BASIC ASSESSMENT REPORT FOR THE PROPOSED CONSTRUCTION OF A SINGLE 132 kV DISTRIBUTION POWER LINE FROM THE NGWEDI MAIN TRANSMISSION STATION TO THE RUIGHOEK SUBSTATION AS PART AS PART OF THE NGWEDI NETWORK DEVELOPMENT PLAN IN THE SUN CITY AREA, NORTH WEST PROVINCE

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Prepared for:
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environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, 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, 2014 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 **08 December 2014**. 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 in 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

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

Eskom Holdings SOC Limited (Eskom) is mandated by the South African Government to ensure the provision of reliable and affordable power to South Africa. Eskom currently generates approximately 95% of the electricity used in South Africa. Therefore, electricity must be generated in accordance with supply demand requirements. Eskom's core business is in the generation, transmission (transport), trading and retail of electricity.

The reliable provision of electricity by Eskom is critical for industrial development and related employment and sustainable development in South Africa. As electricity cannot be stored, power is generated and delivered over long distances at the very instant that it is required. In South Africa, thousands of kilometres of high voltage Transmission lines (i.e. 765 kV, 400 kV and 275 kV Transmission lines) transmit this power to Eskom's major substations. At these major substations, the voltage is down-rated and distributed to smaller substations all over the country via Distribution lines (e.g. 132 kV, 88 kV and 66 kV powerlines). Here the voltage is down-rated further for distribution to industry, businesses, farms and homes. In order to maintain a reliable power supply within the entire network, the voltages at all substations are required to be within certain desired limits.

If the network is operated at voltages which are below these limits, voltage collapse problems and power outages may be experienced. Reliable delivery of electricity concerns consumers and industries which require a high quality of power supply for sensitive electronic equipment, and which incur high expenses as a result of even a short electricity supply interruption. To be reliable, the transmission network must have the capacity to supply the electricity required by the customers at all times. That is, the network must be designed with reserve transmission capacity in order to ensure an uninterrupted supply to customers if and when faults occur. As a transmission network reaches capacity, the operation of the Transmission lines becomes more critical.

In the event of a network being increasingly operated above its design capacity during peak periods, and two particular concerns arise:

- **energy losses increase significantly along the Transmission lines; and**
- **the voltage drop along the lines increases to a point where supply becomes unstable and the line "goes down", and supply on that Transmission line is lost.**

When a Transmission line "goes down" it is usually possible to re-route the electricity via other lines in the network. However, when the network is already close to capacity, there is a greater risk that the entire network will "go down", cutting supply to the region for an indefinite period of time. In addition, routine maintenance on the transmission network becomes restricted, resulting in the heightened deterioration of the network over time. This deterioration, ultimately, also affects the performance of the transmission network.

This is currently the case in the Pilanesberg area, where demand in this part of the Eskom Distribution network is increasing rapidly due to vigorous electrification plans and mining developments. The peak electricity load required in this area is further anticipated to increase significantly in the near future due to planned mines underway.

Therefore Eskom proposes the development of the Ngwedi NDP which involves the construction of a 132kV power line approximately 35km from the proposed Ngwedi MTS to the existing Ruighoek Substation.

In accordance with the requirements of the National Environmental Management Act No. 107 of 1998 and its relevant regulations as amended 8 December 2014, the proposed project triggers listed activities under listing 1 of GNR 983 therefore requires a Basic Assessment.

Baagi Environmental Consultancy has been appointed by Eskom Holdings Limited as an Independent Environmental Assessment Practitioner (EAP) to conduct the EIA.

132 kV DESIGN SPECIFICATIONS

Details of the planned 132 kV power line, including the design specifications and the structural information are discussed below and presented in Table 1.

<u>Road Access for Construction and Maintenance of the power line and substation</u>
Road access will be required as part of the servitude along the distribution line for easy access during the construction, and maintenance of the distribution line. This would need to meet specific requirements. Details regarding the required access roads will be included in the final EMP for the project.

Types of Towers/Pylons

The preferred pylons for this line will either be monopoles, self-supporting towers, or a combination thereof.

Servitude requirements for the proposed power line

Generally, 132 kV power lines require a servitude width of between 30 m and 52m. The proposed 132 kV power line will require a servitude width of 31 m (15.5 m either side of the centre line of the power line). Any extra area required outside the servitude shall be negotiated with the relevant land occupiers and approved by Eskom. All areas marked as no-go areas, identified by means of the EIA process, located inside the servitude shall be treated with the utmost care and responsibility.

Line clearances

High voltage power lines require a large clearance area for safety precautions. The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) provides for statutory clearances.

Table 1 below summarizes some of the key clearances relevant to the proposed 132 kV power line as per Eskom specifications.

Clearances	Minimum Clearance Distance (m)
Ground clearance	6.7
Building structures not part of power line	3.8
Above roads in townships, proclaimed roads	7.5
Telecom telephone lines	2.0
Spoornet tracks	10.9

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

Listed activity as described in GN 734, 735 and 736	Description of project activity
Example: ***GN 734 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.***	***A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river***

R983 No. 11: The development of facilities or infrastructure for the transmission and distribution of electricity outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts	The proposed project entails the development of facilities and infrastructure for the distribution of electricity. The proposed lines are 132Kv.
R983 NO. 14: The development of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic meters or more but not exceeding 500 cubic metres	Storage of dangerous goods such as diesoline will occur at the construction site and camps. the amount of dangerous goods to be stored will be 500m³.
R983 No. 19: 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 of more than 5 cubic metres from – i. a watercourse;	The proposed project will need the deposit or excavation or removal or moving of material for the construction of the towers. The amount to be infilled or deposited will be 5m³.

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 Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its

environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

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

a) Site alternatives

Table 1: Ngwedi-Ruighoek Powerline Alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative S1: (preferred) **The proposed 132 kV will start at the proposed Ngwedi MTS to wards Ruighoek Substation through various farms along the existing 88kV which runs along the road. The site (substation at Ngwedi) is to the south of the Elands River and to the east of the R565 and there are some smaller drainage lines and streams present. The power line then crosses the R565 to the west and follows a corridor to the northwest to the existing Ruighoek substation. The point where the proposed power line will cross over rivers, streams and drainage lines should post no problems with regards to large trees, as most of the riparian vegetation is modified. Just to the south of the D94, the new power line will cross over a low koppie. Although the high ground is considered as sensitive, the impact of the power line will be fairly low.**		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative S2 **The powerline will start from Ngwedi MTS towards Ruighoek Substation through the longest route**		

traversing Patsima village, This alternative is further to the west also crosses the Elands River and R565 to the west. It then follows a route to the west, before turning in a northerly direction to the Ruighoek substation. Impacts are similar to those listed for alternative 1. The exception is that this option doesn't follow existing roads and therefore one can consider access during construction a problem. More new access point must be made and this will lead to more clearing of natural vegetation. Limited river and stream crossings are present and this will significantly increase the impact on the environment (erosion and bank destabilisation). The route then crosses some koppies and low mountains on the farms Zwartkoppies (212JP) and Mahobieskraal (211JP) which will have a significant impact (clearing of vegetation and access road). To the south of the D94, the route passes to the west of Maologane. Once the line is past the village, it swings to the east to follow the same corridor as alternative 1 to the Ruighoek substation.		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• Starting point of the activity	25°24.303'S	27°5.490'E
• Middle/Additional point of the activity	25°19.353'S	26°58.738'E
• End point of the activity	25°11.450'S	26°55.682'E
Alternative S2 (if any)		
• Starting point of the activity	25°24.303'S	27°5.490'E
• Middle/Additional point of the activity	25°22.172'S	26°57.622'E
• End point of the activity	25°11.450'S	26°55.682'E
Alternative S3 (if any)		
• Starting point of the activity		

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

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

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

b) Lay-out alternatives

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

c) Technology alternatives

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

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

Alternative 1 (preferred alternative)		
Alternative 2		

Alternative 3

e) No-go alternative

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

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

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	**114 500 m**
Alternative A2 (if any)	**150 500 m**
Alternative A3 (if any)	m

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

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	**3 664 000 m^2**
Alternative A2 (if any)	**4 816 000 m^2**
Alternative A3 (if any)	m^2

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

4. SITE ACCESS

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

Describe the type of access road planned:

N/A

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

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 DWS);
- 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?		NO	Please explain
Specialist study's undertaken for the proposed development of a 132 kV power line from the Ngwedi Main Transmission Station (MTS) to the Ruighoek Substation. Negates the proposed development is surrounded by vegetation modified by historic and current activities mostly related to agriculture. These include cultivation and grazing and recently wood collection, as well as mining developments. The activity is not permitted and requires an Environmental Authorisation (EA) in terms of the National Environmental Management Act, 1998 (Act No 107 of 1998) as amended 8 December 2014.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		Please explain
It could be said that the project is part of the Provincial Spatial Development Framework (PSDF), as the proposed development is part of the National Development Plan (NDP) and Eskom's Transmission Development Plan (TDP) for the period 2010 to 2019, the focus of the plan is to continue to ensure that new power stations and transmission lines are integrated into the national power system and that there is minimum infrastructure for electricity distribution.			

