valid bookmark self-reference.** below for the Impacts and Mitigation measures identified in the Ecological Impact Assessment:

Table 2: Ecological Impact Assessment

Impacts:	Mitigation Measures:
Loss on indigenous Impacts on the loss of habitat/ ecosystems	 Construction phase, existing access roads to be used where possible; Clearing of the servitude should be as narrow as possible; No trees may be affected in the grassland habitats where sufficient space is available for the tweaking of pylon positions; Pylons within <i>Eriocephalus ericoides</i> grassland <i>Stipagrostis uniplumis</i> Kalahari Mekgacha grassland areas should be avoided; and A road management plan should be compiled.
Impacts on loss of sensitive species	 Bird flappers should be added to power cables at sections indicated in the specialist report Should wild animals be encountered during the construction phase, these animals should not be hunted or harmed; Species such as tortoises and porcupines should be removed to surrounding areas if encountered on site; Vegetation removal and disturbance during construction phase should be limited; Sensitive plant species should be removed and relocated from points of impact before construction starts; and A list of potentially dangerous animals (e.g. snakes) that may be encountered on site should be made available to construction managers.
Impacts on habitat/ rural connectivity and open space	 The removal of large sections of woodland in densely wooded - avoided; and Vegetation should only be removed when construction activities are due to start.
Impacts associated with construction activities	 Detail planning of pylon position and laydown areas should be done before construction to limit ecological impact; High impact construction areas must be demarcated to prevent materials being stored all over and along the construction corridor; Before construction starts, construction workers should be educated with regards to littering, ad hoc veld fires and dumping; A sufficient number of chemical toilets must be situated in appropriate places to prevent pollution of the study site; All waste materials should be removed from the site once construction has been completed and disposed of appropriately at a landfill facility; The ignition of fires should be avoided; Only land to be used for services infrastructure should be scraped to mitigate dust pollution in the area; No trees or branches should be demarcated before construction starts; Vegetation clearance must be kept to a minimum; and Cleared vegetation must be removed to an appropriate landfill site and may not be burnt on site.

A detailed study on the ecological resources in the study area was undertaken by an Ecologist (Mr Mark Custers from ECO Assessments cc) and the full report is available in Appendix D.

From an Ecological point of view, Alternative 2 is preferred as it extends over an area where less rich woodland species are found. However various mitigation measures have been provided which needs to be implemented during the various development phases of the project.

Avifauna Assessment:

The construction and maintenance of new powerlines, including associated infrastructure such as substations, servitudes and roadways causes both temporary and permanent habitat destruction and disturbance, and the powerlines themselves pose a collision risk for overflying birds, and a risk of electrocution for certain species.

Fifty-six (56) species were seen during the June site visit. Relevant sightings included two Martial Eagle nest structures, with one adult eagle present. Ludwig's Bustard and Blue Crane bird species were both seen around the croplands in the South of the development area, near Karoovlei, and a single Secretary bird was seen just East of Hendriksvlei, at the Southern end of route Alternative 2.

In addition, the general area clearly supports high densities of a diversity of endemic lark species. The area also features good populations of Southern Pale Chanting Goshawk (*Melierax canorus*), Jackal Buzzard (*Buteo rufofuscus*), Pied Crow (*Corvus albus*) and Cape Crow (*Corvus capensis*), all of which are likely to build nests in existing and any new powerline infrastructure, while Greater Kestrel (*Falco rupicoloides*) are likely to take over and breed in such structures.

Please refer to table 3 below for the Impacts and Mitigation measures identified in the Avifauna Assessment:

Major Impacts:	Mitigation Measures:
Displacement of priority species due to habitat destruction and disturbance	 Restrict the construction activities to the footprint area. Do not allow any access to the remainder of the properties. Make maximum use of existing roads.
Displacement of priority species due to habitat destruction and disturbance	 Fit bird perching bracket to the top of the pole. Due to high risk of collisions, the section between the red placemarks should be marked with Bird Flight Diverters on the earth wire of the line, five metres apart, and alternating black and white.
Electrocution of Red Data species	Due to the potential for nocturnal collisions, especially flamingos, it is recommended that the experimental LED bird flapper is used. In order to make the mitigation more effective, the earthwires of the existing Olien – Silverstream
Collision of Red Data species	 132V line should also be marked in the same manner, if at all possible. Restrict the de-commissioning activities to the footprint area. Do not allow any access to the remainder of the properties. Make maximum use of existing roads.

Table 3: Avifaunal Impact Assessment

A detailed study on the avifauna species of the study area was undertaken by an Avifauna specialist (Mr Chris van Rooyen from Chris van Rooyen Consulting) and the full report is attached in Appendix D.

From an Avifaunal point of view, Alternative 1 is preferred as it is further away from major aquatic bodies where large terrestrial birds are more likely to be affected by the proposed powerline, and is marginally shorter, which implies a lower potential for bird collisions and electrocutions.

Wetland Assessment:

The proposed project footprint falls within the Southern Kalahari and Ghaap Plateau Ecoregion and the eastern portion of the study area furthermore falls within the sub quaternary reach C92A with the western portion falling in C92C. Due to both tributaries of the Riet-River associated with the proposed development falling within sub quaternary reach C92A, it was not deemed necessary to further investigate sub quaternary C92C.

