



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

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

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

BASIC ASSESSMENT REPORT

14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

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

YES	NO
X	

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 is a South African electricity public utility that generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors. Additional power stations and major power lines are being built to meet rising electricity demand in South Africa. Eskom continues to focus on improving and strengthening its core business of electricity generation, transmission, trading and distribution, hence the proposed project. The existing Bohlokong substation in Bethlehem forms part of the Northwest distribution network and it is currently loaded by 71%. Under n-1 conditions the transformer will not be able to supply 4.165MVA of load which will be at risk. There is also potential for developments in the area at Volgelsfontein of 10MVA. The 11kV feeders Abersethin, Gloria Deo, Riemland and Servitude do not have back feed, consequently a loss of the Bohlokong networks will result in a 1, 2% impact on the System Average Interruption Duration Index (SAIDI).

The demand versus supply in the area indicates an additional load requirement of 10MVA from the Dihlabeng municipality for electrification of the Volgelsfontein area.

Consequently Eskom Holdings SOC Limited (Eskom) Free State Operating Unit plans to construct a new 132/11kV Abersethin substation which will include 2 X 132kV loop in loop out lines of approximately 500m in length that will loop into the new substation from the nearby Sherbrooke-Bethlehem Traction 132kV line. The proposed project offers a solution that will improve and strengthen the current supply to cater for future developments.

In accordance with the requirements of the National Environmental Management Act (Act 107 of 1998) (NEMA) and associated regulations, Eskom is in the process of applying for Environmental Authorisation (EA) from the competent authority for the proposed project through the undertaking of a Basic Assessment as prescribed in Chapter 3 of GNR 543 of the EIA regulations, 2010.

The proposed activity is a listed activity under GN R. 544 of the EIA Regulations, 2010, Activity No.10 which dictates that a Basic Assessment is undertaken, with full consultation with the stakeholders, commenting authorities and Interested and Affected Parties (I&AP).

The proposed project entails the following:

- Construction of a new 132/11 KV Abersethin substation on the outskirts of Bohlokong township
- Installation of 2x132 loop in loop out lines of approximately 500 meters in length

The aforementioned project will be located east of the regional road R26 within the jurisdiction of

BASIC ASSESSMENT REPORT

Bohlokong Local Municipality. Access to the site will be through existing road.

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

Listed activity as described in GN R.544, 545 and 546	Description of project activity
Example: GN R.544 Item 11(3): 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
GN R.544 Item 10 (i): The construction of facilities or infrastructure, for the distribution of electricity outside urban areas or industrial complexes with a capacity of more than 35 but less than 275 kilovolts.	The Abersethin132/11kVsubstation and the 2 X 132 loop in loop out line will be constructed 300 meters away from the R26 eastern side of Thorisong in Bethlehem.

2. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

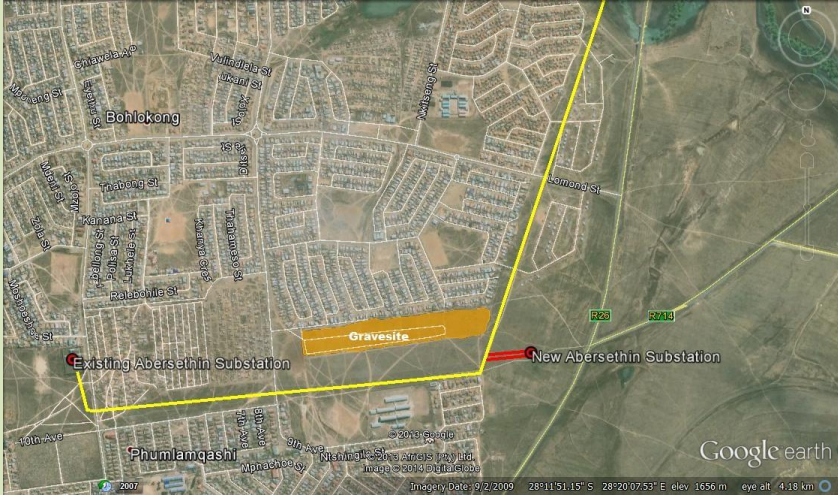
Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account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

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

BASIC ASSESSMENT REPORT

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

a) Site alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The proposed site is located on the Farm Volgelsfontein 69 Portion 3 within the Dihlabeng Local Municipality, 300 meters away from the R26 eastern side of Thorisong in Bethlehem as depicted below: The proposed site is an already disturbed site due to previous developments and service infrastructure in the area including the recently completed water pipeline adjacent the site. Other services include the R26 and the existing power line.</p> 	S28° 12' 03"	E28° 20' 21"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The proposed site is located on the Farm Volgelsfontein 69 Portion 3 within the Dihlabeng Local Municipality, 1200 meters away from the R26 Eastern side of Thorisong in Bethlehem as depicted below. The substation is also located within residential settlements and in proximity to a cemetery.</p>	28°12' 03.12"	28°19' 22.94"

BASIC ASSESSMENT REPORT

Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

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.