(b) Urban edge / Edge of Built environment for the area		NO	Please explain
The activity will not take place within the urban edge for the area, the development will be along various farms and farm portions within the Sun City area in the North West Province, from the existing Ngwedi Main Transmission Stations (MTS) to the Ruighoek Substation, as part of Eskom's Transmission Development Plan (TDP) to supply electricity to the area as the demands are rapid with increased electrification plans and mining developments in the area.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).		NO	Please explain
The proposed development a 132 kV power line from the Ngwedi Main Transmission Station to the Ruighoek Substation will not compromise the integrity of the existing municipal IDP and SPDF, it will however ensure that the objectives of the municipality are reached in terms of its IDP and SPDF, which are part of its strategic goal i.e. Bulk Infrastructure Development/Maintenance (electricity, solid waste, cemeteries, sewerage, roads, community / municipality buildings) (Source: Moses Kotane Local Municipality Integrated Development Plan Review 2014/2015).			
(d) Approved Structure Plan of the Municipality	YES		Please explain
The Bojanala District Municipality is comprised of five Local Municipality's (LMs), namely, Moses Kotane LM, Rustenburg LM, Kgetlengrivier LM, Moretele LM and Madibeng LM. Bojanala District Municipality being the higher order of the five municipalities makes provision within its 2011/2012 IDP for Massive programme to build economic and social infrastructure i.e. "continuing with to build, revamp, and maintain electricity infrastructure, including generation, distribution and reticulation to ensure sufficiency and sustainability of supply and development of alternative energy sources".			

(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)		NO	Please explain
Large parts of the Bojanala Platinum District Municipality is characterised by high levels of biodiversity as determined in the North West Biodiversity database. Stretching from the southern parts of the Madibeng Local Municipality in the east to Rustenburg and further northwards up to the north western parts of the Rustenburg Local Municipality. In response to the importance of biodiversity in the district, the North West Parks and Tourism board considered in the 2011/2012 IDP the extension of a number of existing nature reserves and conservation areas. Although the consideration of the extension of a number of nature reserves and conservation areas, the Bojanala District Municipality has specific focus of the Accelerating Growth and Development Framework to introduce a spatial framework considering amongst others the following: • Improve transportation linkages with neighbouring countries and provinces; • Bulk infrastructure planning and investment in key components of SDI corridors;			
(f) Any other Plans (e.g. Guide Plan)	YES		Please explain
The activity will be in line with the National Development Plan (NDP) for distribution of electricity.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES		Please explain
The development is part of Eskom's Transmission Distribution Plan (TDP) to provide a reliable transmission network with adequate capacity to meet customer needs which is a necessary condition for the provision of a reliable electricity supply to South Africa, and to support the Governments initiatives to create jobs, provide quality education and health care, and uplift previously disadvantaged communities. To remain reliable the transmission system requires not only maintenance, but must also be developed and extended to meet changing customer needs or connect new loads or power stations to the network.			

4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES		Please explain
The demand of electricity is increasing rapidly in the Pilanesburg area, due to vigorous electrification plans and mining developments. The peak electricity load required in the area is further anticipated to increase significantly in the near future due to planned mines underway.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES		Please explain
The municipality currently has capacity; however the proposed development of a 132 kV power line will not require any additional services from the municipality, in order to carry out the activity. Services that may be required may include amongst others facilities for waste disposal, i.e. to dispose of general and construction waste generated during the construction phase of the development at a registered municipal landfill site. The applicant will make use of private contractors for safe disposal of waste generated during the construction phase i.e. is considered hazardous in nature.			
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		Please explain
The proposed development is part of the Government's Strategic Projects i.e. the National Development Plan (NDP), the Bojanala District Municipality and its five local municipalities make mention of bulk infrastructure development i.e. electricity etc. which ultimately aims to reach the goals and objectives of the NDP for strategic projects etc.			

7. Is this project part of a national programme to address an issue of national concern or importance?	YES		Please explain
Eskom Holdings is a vertically integrated company licensed to generate, transmit and distribute electricity in South Africa. The proposed development of energy related projects is part of a national programme i.e. the National Development Plan 2030 stating that by 2030 it should achieve enabling milestones, which include amongst others " produce sufficient energy to support industry at competitive prices, ensuring access for poor households, while reducing carbon emissions per unit of power by about one-third.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES		Please explain
Most of the land use within the corridor of the proposed development of the 132 kV power line is agricultural and mining related. The proposed development will be a linear activity and will be within the servitude required by Eskom i.e. 55m in width and ±35km in length. Specialist studies were conducted to determine the most feasible and sustainable route considering land use and various location use factors.			
9. Is the development the best practicable environmental option for this land/site?	YES		Please explain
Although there are various land use activities i.e. agricultural activities (grazing, farming etc.) and mining within the area, where the proposed linear development will take place. The best environmental option were considered for the proposed development by identifying possibly routes with an alternative route, in this case two routes were assessed through conducting of specialist studies, and was considered to be best practicable environmental option. Refer to attached specialist report in Appendix D1 –E.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES		Please explain
The proposed development will increase the supply of electricity to the North West province, it will further ensure that jobs are created during the construction phase of the project, as well as increase energy to support industry at competitive prices i.e. agriculture, mining etc. further ensuring access to poor households.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES		Please explain
The proposed development will boost the municipality in terms of contributing to infrastructure development i.e. electricity etc. which is a key focus in the municipalities strategic objectives amongst others.			

12. Will any person's rights be negatively affected by the proposed activity/ies?	YES		Please explain
The proposed development may have an effect on the rights of those who own farms on which the proposed development will pass through since it's a linear development. However to ensure that no persons rights are negatively affected, owners of the various properties will be engaged through the Public Participation Process (PPP) as required in terms of section 41 of the National Environmental Management Act, 1998 (Act No 107 of 1998) and its regulations as amended 8 December 2014. Eskom's negotiation team will further engage with the affected parties and properties owners were line will pass through to negotiate how the affected parties will be compensated etc.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		NO	Please explain
No the proposed development will not compromise the urban edge as defined by the local municipality, the activity will pass through various farms to its intended destination i.e. the Ruighoek Substation, and therefore will not comprise the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES		Please explain
The proposed activity will not only contribute to the 17 Strategic Integrated Projects (SIPS), but is one of the 17 SIPS, as outline in Appendix 6 of the NDP, i.e. Electricity transmission and distribution for all-expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development."			
15. What will the benefits be to society in general and to the local communities?			Please explain
Strengthening of the electricity distribution in this area will allow for an increase in the number of household and community electrifications. This will have long term positive effects on education, health care and economic growth at least.			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
To provide electricity to previously disadvantaged communities, by increasing the distribution of electricity to the area, the proposed development is also aiming at improving of infrastructure wearing out, by means of developing new infrastructure for electricity distribution.			