The Present Ecological State (PES) of C92A is established to be category D, which indicates that this area has been <u>largely</u> modified; as well as a category E indicating an area which has been <u>seriously</u> modified. Both river features affected by the proposed development are tributaries of the Klein-Riet River and has been categorised to constitute an AB conditions, indicating that these river features are largely natural with the occurrence of a few modifications. In addition to this, various wetland features have also been identified in the nearby vicinity of the proposed development and has also been categorised to constitute an AB condition with >75% natural land cover. Please refer below to figure 8 for the NFEPA river conditions associated with the proposed development.



From the impact assessment, the scores obtained indicates that the wetland features found throughout the study area do not constitute exceptional importance in terms of function and service provision (moderately low class), with exception of the Valley Bottom Wetlands which were estimated to fall within an intermediate class. In addition to this, the level 1 WET-health assessment indicated that the PES of the wetland features (please refer to Figure 11) along each of the alternatives obtained an overall score for all wetland features to fall within the PES category A (unmodified, natural).



Figure 13: NFEPA Wetland hydrogeomorphic units associated with the proposed development

Based on the information provided above and results obtained by the various assessments, it is the opinion of the specialist that a 50m buffer will be sufficient to maintain the PES and limit any impact of the proposed development on the local wetland resources. It is considered essential that support structures and maintenance roads remain outside wetland and buffer zones as far as possible, and where this cannot be avoided, adequate mitigation measures be applied.

Based on the findings from the wetland assessment, **Alternative 1 is preferred from a wetland point of view** due to the overall distance of the powerline alignment being shorter as well as the complete avoidance of the Great Pan Depression and Wetland Flat which are listed as FEPA wetlands and form part of an important wetland cluster area. As such, Alternative 1 will have a smaller overall impact on the wetland features compared to Alternative 2 (Figure 12 & 13).



Figure 15: Watercourse features affected by the powerline

A detailed study on the wetlands and drainage lines were undertaken by a wetland specialist (Mr Steven van Staden from Scientific Aquatic Services cc) and the full report is attached in Appendix D. 51

Visual Assessment

A level 2 Visual Impact Assessment (VIA) was conducted for the project. From a visual impact perspective, it can be stated that the study area is of a moderate visual quality, with the natural vegetation next to the proposed alternatives being the greatest visual resources. However, due to the large amount of existing distribution lines in close proximity to both the proposed line locations, the visual impact for both alternatives will potentially be low. The proposed distribution line will impact negatively on the surrounding visual environment, with the overall significance of the impact rated at low negative for both the proposed alternatives. The low rating is mainly due to the vegetative screening around the regional and farm roads as well as in and around the town boundaries. The occurrence of existing distribution lines in close proximity to the two proposed alternatives decreases the impact on the landscape character and also increases the visual absorption capacity of the surrounding environment.

The most significant visual impacts are expected to be caused during the construction phase, due to the fact that no vehicles will enter or any activities will take place in and around the proposed distribution line other than routine quality checks, during the operational phase. Visual exposure for Alternative 1 and Alternative 2 is expected to be very similar to one another. Minor differences in impact will occur in some areas. Alternative 1 will cross the R385 next to a T-junction (Turnoff towards Lime Acres) which might have a higher visual sensitivity than Alternative 2 due to the amount of traffic stopping at the intersection and driving towards Lime Acres. However, alternative 2 routes towards Silver stream substation that is closer to the town of Hey which will in turn have a higher visual sensitivity than alternative 1, even though the town has sufficient vegetation cover on the northern boundary that will provide for some visual screening.

Subsequently, from a visual perspective, the level of visual impact for Alternative 1 and Alternative 2 is expected to be so similar, that neither of the two alternatives can be highlighted as having a fatal flaw in terms of visual impact. It is recommended that the proposed project goes ahead, provided that recommended mitigation measures are implemented in a diligent manner.

A detailed VIA was undertaken for the project by a Visual specialist (Deon de Witt of GIBB), and is attached in Appendix D. Please note that an independent peer review of the VIA was undertaken by Pregio Investments 7 cc, and found that the VIA met all applicable legal standards and was undertaken in a diligent and independent manner. The peer review report is attached in Appendix D for further details.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Die Ghaap Koerant				
Date published	06 February 2015				
Site notice	Description Latitude Longitude				
position	Olien Substation	28° 22' 32.20"S	23° 26' 55.07"E		
	Karats Substation	28° 19' 58.96"S	23° 37' 22.93"E		
	T-Junction of R385 and Lime Acres main road	28° 19' 42.66"S	23° 31' 15.40"E		
	Lime Acres Library 28° 21' 44.05"S 23° 28' 26.53"E				
Date placed	06 February 2015				

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:

ORGANISATION	NAME	SURNAME	LAND OWNER/ I&AP	TEL
	CASPER	VAN DER SPUY	OWNER	039 727 3617
PPC LIME LTD	MASHUDU	DZIVHANI	OWNER	053 385 8206
	ANDRIES	SCHEEPERS	OWNER	053 839 2030
PJ KILIAN PTY LTD			OWNER	INFORMATIO N NOT AVAILABLE
TRANSNET LTD			OWNER	011 308 3000
PRIVATE	THEUNES	VERMEULEN BOTHA	OWNER	011 325 7652
PRIVATE	WILLIAM	CLOETE	OWNER	053 833 5026
	HENDRIK	VAN ZYL	OWNER	053 385 0112