17. How does the project fit into the National Development Plan for 2030?	Please explain
The National Development Plan (NDP) for 2030 set outs 17 SIPS to achieve a strong network of economic infrastructure designed to support the country's medium-and long-term economic and social objectives. The economic infrastructure is a pre-condition for providing basic services such as electricity, water and sanitation, telecommunications and public transport, and it need to be robust and intensive enough to meet industrial, commercial and household needs.	
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 application of the proposed development of a 132 kV power line from the Ngwedi Main Transmission Station (MTS) to the Ruighoek Substation, was undertaken taking into account the National Environmental Management Act, 1998 (Act No 107 of 1998) and its regulations as amended 8 December 2014. As part of the NEMAs requirements pending the nature of the activities triggered either a Basic Assessment or Full Environmental Impact Assessment (Scoping and EIR) are undertaken. In this case a Basic Assessment (BA) was undertaken instead of a full EIA (Scoping and EIR), however the BA does not negate the objectives as set out in section 23 of NEMA, to assess the potential impacts identified as result from the proposed development. The BA assesses the potential impacts that may emanate from the proposed development, through the aid of specialist studies that were undertaken for the proposed development, as well as conducting of public participation as required in terms of section 41 of NEMA, as amended 8 December 2014. The potential impacts identified through site investigations, public participation and specialist studies were assessed and mitigated, the potential impacts are further mitigated in the Environmental Management Programme (EMPr), assigning different roles and responsibilities to all stakeholders involved in the proposed development in mitigating the potential impacts identified, throughout the planning, construction, operation and possibly the decommissioning phase.	

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.
The principles of environmental management as set out in section of NEMA are taken into account, by means of "Baagi Environmental Consultancy" being the independent Environmental Assessment Practitioner (EAP) appointed by Eskom Holdings SOC Limited to undertake the required environmental impact assessment, as required by NEMA, as amended 8 December 2014 to oversee the application process for Environmental Authorisation (EA) for the proposed development. Baagi as the EAP acting independently from Eskom, conducted the Environmental Impact Assessment (EIA) in line with the requirements of NEMA, i.e. identify potential adverse impacts to the environment and provide mitigation measures to detrimental impacts on the environment, and to optimise positive environmental impacts.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline	**Applicability to the project**	**Administering authority**	**Date**
National Environmental Management Act (NEMA) (Act No 107 of 1998) as amended 8 December 2014.	The proposed development of a 132 kV power line, requires for an Environmental Authorisation (EA) in terms of NEMA.	DEA	1998
Environmental Impact Assessment Regulations Government Notice No. 982	The proposed development of a 132 kV power line, requires for an Environmental Authorisation (EA) in terms of NEMA	DEA	2014
Listing Notice 1 Government Notice No. 983	The proposed development of a 132 kV power line, triggers activities listed in Notice 1 of Government Notice No. 983	DEA	2014
Integrated Environmental Management (IEM)	The proposed activity is a linear development, and	DEA	2002

Guidelines of the National Department of Environmental Affairs and Tourism	runs through various farms and farm portions, i.e. some aspects of the environment are considered sensitive, therefore the IEM is considered.		
Conservation of Agricultural Resources (Act No. 43 of 1983).	The project location is within the Sun City area, along the Pilanesburg, the North West is considered to be of a high conservation interest.	DEA	1983
National Water Act (Act No. 36 of 1998)	The proposed development of a 132 kV power line in the Sun City area, North West province will cross the Elands river and other wetland areas that requires for WULA.	DWS	1998
National Heritage Resources Act (Act No. 25 of 1999)	Heritage Impact Assessments were conducted, and is under the jurisdiction of SAHRA, this is to ensure that adequate processes are followed in case archaeological artefacts are uncovered during the proposed development.	SAHRA	1999
National Environmental Management: Air Quality Act (Act No. 39 of 2004).	The act ensures that the proposed development, is undertaken within the confines of the ambient levels for emissions resulting from the proposed development.	DEA	2014
National Environmental Management: Waste Act (Act No. 59 of 2008).	The act will ensure that all waste generated by the proposed development during the construction,	DEA	2008

	will be disposed of in line with the requirements of the waste act, for safe disposal of waste.		

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES ■
If YES, what estimated quantity will be produced per month?	1-5m^3

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

All solid waste generated during the construction process (including packets, plastic, rubble, cut plant material, waste metals etc.) will be placed in a bulk waste collection area in the contractors camp. The waste will be cleared regularly by a recognised waste Contractor. Litter collection bins will be provided within the Contractors camp at convenient intervals and will be regularly cleared. Separation of waste and recycling of paper, glass etc. should be encouraged. Burying or burning of waste will NOT be allowed. Unutilized, construction materials will be removed once construction has ended, e.g. crushed stone may not be left or randomly strewn around the site.

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

The Moses Kotane Local Municipality consist of 4 waste disposal sites, namely the Madikwe, Mogwase, Sun City (private) and the Swart Platinum Mine (Private) waste disposal sites. Construction waste from the proposed development and associated activities will be disposed off at either of the four (4) waste disposal sites, however the Sun City (Private) waste disposal site may be more favourable due to the location of the proposed development.

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

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

N/A

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

N/A

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

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?	NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	NO
If YES, what estimated quantity will be produced per month?	m^3
Will the activity produce any effluent that will be treated and/or disposed of onsite?	NO

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

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

If YES, provide the particulars of the facility:

Facility name:	
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:

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	YES	
If YES, is it controlled by any legislation of any sphere of government?		NO

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

The emissions will be mainly: • Smoke from the diesel machinery and trucks; and • Dust from construction works.

d) Waste permit

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

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	YES	
If YES, is it controlled by any legislation of any sphere of government?		NO

Describe the noise in terms of type and level:

Noise levels will not exceed 40dB and all works will be restricted to working hours. Minor noise generated from moving trucks and cars during construction phase will have minor disturbance to the surrounding residents and animals in the vicinity.

13. WATER USE

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

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	litres
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	NO

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, which 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):	**Ngwedi Main Transmission Station (MTS) to Ruighoek Substation**

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

3. Has a specialist been consulted to assist with the completion of this section?

YES	

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	North West Province
District Municipality	Bojanala District Municipality
Local Municipality	Moses Kotane Local Municipality
Ward Number(s)	
Farm name and number	• Farm Ruighoek 169-JP, portions: 11, 9, 14, 1, 13, 3, 4, 5, 6, R/E and 7; • Farm Vogelstruisnek 173-JP, portions: 1, 7 of Ptn2, 3, 0, 5, 4; and • Farm Palmietfontein 208-JP, Portions: Ptn5 of R/E and 6; • Farm Zandrivierspoort 901-JP, Portion: 1; • Farm Koedoesfontein 94-JQ, Portion: R/E; and • Farm Frischgewaagd 96-JQ, Portions: 4, 18, 0, 13, 14, 10 and 17
Portion number	• Farm Ruighoek 169-JP, portions: 11, 9, 14, 1, 13, 3, 4, 5, 6, R/E and 7; • Farm Vogelstruisnek 173-JP, portions: 1, 7 of Ptn2, 3, 0, 5, 4; and • Farm Palmietfontein 208-JP, Portions: Ptn5 of R/E and 6; • Farm Zandrivierspoort 901-JP, Portion: 1; • Farm Koedoesfontein 94-JQ, Portion: R/E; and • Farm Frischgewaagd 96-JQ, Portions: 4, 18, 0, 13, 14, 10 and 17
SG Code	See attached SG Codes for above farms and portions attached in Appendix B

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:	Power line Servitude and 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?		NO

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

2. LOCATION IN LANDSCAPE

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

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

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		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.

The proposed development of the new power line from the Ngwedi Main Transmission Station (MTS) will follow a corridor to the northwest, crossing the R565 and the Elands River, the crossing of the Elands River is considered a sensitive area, but due to removal of riparian vegetation, a clear crossing is possible. To the west of the R565, the proposed corridor also crosses the Sandspruit.

6. LAND USE CHARACTER OF SURROUNDING AREA

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

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

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

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

N/A

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

N/A

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

N/A

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

Critical Biodiversity Area (as per provincial conservation plan)		NO
Core area of a protected area?		NO
Buffer area of a protected area?	YES	
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?	YES	
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:	NO
	Uncertain
Refer to Appendix D: Heritage Report	

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:

The Phase 1 HIA study for the Eskom Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (Act No 25 of 1999). There is consequently no reason from a heritage point of view why Eskom's proposed 132 kV power line development from the Ngwedi (MTS) to the Ruighoek Substation near Sun City in the North West Province should be reconstructed.

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

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

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

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

Level of unemployment:

The proposed development of a 132 kV power line, will be from the Ngwedi (MTS) to Ruighoek Substation, and Is located in the Bojanala Platinum District Municipality and will affect three local municipalities, i.e. Moses Kotane, Rustenburg and Kgetlengrivier. The proposed development is surrounding environs of the Pilanesburg Nature Reserve and the Sun City area. Therefore the socio-economic character provided is that of the District:

According the Bojanala Platinum District Municipality IDP 2011/12, during 2008 in South Africa it was estimated that 42.6% of the population were employed. South Africa's unemployment rate is amongst the highest in the world with an estimated 19.6% of the population unemployed. Bojanala DM has a high unemployment rate which stands at 21.6%. Within the Local Municipalities, Kgetlengrivier and Moses Kotane have the highest unemployment rates with an estimated 27.6% and 26.5% of the population unemployed respectively. Although Moretele LM is estimated to have the lowest unemployment rate in the DM it should be noted that 53.8% of the population are not economically active. Rustenburg LM has the highest employment rate with an estimated 54.9% of the population employed.

Table 2: Formal Employment Status, 2008

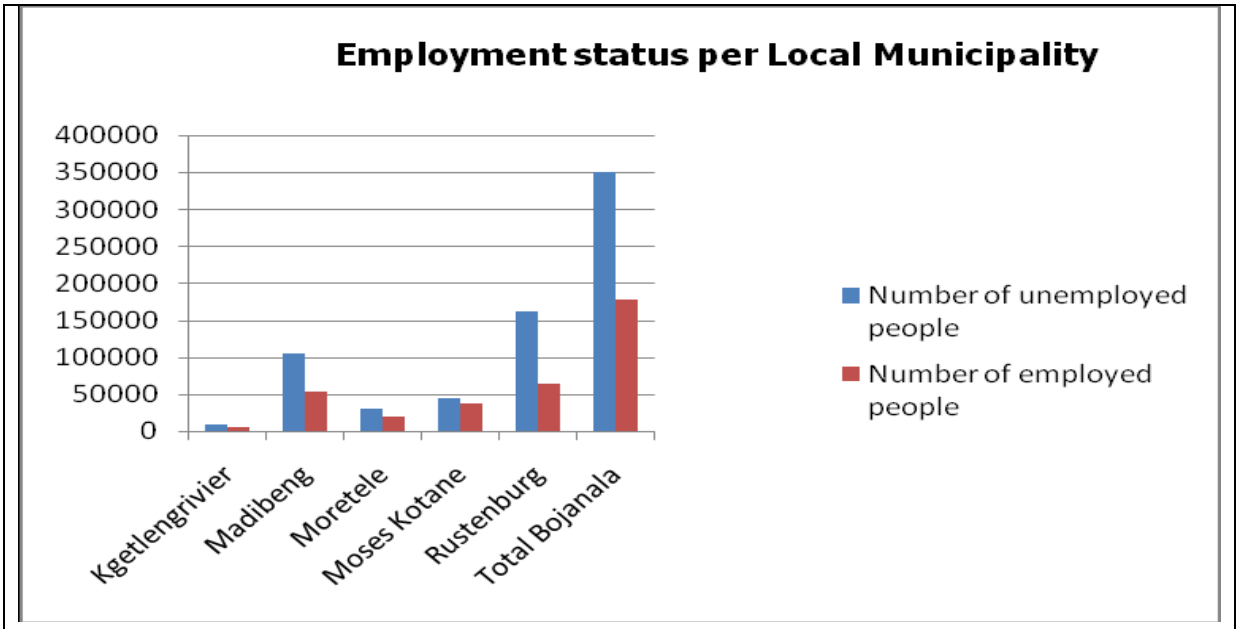
	South Africa	North West	Bojanala
Employed (%)	42.6	39.3	44.5
Unemployed (%)	19.6	20.4	21.6
Not Economically Active (%)	37.8	40.3	34
Total	100	100	100

Source: Statistics SA (Census, 2001 and Community Survey, 2007)

According to the march 2009 Stats SA release, South Africa's unemployment rate dropped slightly to 21,9% in the quarter ended December 2008 from 23,2% in the third quarter, Statistics South Africa data showed.

The graph below shows the level of employment and unemployment in the district per local municipality. It is evident that there is still high level of unemployment in the district despite the geographical area or the category of the municipality.

Figure 1: Employment Status per local municipality



Source: 2007, Community Survey Report

The graph above is complemented by the table below which provides the comparative unemployment and affordability figures for the various municipalities. The figures provide a clear indication of the need of poverty alleviation programmes and interventions in the district.

Table 3: Comparative unemployment and affordability figures

Area	% Economically active population unemployed	% Households earning less than R800/month
Moretele LM	57.7%	60.2%
Madibeng LM	41.6%	50.2%
Rustenburg LM	32.2%	38.0%
Kgetlengriveir LM	30.2%	56.8%
Moses Kotane LM	51.0%	59.8&

Source: Statistics SA, Census 2001

Economic profile of local municipality:

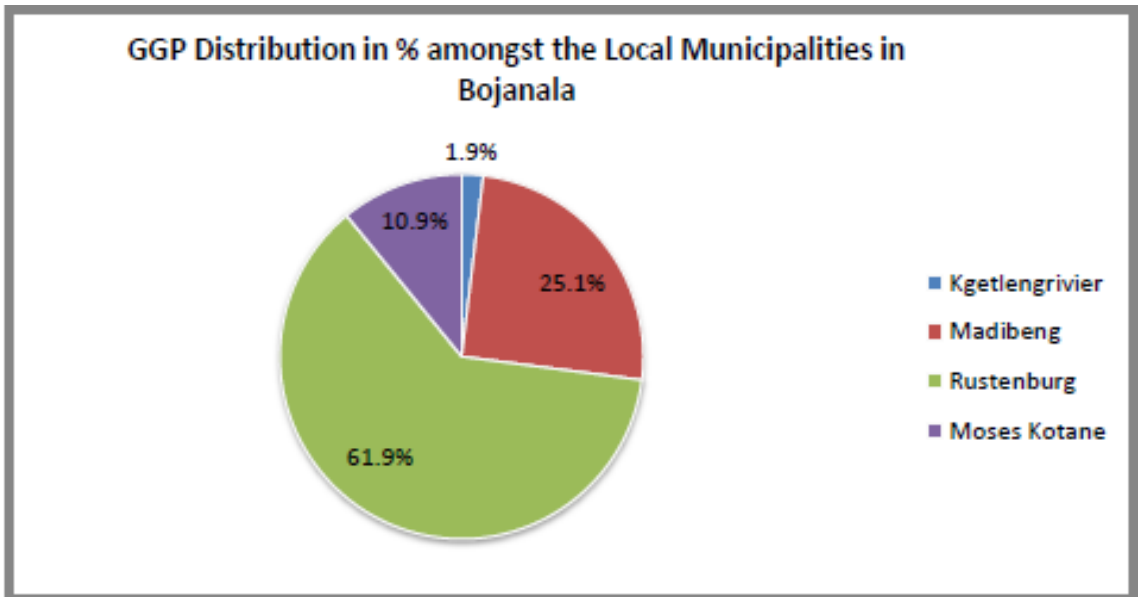
Local Economic Development – Economic Status of the District:

It is generally recognized that the Bojanala Platinum District Municipality is the economic growth engine of the North West Province and contributes the vast majority of total production output and employment opportunities within the NW Province. The performance of the economy within this district is thus crucial to achieving the overall growth and development targets agreed to at a provincial level.

GDP growth:

For the 2001 to 2004 period Bojanala DM (5%) experienced a higher average annual GDP growth rate compared to both South Africa (3.3%) and the North West Province (3.2%). The National and Provincial growth rates grew at a steady pace while the District experienced more erratic growth rates. For the District, it is estimated that the Gross Domestic Product for 2008 will be approximately R36 billion contributing 3.4% to the total National GDP and 52.4% to the Provincial GDP.