LAUGHING WATERS KLEINBOEREVERENIGIN G COMMUNAL			OWNER	INFORMATIO N NOT AVAILABLE
EBRAHIM SULLIMAN FARMING ENTERPRISES CC			OWNER	INFORMATIO N NOT AVAILABLE
	JOHANNES	LAMBRECHT S	OWNER	053 313 0417
G P DU PLESSIS TRUST			OWNER	INFORMATIO N NOT AVAILABLE
BONA-CORD TRUST			OWNER	INFORMATIO N NOT AVAILABLE
	ARIE	FOURIE	OWNER	023 347 6604
	DANIEL	VAN DEVENTER	OWNER	053 384 0595
KAMEELDOORN 99 BOERDERY CC			OWNER	
	RUDOLF	LOMBAARD	OWNER	053 712 2509
OLIENSPUIT TESTAMENTERE TRUST			OWNER	INFORMATIO N NOT AVAILABLE
	MARTHINU S	VAN DER SPUY	OWNER	053 385 0618

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

Public review of the Draft BAR took place from **09 February 2015 to 23 March 2015** for a period of 40 days, during which time the identified stakeholders were provided an opportunity to comment on the Draft BAR. All comments received during the public review period were captured in the Comment and Response Report which will be submitted to the competent authority along with the Final BAR.

Please note that no written comments were received from IAPs during the public review period, however a public meeting was held on **Wednesday**, **25 February 2015** at the Finsch Mine Training Centre, during which the following comments were raised by IAPs present at the meeting.

Concerns were raised by IAPs with regards to vegetation clearance activities, the establishment of access roads, livestock grazing as well as the potential for a solar farm to be developed in the nearby future.	GIBB provided clarity in that vegetation clearance activities will be carried out by Eskom, however the clearance of the vegetation heaps itself will be the responsibility of each landowner. Further to this, livestock will be allowed to graze underneath the powerline and existing roads and tracks will be utilised for access to the powerline during the construction and maintenance activities. GIBB also confirmed that no information with regards to the potential solar farm development has been made available and as such cannot provide clarity on the matter.
Clarity was requested on the type of powerline infrastructure proposed for the development as well as the various infrastructure specifications. Further to this, concerns were raised with regards to the potential impact on wild olive trees as well as avifauna species found throughout the area.	GIBB confirmed that the Monopole design will be used and provided further detail on the infrastructure specifications. GIBB further indicated that relevant specialist studies were undertaken for the proposed development which takes into consideration the impacts on ecological as well as avifauna conditions (amongst others). GIBB confirmed that where practical, no clearance of wild olive trees will occur. Mitigation measures
Further to this. GIBB contacted various Or	proposed by the avifauna specialist have also been incorporated into the Environmental Management Programme (EMPr) for implementation during the construction phase of the development.

obtain their comments on the DBAR. However, no feedback or comments has been received to date. Proof of consultation with the Organs of State is provided in **Appendix E2** of the Final Basic Assessment Report.

Public review of the Final Basic Assessment Report will take place from **Tuesday, 31 March 2015** to **Thursday, 23 April 2015**.

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/Org an of State	Contact person (Title,	Tel No	Fax No	e-mail	Postal address
	Name and Surname)				
Northern Cape Department of Environmental Affairs & Nature Conservation	Ms A Yathi	054 338 4800	054 331 1155	ayathi@ncpg.gov.za	Private Bag X6120, Kimberly, 8301
Heritage	Mr Andrew	021 483		andrew.september@we	Private Bag
Northern Cape	September	9543		sterncape.gov.za	X9067, Cape

					Town, 8001
DWA	Mr Moses	053 830		mahunyanem@dwa.gov	Private Bag
	Mahunyane	8800		.za	X6101,
					Kimberley,
					8301
Z F Mgcawu	Mr Elias Ntoba	054 337	054 337	entoba@zfm-dm.gov.za	Private Bag
District		2868	2800		X6039,
Municipality		2000	2000		Upington, 8800
Kgatelopele	Mashego	053 384	053 384	techman@kgatelopele.g	P.O. Box 43
Local	Ntombi	8600	0326	ov.za	Danielskuil,
Municipality					8405
Ward 2	Yvonne	053 384		Clr.karneels@kgatelopel	P.O. Box 43
Councillor	Karneels	8600		e.gov.za	Danielskuil,
					8405
Ward 4	G Kgoroyana	053 384	053 384	mayor@kgatelopele.gov	P.O. Box 43
Councillor		8600	0326	.za	Danielskuil,
					8405

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)					
Construction Phase		1			
Increased soil erosion due to the removal of vegetation along servitude route	<i>Direct Impact</i> Soil erosion and degradation	Very Low	 Undertake vegetation clearing during the dry season; Only clear vegetation where absolutely necessary; and Stockpile areas will be decided and approved by the Project Manager and appointed ECO before construction commences on site and should not be located within drainage lines. 		
Surface water contamination and degradation due to oil and fuel leaks from construction vehicles	Direct Impact Surface water contamination and degradation	Very Low	 All construction vehicles should be kept in good working condition; All construction vehicles should be parked in demarcated areas when not in use, and the soil in this area should be rehabilitated (if required); Drip trays should be placed under construction vehicles when not in use; to collect any spillages/leaks if necessary; Construction activities associated with the establishment access roads through wetlands or drainage lines (if unavoidable) should be restricted to a working area 10 m in width either side of the road, and these working areas should be clearly demarcated. No vehicles, machinery, personnel, construction material, cement, fuel, oil or waste should be allowed outside of the demarcated working areas; 		