Figure 2: Distribution in % amongst the Local Municipalities in Bojanala DM, 2004



Source: (Quantec Research, 2008, Standardized Regional Data) as listed in the BPDM 2009 LED Strategy

Figure 2 above indicates that the bulk of the 2004 GGP within the Local Municipalities came from the Rustenburg LM (approximately 63%). The remaining GGP is divided between the Moretele LM (1.8%), Madibeng (23.3%), Kgetlengrivier LM (1.8%) and Moses Kotane LM (10.1%). Moretele LM contributes 14% to the Districts population but 1.8% to the Districts GDP. Thus Moretele LM and Kgetlengrivier can be described as areas of economic need within the Bojanala DM. During the 2001 to 2004 period all the LMs had an average annual growth rate between 2% and 4% except for Moretele L which had a growth rate of -0.1%.

GGP per Sector:

Table 4: GGP per Sector

	South Africa (%)	North West (%)	Bojanala (%)

Agriculture, forestry & fishing	24	2.5	1.8
Mining & Quarrying	6.1	26.0	41.8
Manufacturing	17.7	7.6	7.1
Electricity & Water	2.3	1.1	0.9
Construction	3.8	2.9	2.1
Wholesale & Retail Trade, Catering & Accommodation	15.4	13.6	10.2
Transport & Communication	10.7	10.6	8.3
Finance & Business Services	22.2	14.5	11.9
Community, Personal & Other Services		8.6	8.3
General Government Services	13.7	12.7	7.7
Total	100	100	100

The Province and District's dependence on the Mining sector is said to be risky as it leaves the economy vulnerable to external shocks. Bojanala DM experienced the highest growth in the Transport and Communications sector with a 6.4% annual average growth during the 1996 to 2007 period in line with the National and Provincial trend. In Bojanala DM and the North West Province the sectors with the smallest contribution towards GGP were Electricity and Water along with the Agricultural sector.

GDP per Capita:

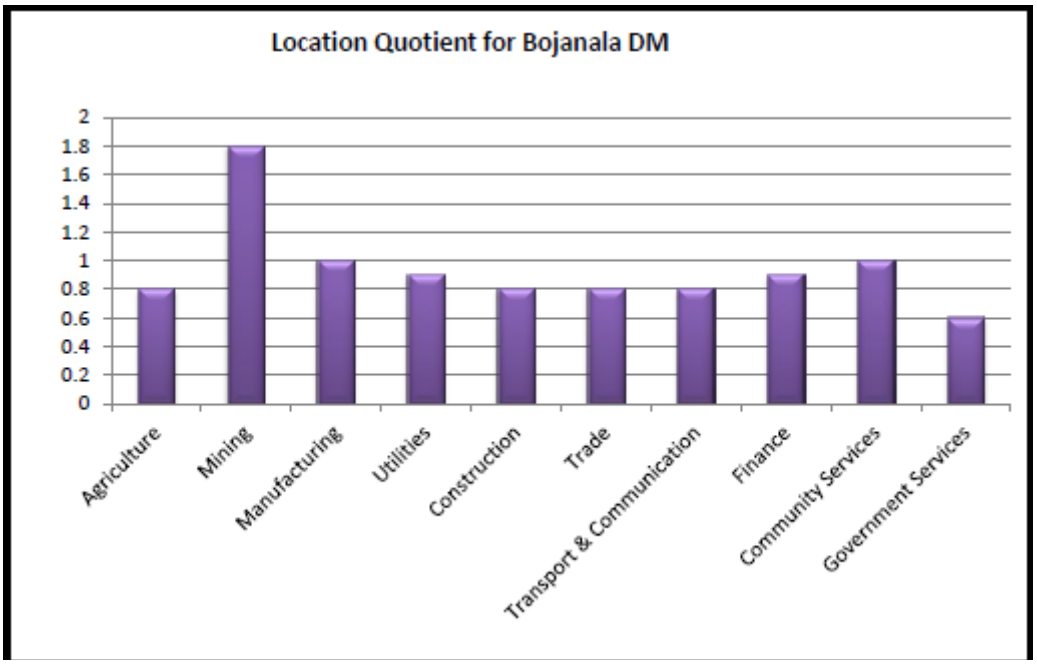
Report from the Quantec Research indicates that during 2004 Bojanala had an above average GDP per Capita at R24 556.1 compared to the R 20 584.1 and R18 704.2 for South Africa and the Province respectively, (Bojanala's above average GDP per Capita can mainly be attributed to Rustenburg's high per Capita of R45 746.14. The other LM's GDP per Capita are estimated to have been lower than the National average. It is unsettling to note that Moretele LM experienced an extremely low per Capita GDP (R3 093.8).

Comparative Advantage:

The location quotient determines the comparative advantage of Bojanala DM relative to the North West Province i.e. the quotient gives an indication of the more competitive

location in producing a product or service. A location quotient larger than one indicates a comparative advantage and a quotient smaller than one indicates a comparative disadvantage in an economic activity. It is evident as indicated in the figure below that Bojanala has a comparative advantage in the Mining sector but it has a disadvantage in all of the other sectors. Besides the Mining activities all the other Sectors in the District are seen as underdeveloped and not competitive at the provincial level.

Figure 3: Location Quotient for Bonjanal DM

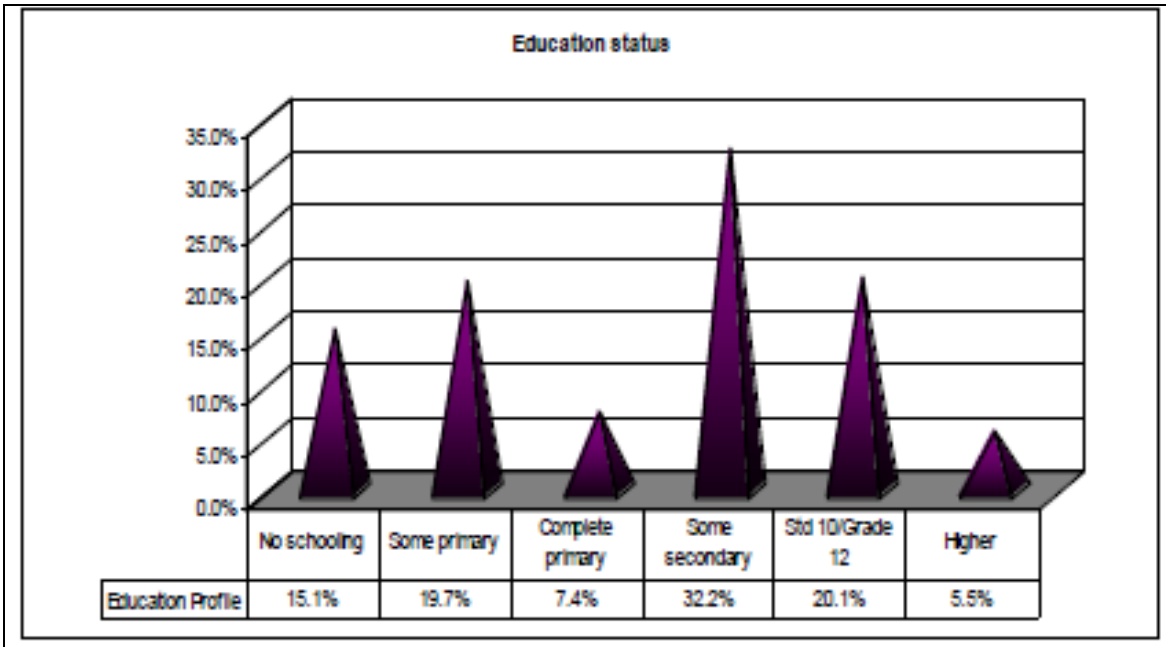


Level of education:

The education status of the population older than 20 years of age is depicted in figure 4 Indicates that the district labour market is characterized by low skills levels. As much as 15.1% of the population older than 20 years have not received any form of schooling and a further 19.7% only some primary education. These figures imply that nearly 35% of the total adult population can be regarded as functionally illiterate.

Conversely, only 20.1% of the adult population has completed their high school education and only 5.5% has obtained some form of tertiary education.

Figure 4: Education Status of the Bojanala Platinum District Municipality population



Source: South African Demarcation Board, 2006

The education status within the Bojanala is further indicated in the table below, which provides a breakdown of education profile per local municipality within Bojanala District.

Table 5: Education Status per local municipality

Municipality	Grade0 – Grade5/ ABET 2	Grade 6-Grade 12 (with University exemption)	Certificate with Gr.12-Diploma with Gr.12	Bachelor's degree-Higher degree (Masters/PHD)	No Schooling Institutions
Kgetlengrivier	9415	17788	784	359	9465
Madibeng	70951	198779	14502	4679	82280
Moretele	37386	97650	7082	1153	39143
Moses Kotane	46705	119616	10964	1965	48174
Rustenburg	77947	243398	27685	6247	94492
Total Bojanala	**242404**	**677231**	**61017**	**14403**	**273554**

Source: 2007 Community Survey Report

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R

What is the expected yearly income that will be generated by or as a result of the activity?	Not determined
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Not determined
What is the expected value of the employment opportunities during the development and construction phase?	Not determined
What percentage of this will accrue to previously disadvantaged individuals?	Not determined
How many permanent new employment opportunities will be created during the operational phase of the activity?	Not determined
What is the expected current value of the employment opportunities during the first 10 years?	Not determined
What percentage of this will accrue to previously disadvantaged individuals?	No determined

9. BIODIVERSITY

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

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

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

Area (CBA)	Area (ESA)	Area (ONA)	Area Remaining (NNR)	

b) Indicate and describe the habitat condition on site

Habitat Condition	**Percentage of habitat condition class (adding up to 100%)**	**Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).**
Natural	50%	In the study area around the new proposed power line, one vegetation unit is found. It passes to a small section of a second unit and will be discussed, as some trees associated with the unit are observed in the corridor. The main vegetation unit is referred to as the Zeerust Thornveld (Mucina and Rutherford, 2006) but was previously known as the Sourish Mixed Bushveld (Acocks, 1953) or the Mixed Bushveld (Low and Rebelo, 1996). The second is the Pilansberg Mountain Bushveld (Mucina and Rutherford, 2006) but was previously known as the Sourish Bushveld (Acocks, 1953) or the Mixed Bushveld (Low and Rebelo, 1996). The Pilansberg Mountain Bushveld (SVcb 5) vegetation type occurs in the mountains and hills in the North-West Province around Sun City and the altitude varies from 1 100 – 1 500m. The unique near circular (23 – 27km in diameter) complex is an intrusive and extrusive massif with most of the original volcanic caldera almost eroded away. This resulted in broken hills and low mountains with valley floors between the hills and mountains. The vegetation is dominated by broad-leaved deciduous trees and shrubs with a grass layer on the valley floors, slopes and mountains summits (Mucina and Rutherford, 2006).
Near Natural (includes areas with low to	20%	No invasive species were recorded, however there are possibilities of low to moderate level of alien invasive plants, refer to the biodiversity specialist

moderate level of alien invasive plants)		report attached as Appendix D1 E.
Degraded (includes areas heavily invaded by alien plants)	0%	None, most of the areas that are degraded as a result of modification of vegetation for developments, mining and agricultural activities.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	30%	The proposed new power line will link the Ruighoek and Ngwedi substations. The vegetation around the Ngwedi substation is modified by historic and current activities, mostly related to agriculture. These include cultivation and grazing and recently wood collection and mining developments have had an impact. The trees have been cut to make place for the cultivated lands and were replaced by grassveld. The grass layer is dense after the recent good rains. The trees are mostly *Acacia spp.* and include *Acacia karroo, A. mellifera* and *A. tortilis*. Other species observed were *Ziziphus mucronata, Searsia lancea* and *Grewia flava*. From the Ngwedi substation the new power line will follow a corridor to the northwest, crossing the R565 and Elands River. The crossing over the Elands River is considered a sensitive area, but due to removal of riparian vegetation, a clear crossing is possible. Recent construction to roads and the bridge has resulted in erosion on the banks of the Elands River. Structures for the power line must be placed at least 50m from the outer edge of the riparian zone. This will ensure that negative impacts on the river areminimal. It is important that no travelling is done through any streams or rivers if no permanent structures are present. This will lower the risk of erosion in the area.

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

<table>
<tr><td colspan="2">Terrestrial Ecosystems</td><td colspan="6">Aquatic Ecosystems</td></tr>
<tr><td rowspan="4">Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)</td><td>Critical</td><td colspan="3" rowspan="3">Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)</td><td rowspan="3">Estuary</td><td rowspan="3">Coastline</td></tr>
<tr><td>Endangered</td></tr>
<tr><td>Vulnerable</td></tr>
<tr><td>Least Threatened</td><td>YES</td><td></td><td>UNSURE</td><td></td><td>NO</td><td></td><td>NO</td></tr>
</table>

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The proposed new power line will link the Ruighoek and Ngwedi substations. The vegetation around the Ngwedi substation is modified by historic and current activities, mostly related to agriculture. These include cultivation and grazing and recently wood collection and mining developments have had an impact. The trees have been cut to make place for the cultivated lands and were replaced by grassveld. The grass layer is dense after the recent good rains.

The trees are mostly *Acacia spp.* and include *Acacia karroo, A. mellifera* and *A. tortilis*. Other species observed were *Ziziphus mucronata, Searsia lancea* and *Grewia flava*.

From the Ngwedi substation the new power line will follow a corridor to the northwest, crossing the R565 and Elands River. The crossing over the Elands River is considered a sensitive area, but due to removal of riparian vegetation, a clear crossing is possible.

Recent construction to roads and the bridge has resulted in erosion on the banks of the Elands River**.** Structures for the power line must be placed at least 50m from the outer edge of the riparian zone. This will ensure that negative impacts on the river are minimal. It is important that no travelling is done through any streams or rivers if no permanent structures are present. This will lower the risk of erosion in the area.

To the west of the R565, the proposed corridor also crosses the Sandspruit. Here erosion is currently a problem due to current poor land use practices. This is mainly as a result of recent construction, town development, and roads. The vegetation in general is modified and is in a poor to fair condition. The grass layer is dense after the recent good rains, but larger trees were removed and shrubs and small trees dominate the tree layer. Species include *Acacia karroo, A. tortilis, A. senegalensis, Searsia lancea, Ziziphus zeyheriana* and *Grewia flavescens*

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Date published
Platinum Weekly	5 August 2016
The Bonus	1 August 2016
Rustenburg Herald	5 August 2016

Site notices position	Latitude	Longitude
	-25,362778	27,10044
	-25,272415	27,238501
	-25.362736	27.09894
	-25,362421	27,099482
	-25,372058	27,075195
	-25, 37497	27,064649
	-25, 37836	27,060519
	-25,410340	27,121041
	-25,270927	27,238304
	-25,280890	27,208755
	-25,262223	27,234897
	-25,426716	27,108689
	-25,399162	27,120571
	-25,420263	27,120600

Site Notices were put up on the 28th of July 2016

Proof of the placement of the relevant advertisements and notices is found in Appendices C1 and C7.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr Ernie Camp	Bafokeng Royal Nation	ernie@bafokeng.com
Mr WIlreker Gerlinde	Marsh Environmental	Gerlinde.Wilreker@marsh.com

	Services	
Mr Tshepo Sethonga	SA Chrome Xtrata	014 573 1751 / 078 074 5511
Mr Piet Motene	Maleka E.M (Ptn 5 Vogelsstuisnek 173 JR)	082 741 4205
Mr K Molokwane	Batlhako-Ba-Leema (Ruighoek 169 JP)	batlhakobaleema@telkomsa.net
Mr Reotshepile Tlhapane	Royal Bafokeng Holdings	reotshepile@bafokeng.com
Mr Frans Schalp	Rustenburg Minerals	franskalp@assore.com
Mrs Tshegofatso Tyira	Royal Bafokeng Platinum Mines	Ttyira@angloplat.com
Mrs Lara Pretorius	Beekman Group (Kingdom Development)	larap@beekmangroup.com
Mr Willie Visser	PGM	willie@platinumgroupmetals.co.za
Mr Sandile Ngcobo	Magalies Water (Area Manager)	012 277 1290 / 083 680 4133
Cathy Theron	CT Environmental	cathytheron@telkomsa.net
Mr Gaulule Robert	Pilanesburg Nature Reserve	pilansberg@nwptb.co.za
Mrs Engela Botes	Hydroscience	info@hydroscience.co.za
Mr Nic Botha	MWB Consulting Engineers	nic@wabatho.co.za
Mr Dupreez	Glencore	pieter.dupreez@glencore.co.za
Mr Tebogo Makgale	Attorney for Kumamo Trust	litigation@kmattorneys.org.za
Mr Jacques Mathews	MWB Consulting Engineers	jacques@wabatho.co.za
Mrs Moloana Masuputse	Kumamo Trust	nora.mfeleng@gmail.com