Activity	Impact summary	Significance	Proposed mitigation
Activity	Impact summary	Significance	 Proposed mitigation No fuel storage, refuelling, vehicle maintenance or vehicle depots should be allowed within 30 m of the edge of any wetlands or drainage lines; Refuelling and fuel storage areas, and areas used for the servicing or parking of vehicles and machinery, should be located on impervious bases and should have bunds around them. Bunds should be sufficiently high to ensure that all the fuel kept in the area will be captured in the event of a major spillage; Vehicles and machinery should not be washed within 30 m of the edge of any wetland or drainage line; No effluents or polluted water should be allowed to discharge into any drainage lines or wetland areas; If construction areas are to be pumped of water (e.g. after rains), this water should be pumped into an appropriate settlement area, and not allowed to flow straight into any drainage lines or wetland areas; Freshwater ecosystems located in close proximity to construction areas (i.e. within ~30 m) should be inspected on a regular basis by the ECO for signs of disturbance from construction activities, and for signs of sedimentation or pollution. If signs of disturbance, sedimentation or pollution are noted, immediate action should be taken to remedy the situation and, if necessary, a freshwater ecologist should be consulted for advice on the most suitable remediation measures; The construction footprint along the watercourse must be limited to as small a footprint as possible; and
			 watercourse must be limited to as small a footprint as possible; and If a hydrocarbon spillage occurs, clean it up immediately and dispose of at an
			appropriate registered landfill site.
Degradation of watercourses due to the construction of the proposed powerline and associated	Direct Impact Degradation of the watercourse due to the erection of the pylons and 122/1//	Very Low	 Ensure that phylon structures are kept a minimum of 50m outside of the outer edge of any watercourse or drainage lines; Use existing access roads as far as
associated	pylons and 132kV		• Use existing access roads as far as

Activity	Impact summary	Significance	Proposed mitigation
infrastructure	cable		possible;
			 Construction impacts must be
			contained within the servitude of the
			powerline.
			 No mixing of coment/concrete should
			take place within 20m of equation
			take place within 50m of aqualic
			All wetlands and drainage lines should
			generally be treated as "no-go" areas
			and appropriately demarcated as such.
			No vehicles, machinery, personnel,
			construction materials, cement, fuel, oil
			or waste should be allowed into these
			areas without the express permission of
			and supervision by the ECO;
			Construction activities associated with
			the establishment access roads
			through wetlands or drainage lines (if
			unavoidable) should be restricted to a
			working area 10 m in width either side
			of the road, and these working areas
			should be clearly demarcated. No
			vehicles, machinery, personnel,
			construction material, cement, fuel, oil
			or waste should be allowed outside of
			the demarcated working areas:
			Construction camps toilets and
			tomporary laydown areas should be
			located at loast 20 m from the edge of
			any wetlende and drainage lines:
			any wettands and drainage lines,
			No luei storage, relueiling, venicle
			maintenance or venicle depots should
			be allowed within 30 m of the edge of
			any wetlands or drainage lines;
			• Vehicles and machinery should not be
			washed within 30 m of the edge of any
			wetland or drainage line;
			No effluents or polluted water should be
			allowed to discharge into any drainage
			lines or wetland areas;
			If construction areas are to be pumped
			of water (e.g. after rains), this water
			should be pumped into an appropriate
			settlement area, and not allowed to flow
			straight into any drainage lines or
			wetland areas;
			Freshwater ecosystems located in
			close proximity to construction areas
			(i.e. within ~30 m) should be inspected

Activity	Impact summary	Significance	Proposed mitigation
			on a regular basis by the ECO for signs
			of disturbance from construction
			activities, and for signs of
			sedimentation or pollution. If signs of
			disturbance, sedimentation or pollution
			are noted, immediate action should be
			taken to remedy the situation and, if
			necessary, a freshwater ecologist
			should be consulted for advice on the
			most suitable remediation measures;
			• Workers should be made aware of the
			importance of not destroying or
			damaging the vegetation along
			drainage lines and in wetland areas, of
			not undertaking activities that could
			result in the pollution of drainage lines
			or wetlands, and of not killing or
			harming any animals that they
			encounter. This awareness should be
			promoted throughout the construction
			phase (and decommissioning phase, if
			this takes place);
			• Ensure that unnecessary impacts on
			watercourse do not occur; and
			Proper erosion control structures must
			be constructed.
Floral destruction	Direct impact	Very low	Construction impacts must be
and faunal	Loss of flora and		contained within the footprint of the
to vegetation	tauna due to		pylon structures and / or the servitude
clearance activities	activities		routes of the powerline;
taking place along			• Use existing access roads as far as
the proposed			possible;
powerline			 Vegetation clearance should be
alignments and			conducted systematically from the start
			to the end of the route to allow fauna to
			move away;
			 Avoid strip clearing;
			 Vegetation should be removed only
			where construction is to take place;
			Sequential construction should occur in
			order to allow faunal species to move
			away from the area of disturbance;
			Construction activities should be
			restricted to daylight hours when the
			majority of faunal species are inactive;
			• No animals may be snared, captured or
			wilfully damaged or killed;
			Species such as tortoises and

Activity	Impact summary	Significance	Proposed mitigation
			 porcupines should be removed to surrounding areas if encountered on site and not collected as this is illegal; During construction phase, existing access roads should be used where possible especially in the wooded habitats where a lot of vegetation will have to be removed if there is no access; Clearing of the servitude should be as narrow as possible to prevent major destruction of habitats; No trees may be affected in the grassland habitats where sufficient space is available for the tweaking of pylon positions; Pylons within <i>Eriocephalus ericoides</i> grassland <i>Stipagrostis uniplumis</i> Kalahari Mekgacha grassland areas should be avoided as far as possible as these are drainage areas; A road management plan should be compiled, showing allocated access points and roads, to prevent tracks all over the landscape; and The removal of large sections of woodland in densely wooded areas should be avoided.
Increased noise generation due to construction activities and the movement of construction vehicles	Direct impact The construction activities will cause an increase in the ambient noise levels	Very Low	 Construction time must be restricted to working hours (07:00-18:00) Monday to Friday excluding public holidays (unless prior permission is obtained from the landowners); All noise and sounds generated during the proposed activity must comply with the relevant SANS codes and standards; All construction equipment or machinery should be switched off when not in use; Construction equipment must be kept in good working condition; Plant and vehicles must be in good working order and inspected daily; and Use silencers on all equipment, where appropriate.
Increased dust generation due to the clearing of	Direct impact Construction activities will	Very Low	• No potable water may be used for dust suppression (as far as is practically

Activity	Impact summary	Significance	Proposed mitigation
vegetation, construction activities and earthworks	cause an increase in ambient dust levels for a short period of time		 possible). Alternative dust suppression methods (such as shade cloths or dusticide) must be used instead; Water to be used sparingly and only where no water restrictions are in effect; Water to be sourced from an approved supplier; The option to use grey water should be investigated prior to construction; The soil must be dampened with water during/ after vegetation removal (where practical); The clearing of vegetation must be kept to the minimal; and Avoid unnecessary movement of construction vehicles on site
Increased occurrence of fires due to unmanaged fires and its increased severity due to human interference	Direct impact Increased risk of damage due to unmanaged fires	Very Low	 The safety officer should control on-site fires; Firefighting equipment to be kept on site and serviced regularly; and No fires to be lit on site and smoking to occur in designated areas only.
Increased damage to farm roads due to the continued travelling of vehicles on minor and gravel roads during the construction phase	<i>Direct impact</i> Increased damage to local roads due to increased traffic volumes	Very Low	 Limit construction vehicles to 20km/h on access roads and keep to the speed limit on public roads; and Regular monitoring of roads for damage must be undertaken, followed by immediate repair of any damage resulting from use of heavy machinery.
Increase in traffic volumes and associated congestion due to the transportation and construction vehicles travelling to and from the construction site	Direct impact Increase in traffic congestion due to the construction vehicles	Very Low	 Limit construction vehicle movement during peak periods.
Change in visual aesthetics due to construction activities, placement of construction equipment and disposal of construction waste material	Direct impact Adjacent residents may be visually impacted on the unsightliness of the construction camp (depending on the location fo the camp).	Very Low	 Construction vehicles should be kept in demarcated areas only so as to reduce the visual intrusion of the construction activities; During construction, all materials and stockpiles will be covered with tarps to prevent erosion, as well as dust arising from it, and to mitigate the visibility thereof (where required and as directed

Activity	Impact summary	Significance	Proposed mitigation
	•		by the ECO);
			• Construction workers must ensure and
			implement good housekeeping
			practises to minimise the visual impact
			of waste and discarded materials: and
			Construction activities to be kent to
			normal davtime working hours as far as
			possible to prevent the impact of
			floodlights and other sights during
			resting hours
Soil contomination	Direct impact	Vorulow	Stars fuels and chemicals in an
due to spillage of	Degradation of		
hazardous	the soil due to		Impermeable builded area,
substances, oil and	spillages		Provide stan with nazardous materials
fuel leaks at the			training;
construction site			• Chemical toilets to be used on site,
transportation and			grey water should be disposed of off-
construction			site at a licensed waste treatment
vehicles as well as			works;
accidental spillages			• No storage of fuel on site, vehicles to
			be fuelled off-site;
			• No mixing of cement/concrete should
			take place within 30m of aquatic
			features or in natural vegetation;
			• No servicing or repair of vehicles on
			site (unless absolutely necessary);
			• No concrete mixing on site unless on a
			mortar board;
			• Water used to clean concrete off of
			machinery should be treated as grey
			water and disposed of at a licensed
			water treatment works;
			Construction vehicles should be
			maintained on a regular basis so as to
			prevent oil spills/leaks;
			• Drip trays should be places under
			vehicles when not in use; and
			• If a hydrocarbon spillage occurs, it must
			be cleaned up immediately and
			disposed of at an appropriate
			registered landfill site.
Increased domestic	Direct impact	Very Low	Keep waste in vermin proof bins with
waste generation	Unsightly litter on	,	lids (as needed); and
(solid waste) and	site		Waste to be removed from site on a
left unmanaged on			regular basis
site to attract			
vermin			
Loss of Riparian	Direct impact	Very Low	No access roads should be constructed
vegetation along	Loss of riparian		within 32m of a hill slope seepage
watercourse	vegetation due to		