Proof that the key stakeholder received written notification of the proposed activities is in Appendix C9. 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

NAME & CAPACITY	DATE	FORUM	COMMENT OR CONCERN	RESPONSES
Tlhatlhaganyane Chieftaincy				
Alfred Moeng Royal Family	10 AUGUST 2016, 10H00	Batlhako Tribal Council	What is Ngwedi?	Ngwedi is the name of the substation in Sun City
Alfred Moeng Royal Family	10 AUGUST 2016, 10H00	Batlhako Tribal Council	How will the community benefit?	Electricity interruptions will no longer be a problem and members of the community should go onto Eskom's website to apply for any available vacancies.
Alfred Moeng Royal Family	10 AUGUST 2016, 10H00	Batlhako Tribal Council	How long is the process?	By 2022 the project should be completed
Alfred Moeng Royal Family	10 AUGUST 2016, 10H00	Batlhako Tribal Council	Any employment opportunities?	Before construction an officer from Eskom will be present taking several (5-10) members of the community to help with construction
Shadrack Ntuane Community Representative	10 AUGUST 2016, 10H00	Batlhako Tribal Council	How does this project develop youth?	Before construction commences the chosen group will go for a Safety Induction Course, Medical fitness test, Health and Environmental awareness courses but no certificates are issued.
Ledig Chieftaincy				

NAME & CAPACITY	DATE	FORUM	COMMENT OR CONCERN	RESPONSES
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	Why did the EA expire?	Unfortunately there was a delay of construction and that resulted schedule delay.
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	Were there any servitude agreements and any payments made?	I will have to verify with the Negotiations Officer if any payments were made because if we do not have servitude no construction will take place.
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	We need to explain to the public the process and how timelines work	Public Participation ends on the 30th of August 2016 then comments and concerns will be incorporated into the BAR and submitted to the Department. The Department will give their decision and the public will have 20 days to appeal the decision.
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	Are the documents in Sesotho, Tswana, English and Zulu?	The adverts published and site Notices are in Afrikaans, Setswana, English and Sesotho
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	Where exactly is Eskom sourcing Labour?	Eskom will employ locals and will find workers on their database.
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	Mentioned that when a project is done within the community local people should be employed. All this will be sorted when we start negotiations with Eskom	Eskom has several departments and we are from the Distribution side.

NAME & CAPACITY	DATE	FORUM	COMMENT OR CONCERN	RESPONSES
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	How many departments does Eskom have and which one do you fall under?	
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	Advertising without Royal Family's consent will be confusing for the community.	
Ignatius Mokgwari Royal Family	10 AUGUST 2016, 14H00	Bakubung	When Eskom appoints a contractor, there are certain disputes reported because the youth signs contracts without understanding. Who deals with these reported disputes?	Eskom has new division that deals with disputes within the community.
Tlhatlhaganyane Community Centre				
Malema Ntsimi Community member	11 AUGUST 2016, 14H00		Where exactly is the substation being built because there might be farms located in that proposed area?	There is already an existing substation called Ruighoek substation and servitude has already being negotiated for the existing 88kV Power line, the proposed will run parallel to the existing line.
Malema Ntsimi Community member	11 AUGUST 2016, 14H00		Has there been provision and what will happen to if there is future developments?	The servitude is 2km wide which is wide enough for any other developments to take place.
Shadrack Ntuane Community Representative	11 AUGUST 2016,	Batlhako Tribal Council	Any future labour plans?	Locals will be scouted to help with construction but they should also look out on the Eskom website.

NAME & CAPACITY	DATE	FORUM	COMMENT OR CONCERN	RESPONSES
	14H00			
Malema Ntsimi Community member	11 AUGUST 2016, 14H00		There is another project happening regarding Power lines in the area, what connection does it have with the Ngwedi-Ruighoek Project?	It has nothing to do with this project because we do not know anything about it.
Pilanesberg Game Reserve				
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	How far is the proposed project from the reserve because there is already an existing power line to the west of the reserve?	The proposed power line will be constructed parallel to the existing 88kV line. We avoid farm boundaries, game reserves, and avoid interfering with property activities.
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	Are the pylons vulture friendly?	Bird diverters are always recommended by specialists. Vultures Perch on existing structures.
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	Does Eskom work hand in hand with the EWT Representative?	Eskom works hand in hand with Constance and he is aware of the new structures. He offers Eskom employees training and offers recommendations.
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	Who was the Bird specialist appointed?	Chris van Rooyen
Steven Dell Field Ecologist	12 AUGUST 2016,	Pilanesberg Game Reserve	Who is the appointed constructor, because the western boundary is susceptible to fauna poachers therefore	Eskom has a protection service unit that deal with such issues. Mitigation measures would be included in the

NAME & CAPACITY	DATE	FORUM	COMMENT OR CONCERN	RESPONSES
	14H00		it is a huge risk that would force us to watch out fence 24/7. This will cost the reserve money for extra field rangers to watch the fence.	Operational EMP
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	Can Eskom pay for a mobile vehicle and a patrolling vehicle close to the route?	Eskom usually appoints security guards but this matter will be taken further.
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	A plan needs to be in place as soon as EA is issued.	There should be Liaison between Eskom, Contractors and the Reserve to how the fauna species will be protected, because such an issue is difficult to mitigate.
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	How many construction sites will there be along the line?	Quite a lot because it's hundreds of construction workers and the site will move.
Steven Dell Field Ecologist	12 AUGUST 2016, 14H00	Pilanesberg Game Reserve	Eskom should start budgeting and considering a buffer.	

4. COMMENTS AND RESPONSE REPORT

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

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	**Contact person (Title, Name and Surname)**	**Tel No**	**Fax No**	**e-mail**	**Postal address**
Department of Environmental Affairs	Mrs Hilda Bezuidenhoud	012 395 1835	012 320 7539	Hbezuidenhout@environment.gov.za	Private Bag x 447, Pretoria, 0001
Department of Rural Development and Land Reform (DLA)	Mr D Masina / Mr H.H. Zackey	012 252 3505		ddmasina@dla.gov.za	P.O Box 3955, Brits 0250
Moses Kotane Local Municipality	Municipal Manager, Mr Gobakwang Jairus Moatshe	014 555 1300	014 555 6368	municipalmanager@moseskot ane. gov.za	Private Bag X1011, Mogwase
Rustenburg Local Municipality	Mr Tshepo Lenake	014 590 3075	014 590 3075	tlenake@rustenburg.gov.za	P.O Box 16, Rustenburg 0300

North West Department of Rural Environment and Agricultural Development	Mr Steven Mukhola	018 389 5959	018 389 5330	smukhola@nwpg.gov.za	
South African Heritage Resources Agency	Collet	018 381 2032		cscheermeyer@sahra.org.za	
Department of Water & Sanitation	Mrs C Lobakeng	018 387 9547	018 384 2059	LobakengC@dwaf.gov.za	Private Bag X 5 Mmabatho, 2735
Bojanala Platinum District Municipality	Mrs P Brenda	014 590 4500	014 597 3170	BrendaP@bojanala.gov.za	
Ramotshere Moiloa Local Municipality	Mr K.G. Chauke Manager, PA: Kefiloe Bogatsu	018 642 1280	018 642 3586		
Chief Directorate: Developments and Planning (Department of Local Government & Traditional Affairs)	Mr SP Ramagaga (Seth)		018 387 4037	Sramagaga@Nwpg.Gov.Za; KOageng@Nwpg.Gov.Za; Ksmolosiwa@Nwpg.Gov.Za	Private Bag X 2099, Mmabatho, 2735

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.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 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.