Activity	Impact summary	Significance	Proposed mitigation
crossings and drainage lines due to the construction of the powerline	construction vehicles		 wetland and/or seasonal pan, unless no alternative is possible; and If access roads/ tracks must pass through drainage lines, the footprint should be a small as possible.
Increased risk of alien invasion for vegetation species due to unmanaged vegetation clearing activities taking place on site	Direct impact Increase in alien invasive species due to vegetation clearing activities	Very Low	 An alien management plan must be implemented as directed by the ECO. The plan should limit vegetation clearing to the servitude of the powerline and no more. This plan must be developed prior to construction.
Loss of avifauna and roosting sites due to the clearance of vegetation for the powerline servitude	Direct impact Loss of avifaunal species and roosting sites	Very Low	 The construction corridor of the selected alignment should be closely inspected before the start of construction in order to locate any active nests; Reduce the construction time where possible and schedule construction activities around avian breeding schedules where practical; Lower the levels of associated noise; and Restrict the construction activities to the footprint area. Do not allow any access to the remainder of the properties. Make maximum use of existing roads.
Impacts on the archaeological resources due to construction activities associated with the pylon structures	Direct impact Loss of archaeological resources such as rock art, stone tools etc.	Very low	 Any known sites (any graves and/or archaeological sites) should be avoided by both the pylons and any access roads that may need to be constructed; Excavation of archaeological sites could be conducted if impacts to the site cannot be avoided; It is suggested that the power line to the north of Lime Acres be moved as close to the road as possible in order to avoid potential archaeological impacts; and The final alignment should be considered by an archaeologist to determine the likelihood of impacts to archaeological resources along the foot of the hill if the line is to be located to the northwest of the midline of the study area corridor.
Impacts on the palaeontological resources due to the construction	Direct impact Loss of palaeontological resources due to	Low	If any palaeontological materials (such as dense bone accumulations) are uncovered during the course of

Activity	Impact summary	Significance	Proposed mitigation
activities associated with the pylon structures Destruction of grave sites due to construction and servitude clearing activities associated with the pylon structures	construction activities. Direct impact Grave site disturbance due to servitude clearing	Very Low	 development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an appropriate specialist. Such heritage is the property of the state and may require excavation and curation in an approved institution. Any known sites (any graves and/or archaeological sites) should be avoided when placing the pylons. If needed the grave sites should be demarcated.
Increase in crime due to the creation of additional access roads and or thoroughfares to surrounding areas during the construction phase	Direct impact Increase in crime due to increase in workers within the town	Very Low	• Workers will not be allowed to stay overnight at the crew camps unless authorised by the ECO (as applicable).
Temporary job creation during the construction of the proposed powerline and associated infrastructure	Direct impact Unskilled labour force may be required for construction activities	Low Positive	The development should proceed and should employ local labour as far as possible.
Potential increase in HIV/ AIDS in the area due to construction workers (migrant labour) associated with the proposed development	Indirect impact Due to the increase in workforce within the town, there may potentially be an increase in sexually transmitted diseases	Very Low	 HIV & AIDS awareness talks should be given to the workers on a regular basis by the relevant personnel.
Impacts on agriculture potential and expansion due to the placement of the pylon structures in existing potential farm lands resulting in the minor loss of arable land or potential expansion of farming activities	Indirect impact Due to the location of pylon structures and the servitude restrictions, farming activities may be compromised	Very Low	 Locate pylon structures within natural fire breaks within the currently farmed areas (where possible). Compensate farmers for the loss of arable land / servitude restrictions.

Activity	Impact summary	Significance	Proposed mitigation
Operational Phase			
Economic growth and development in the surrounding area due to the strengthening of the existing electricity network to a point where it is stable and reliable and allowing future development and expansion of operations in the area	Direct impact Due to the powerline stabling the electricity grid and allowing for future development- economic benefits will be realised	Medium Positive	Continue with the proposed development and ensure that the line is maintained.
Increased theft and vandalism of the distribution line and associated infrastructure resulting in the occurrence of potential deaths, interruption in electricity supply and the increased maintenance intervals	Direct impact Increase in theft of electrical cables	Very low	 Install anti-climb pylons; and Access control at the substation needs to be implemented.
Increased risk of alien invasion for vegetation species due to the disturbance in the landscape during operational and maintenance activities	Direct impact Increase in alien invasive species	Very low	 Areas disturbed due to maintenance activities should be rehabilitated as quickly as possible; Soil stockpiles should not be translocated from areas with alien plants into the site; Within the site, alien plants on stockpiles must be controlled so as to avoid the development of a solid seed bank of alien plants within the stockpiled soil; Any alien plants must be immediately controlled to avoid establishment of a soil seed bank; and Create an integrated alien invasive management programme to be implemented during maintenance activities.
Increased collision and electrocution of avifauna and resulting mortality of these large terrestrial bird species due to	Direct impact Loss of avifauna due to electrocution and collisions	Very low	 Informed selection of low impact alignments for new powerlines relative to movements and concentrations of high risk species; Use of either static or dynamic marking devices to make the lines and the

Activity	Impact summary	Significance	Proposed mitigation
building nests on pylon structures		Gigninicance	 earthwires more conspicuous; Ensure that all new lines are marked with bird flight diverters along their entire length using industry standard markers and marker fitting protocols; Identified high risk sections of the powerline needs to be installed with a suitable anti-bird collision marking device approved by Eskom, and as per the Eskom standards; Fit bird perching bracket to the top of the pole; Due to the potential for nocturnal collisions, especially flamingos, it is recommended that the experimental LED bird flapper is used (see Appendix 4 of specialist report); and Preliminary high risk sections for bird collisions have been identified in the avifauna specialist report attached as Appendix D must be taken into consideration during the final positioning of the powerline.
Increased alteration of hydrology of drainage lines and wetlands due to the establishment of distribution line pylons within or immediately adjacent to freshwater ecosystems	Direct impact Alteration of watercourses due to the establishment of the pylons within the watercourse due to maintenance activities	Very low	 Use existing access roads where possible; Do not establish new access roads within drainage lines; and Limit maintenance footprint within drainage lines.
Floral destruction and faunal displacement due to clearing or trimming of natural vegetation located within the servitude of the powerline as part of routine maintenance operations	Direct impact Maintenance activities resulting in the loss of flora and fauna	Very low	 Maintenance impacts must be contained within the footprint of the phylon structures and / or the servitude routes of the powerline; Ensure that unnecessary impacts on natural vegetation do not occur; Vegetation clearance should be conducted systematically from the start to the end of the route to allow fauna to move away; Avoid strip clearing; Maintenance activities should be restricted to daylight hours when the majority of faunal species are inactive; and No animals may be snared, captured