As means of determining the significance of the various impacts that can or may be associated with the proposed development of a 132 kV power line from the Ngwedi Main Transmission Station (MTS) to the Ruighoek Substation, a series of assessment criteria were used for each impact. Environmental Impacts are assessed by different criteria to assign relative significance to each predicted impact associated with an activity. The criteria used to evaluate the impacts of this activity are as follows: nature, extent, duration, intensity and probability of occurrence.

- **Nature:** A brief written statement of the environmental aspect being impacted upon by a particular action or activity;
- **Extent:** The area over which the impact will be expressed;
- **Duration:** The duration indicates what the lifetime of the impact will be;
- **Intensity:** Describes whether an impact is destructive or benign; and
- **Probability**: Describes the likelihood of the impact actually occurring.
- Cumulative: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Table 6: Criteria used for the Impact Assessment

CRITERIA	DESCRIPTION			
EXTENT	**National (4)** The whole of South Africa	**Regional (3)** Provincial and parts of neighbouring provinces	**Local (2)** Within a radius of 2km of the construction site	**Site (1)** Within the construction site
DURATION	**Permanent (4)** Mitigation either by man or by natural process will not occur in such a way or in such a time span that the impact can be transient	**Long term (3)** The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class impact which will be non-transitory.	**Medium-Term (2)** The impact will last for the period of the construction phase, thereafter it will be entirely negated	**Short-Term (1)** The impact will either disappear with mitigation or will be mitigated through natural process on a span shorter than the construction phase
INTENSITY	**Very High (4)** Natural , cultural and social functions and processes are altered to extent that they permanently cease	**High (3)** Natural, cultural and social functions and processes are altered to extent that they temporarily cease	**Moderate (2)** Affected environment is altered, but natural cultural functions and social functions and processes continue.	**Low (1)** Impact affects the environment in such a way that, natural cultural and social functions and processes albeit in a modified way
PROBABILITY OF OCCURANCE	**Definite (4)** Impact will certainly occur	**Highly Probable (3)** Most likely that the impact will occur	**Possible (2)** The impact may occur	**Improbable (1)** Likelihood of the impact materialising is very low

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.
Significance is derived using the following formula:
Significance=Extent+ Duration +Intensity x Probability

Table 7: Significance rating

Low Impact(3-10points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium Impact (11-20 points)	Mitigation is possible with additional design and construction inputs.
High Impact (21-30points)	The design of the site may be affected. Mitigation with possible remediation is needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very High Impact(31-48 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw
Status	Denotes the perceived effect of the impact on the affected area
Positive(+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.

Cumulative Effects: It is important to assess the natural environment using a systems approach that will consider the cumulative impact of the various actions. A cumulative impact refers to the impact on the environment, which results from the incremental impact of the actions when added to other past, present and reasonably foreseeable future actions regardless of what agencies or persons undertake such actions. Cumulative impacts can result from individually minor but collectively significant actions or activities taking place over a period of time. Cumulative impacts can take place so frequently in time that the effects cannot be assimilated by the environment.

Identification of Mitigation Measures: The mitigation measures should describe possible actions for the mitigation of the significant negative environmental impacts identified in the assessment. The philosophy of identifying mitigation measures for negative impacts will be based on the reduction of the impact at source, the management of the impact through monitoring and control, and the involvement of the I&APs in consideration of mitigating measures, where appropriate.

Maximisation of Positive Impacts: The philosophy to be followed will focus on maximizing the benefits to the local environment

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

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

Planning and design phase impacts:

Potential Aspect or Impact	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
	E	D	I	P			E	D	I	P	
Policy and legal aspects or requirements	3	4	3	2	Very High Impact (32), Negative	The project manager shall ensure that all relevant permits, authorisations are obtained from all the necessary regulatory and or implementing authorities (Competent Authority), and also ensure that all subsequent permits and written authorisations have been issued early in the planning phase. Such permits may include amongst others: Environmental Authorisations (EA), Water Use License (WUL) and Permits for Removal of Protected Trees.	3	4	1	2	Medium Impact (16), Positive
Creating Environmental Awareness	3	3	3	4	Very High Impact (36), Negative	Create Environmental Awareness from the onset of the project i.e. is during the planning phase, training personnel on sensitivity of the receiving environment for the proposed development, and how activities are to be undertaken during the construction phase activities i.e. clearing and crabbing, site camp establishment, clearing the corridors and servitudes for proposed power line development. Ensure that personnel are	3	3	3	4	High Impact (36), Positive

Potential Aspect or Impact	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
	E	D	I	P			E	D	I	P	
						adequately trained to identify sensitive vegetation as highlighted in specialist reports and employ mitigation measures as recommended.					

Construction phase impacts:

Potential Aspect or Impact	Nature	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
		E	D	I	P			E	D	I	P	
Waste Generation	Waste material may be generated during the construction phase of the project.	2	2	2	2	Medium Impact (12)	Construction rubble shall be disposed of in pre – agreed, demarcated spoil dumps that have been approved by the Relevant Municipality. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite. All waste must be removed from the site	1	1	1	2	Low Impact (6)

Potential Aspect or Impact	Nature	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
		E	D	I	P			E	D	I	P	
	Such waste may accumulate from the workers campsite or from litter left around the work area by the construction team. Other waste substances may accumulate from cement bags amongst other						and transported to a suitably permitted landfill site (Mogwase Landfill). All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site. Contaminants to be stored safely to avoid spillage Machinery must be properly maintained to keep oil leaks in check.					

Potential Aspect or Impact	Nature	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
		E	D	I	P			E	D	I	P	
	construction material.											

Operational Phase Impacts:

Potential Aspect or Impact	Nature	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
		E	D	I	P			E	D	I	P	
Power line maintenance	Security: Non-compliance to a power line maintenance schedule would result in the line becoming overgrown	1	4	2	2	Medium Impact (14)	Regular inspection of the power line must take place to monitor its operational status. Access to the powerline servitude must be restricted. Access to the powerline servitude should ideally be fenced off and gated along the main access roads.	1	2	1	2	Low Impact (8)

Potential Aspect or Impact	Nature	Before Mitigation				Significance rating (Before mitigation)	Mitigation Measures	After Mitigation				Significance Rating (After mitigation)
		E	D	I	P			E	D	I	P	
	and perhaps incurring damage.											

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

This report is intended to offer an objective assessment of the concerns, which were raised during the basic assessment phase of the study as well as through the technical expertise, which lie within the environmental practitioners. The purpose of this report is to ascertain the impact of the proposed development on the environment, of which we are part, and the probability of the impacts manifesting themselves. Ultimately the report should allow the relevant authority the opportunity to make an informed decision regarding the development and the various options. The proposed construction of a 132 kV powerline will have a limited environmental impact on the surrounding environment as long as all mitigation measures are correctly implemented. If the aforementioned recommendations and mitigation measures are managed and implemented accurately, the majority of the identified impacts will be at environmentally acceptable levels. The following impacts were identified as those of main concern. The significance rating for each impact with and without mitigation has been summarised in the following table:

Impact	Without Mitigation	With Mitigation
Loss of natural vegetation	Medium	Low
Surface water pollution	Medium	
Spread of alien species	Medium-High	Low
Electrocution of Birds	Medium-High	Low
Birds Collision	Medium-High	Low

Alternative B

Alternative C

No-go alternative (compulsory)

The no-go option will mean no development in the area and therefore the status quo will remain. However this will mean no economic development in the area. With the recommended mitigation measures followed the proposed project will have negligible impact on the environment. Therefore the development option far outweighs the no-go option.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

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

No specific conditions are recommended to be included in the authorization that may be granted by the competent authority, other than specifying that all stipulations and recommendations contained with the Environmental Management Plan (EMP) – Appendix G – be strictly adhered to.

Is an EMPr attached?	YES

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.

Tinashe Maramba

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NAME OF EAP

_____ 16 September 2016

SIGNATURE OF EAP DATE