Activity	Impact summary	Significance	Proposed mitigation
	, in the second s		or wilfully damaged or killed.
Degradation of the cultural landscape and scenic qualities of the environment due to the proposed powerline extending across such landscape	<i>Direct impact</i> Visual intrusion of the powerline	Very low	Align the power line as close as possible to existing powerlines so as to keep visual impacts clustered.
Increased soil erosion due to the deterioration of access roads to the powerline servitude for operation and routine maintenance activities	<i>Indirect impact</i> Soil erosion due to maintenance activities	Very low	 Apply the appropriate erosion protection measures where erosion is identified; Regular maintenance of the identified access roads as and when required; Improve the access of the identified access roads to ensure suitable passage for equipment, erosion control and maintenance of proper drainage; and Maintenance staff to stay on the designated access roads at all times.
Stimulation and growth of the local economy due to the provision of a stable electricity supply which will lead to the steady growth and economic development of the surrounding regions	CumulativeimpactTakingintoconsiderationfutureinfrastructuralupgradesupgradesthatwilloccur,thelocaleconomywillincrease	High Positive	 Infrastructure maintenance should be prioritised to ensure that the provision of stable electricity is not interrupted and future upgrades along this corridor should be encouraged.
			•
Decommissioning P	hase		
Please note that due project, decommiss following impacts m	e to the nature of the ioning is not envisa nay be applicable:	e project and the iged. However s	fact that the project is an infrastructural hould decommissioning occur, the
Waste generation in the forms of generating metal and concrete waste during decommissioning activities	Direct impact Solid waste generation due to decommissioning activities.	Very low	 Waste generation must be managed according to Eskom's guidelines and standards; and All materials that can be recycled must be recycled where possible. The rest of the rubble must be disposed of at an appropriate landfill site.
Soil contamination due to hydrocarbon spills which may occur from vehicles to be used to carry out various decommissioning	Soil and watercourse degradation due to decommissioning activities		 containinated soir must be removed and disposed of at an appropriate registered landfill site; Heavy vehicles must be service and maintained regularly; No fuel storage, refuelling, vehicle

Activity	Impact summary	Significance	Proposed mitigation
activities		- -	maintenance or vehicle depots should
			be allowed within 30 m of the edge of
			any wetlands or drainage lines:
			 No effluents or polluted water should be
			allowed to discharge into any drainage
			lines or wetland areas: and
			The construction featurint clong the
			Ine construction footprint along the
			watercourse must be limited to as small
			a footprint as possible.
Alternative 2			
THE PROPOSED IM EXCEPTION OF THE	PACTS WILL BE TH E FOLLOWING:	E SAME AS THA	T FOR ALTERNATIVE 1 WITH THE
Construction Phase	•		
	SAI	ME AS ALTERNA	TIVE 1
Operational Phase			
Increased collision	Direct impact	low	 Informed selection of low impact
and electrocution of	Loss of avitauna		alignments for new powerlines relative
resulting mortality	electrocution and		to movements and concentrations of
of these large	collisions		high risk species;
terrestrial bird			Use of either static or dynamic marking
species due to			devices to make the lines and the
building nests on			earthwires more conspicuous at
pylon structures			sections as indicated in the specialist
			report;
			Ensure that all new lines are marked
			with bird flight diverters along the
			sections of the line as indicated by
			specialist using industry standard
			markers and marker fitting protocols;
			 Identified high risk sections of the
			powerline needs to be installed with a
			suitable anti-bird collision marking
			device approved by Eskom, and as per
			the Eskom standards;
			• Fit bird perching bracket to the top of
			the pole.
			• Due to the potential for nocturnal
			collisions especially flaminges it is
			recommended that the experimental
			LCD hird flopper is used (see Appendix
			A of oppoint report on the
			4 of specialist report; and
			Preliminary high risk sections for bird
			collisions have been identified in the
			avifauna specialist report attached as
			Appendix D must be taken into
			consideration during the final
			positioning of the powerline.

	-			
Activity	Impact summary	Significance	Proposed mitigation	
Decommissioning F	Phase			
THE PROPOSED IMPACTS WILL BE THE SAME AS THAT FOR ALTERNATIVE 1				
No-go option				
No additional job creation	Direct impacts: No additional jobs will be created if the construction of the powerline does not commence	High negative	Commence with the proposed powerline construction	
Inhibition of economic growth and development	Direct impacts: If the powerline is not constructed, inhibition of the economic growth and development of the surrounding regions will occur.	High negative	Commence with the proposed powerline construction	

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

COMPARATIVE SUMMARY OF THE FINDINGS FOR THE ALTERNATIVE 1 AND 2 ROUTING OPTIONS:

Alternative 1 (preferred)	Alternative 2
This alternative will be less expensive to construct compared to Alternative 2 based on the construction cost per km	This alternative will be the most expensive to construct compared to Alternative 1 based on the construction cost per km.
This alternative is approximately 20km in length, and is further away from the Great Pan which is an avifaunal roosting and foraging site. This implies that there is a potential for avifaunal electrocution and collisions are reduced.	This alternative is approximately 23km in length and is closer to the Great Pan. This alternative route has a greater potential for large avifaunal electrocutions and collisions.
This alternative crosses a smaller footprint over watercourse features (depressions, pans, valley bottom and flat wetlands) as compared to that of alternative 2. Therefore the impact on the watercourse features in the area will be lessened.	This alternative has a greater cumulative footprint over watercourse features within the study area and as such the potential for aquatic degradation is greater.
Alternative 1 has a smaller footprint over areas deemed to potentially have a high palaeontological sensitivity than that of alternative 2.	Alternative 2 has a greater footprint over potentially higher palaeontological sensitive areas.
Conclusion:	Conclusion:
The preferred option is the least expensive to construct and is anticipated to have the least amount of impacts on the surrounding environment compared to Alternative 2. Due to the smaller footprint of the route, fewer impacts on avifauna, vegetation and on watercourse features will occur. Alternative 1 is therefore supported as being the preferred option.	Alternative 2 is the most expensive to construct and maintain compared to the preferred option. This option is slightly longer in distance and will therefore have a greater development footprint. This implies that the potential for more severe impacts exists with this alternative. Based on the reasons provided above, Alternative 2 is <u>not</u> considered to be the preferred option.
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 <u>after</u> 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 1 (preferred alternative)

It has been illustrated that with the implementation of the above mitigation measures and Environmental Management Programme, all the identified impacts can be mitigated to acceptable levels, thus allowing the proposed development to proceed. Impacts along both alternative routes are very similar with only a few differences in significance for some identified impacts. The smaller footprint on watercourse features avifaunal sensitive areas implies that this alternative will have a smaller environmental impact.

The impacts associated with alternative 1 are mainly of a short – medium term, with a significance of low – very low (with the implementation of mitigation measures).

Environmental impacts associated with Alternative 1 can be successfully mitigated to acceptable levels if the recommended mitigation measures in the EMPr are adhered to. The total length of Alternative 1, impacts associated on the area's Avifauna, ecological and wetland resources have thus proven the most influential factor in concluding that this option is preferred.

Alternative 2

It has been illustrated that the impacts associated with Alternative 2 are very similar to that of Alternative 1; however there are a few exceptions. Due to the longer route and a greater footprint this alternative has a larger environmental impact. and is closer to the Great Pan which will yield slightly higher avifaunal impacts.

The impacts associated with alternative 2 are mainly of a short – medium term, with a significance of low – very low (with the implementation of mitigation measures). Based on the reasons provided above the Alternative 2 routing option is not supported.

Alternative C: N/A

No-go alternative (compulsory)

This option in the context of this project implies that the powerline is not to be constructed and therefore assumes that a conservative approach is followed. This would ensure that the environment is not impacted upon any more than is currently the case. It is important to state that this assessment is informed by the current condition of the area. Should the authorities decline the application, the 'No-Go' option will be followed and the status quo of the site will remain. The natural areas where the proposed servitude will be located as well as the site for the construction of the substation and switching stations will remain intact. With the No-Go alternative being followed, no additional jobs will be created during the construction and possibly during the operational phase. The current unstable supply of electricity throughout the study area is likely to inhibit or slow down the economic growth and development of the surrounding regions in the Medium - Long term. The need for stable and reliable power supply to meet current and future demand will outweigh the potential impacts to the surrounding environment. The Impacts to the surrounding environment is expected to be of low to medium significance, at best, and can be proactively mitigated to acceptable levels. Therefore the no-go alternative is not preferred.

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)?

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).

YES

YES

Х

NO

Х

NO

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.

- The EMPr is a legally bounding document and must be implemented;
- No pylon structures should be erected within a drainage line;
- Bird diverters should be installed throughout the powerline;
- An independent ECO must be appointed to ensure compliance with the EMPr; and
- A Water Use License must be obtained prior to construction.

Is an EMPr attached?

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.

Tashriq Naicker NAME OF EAP

SIGNATURE OF EAP

05/02/2015 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

Document Control Form IP180_B

CLIENT	:	Eskom Holdings (SOC) Ltd, I Unit (Eskom)	Eskom Distribution – N	orthern Cape Operating
PROJECT NAME PROJECT NO	:	Olien-Karats 132kV Powerline J34152	1	
TITLE OF DOCUMENT ELECTRONIC LOCATION	:	J34152 Olien Karats FBAR		
		Ammended Dr.	Deviewed Dv	Dranavad Dr

	Арргохеа Ву	Reviewed By	Prepared By	
ORIGINAL	NAME	NAME	NAME	
	Tashriq Naicker	Tashriq Naicker	Alecia Barnard	
DATE	SIGNATURE	SIGNATURE	SIGNATURE	
2015/03/27	Raicker	Raicker	Azinar	

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GIBB (Pty) Ltd Postal Address	:	PO Box 35007, Menlo Park, Pretoria, 0102	Website Physical Address	:	www.gibb.co.za Lynwood Corporate Park, Block A, 1st Floor, East Wing, 36 Alkantrant Road, Lynnwood Manor, 0081, Pretoria
Contact Person	:	T Naicker	Email Address	:	tnaicker@gibb.co.za
Telephone No.	:	012 348 5880	Fax No.	:	012 348 5878