b) Lay-out alternatives

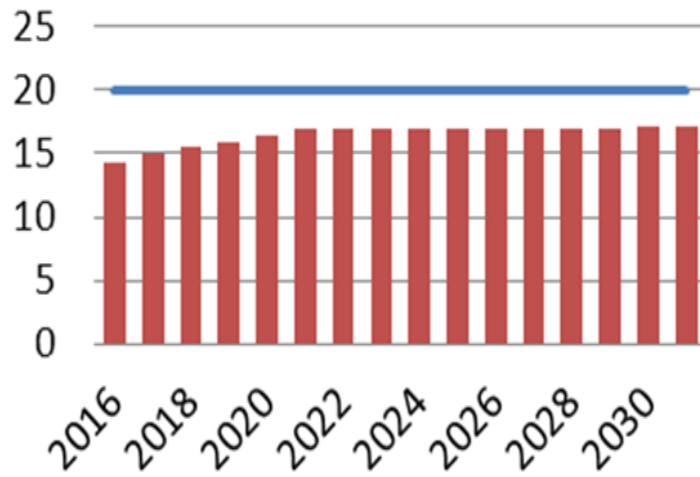
Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)

Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

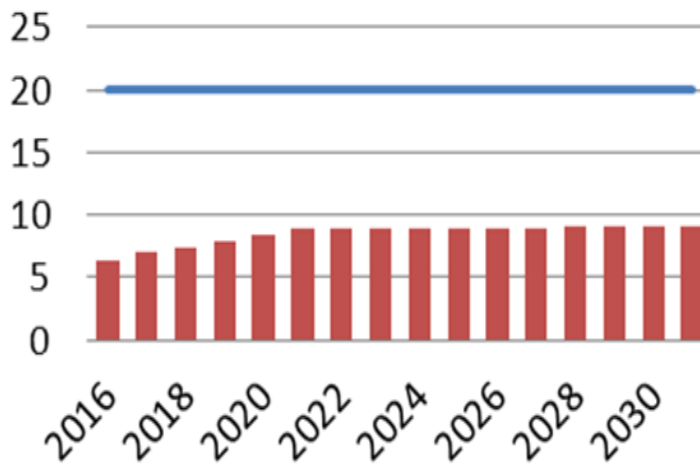
c) Technology alternatives

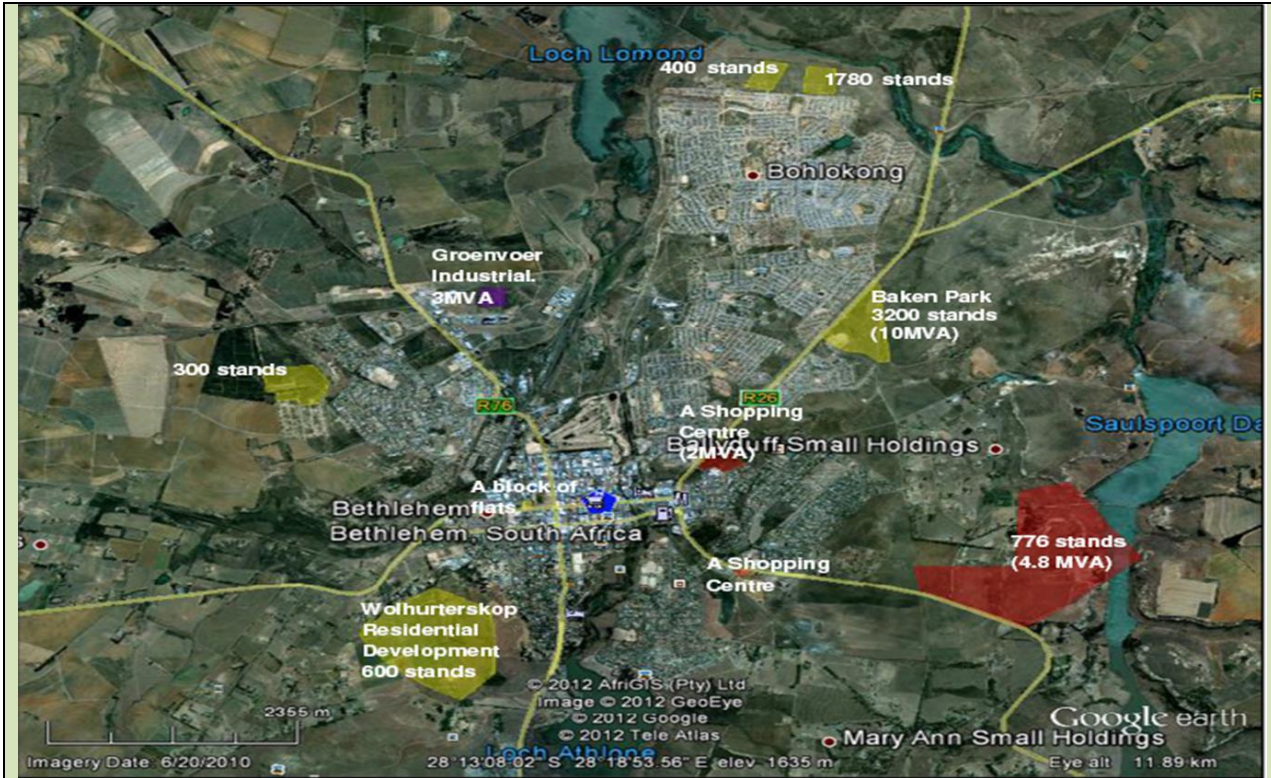
Alternative 1 (preferred alternative)
<p>Eskom proposes to build a new 1X20MVA substation to de-load the existing Bohlokong substation. The proposed development will entail the following:</p> <p>132kV loop in and out line</p> <ul style="list-style-type: none"> • From the Sherbrook-Bohlokong 132kV network build 500m of 132kV line for a loop in and out of the new station. • Build the loop in and out line with Chickadee conductor. <p>Build a new substation</p> <ul style="list-style-type: none"> • Build a 132/11kV 1X20MVA substation at the proposed site as depicted in the co-ordinates above. • The proposed design will make provision for an additional future 1X20MVA transformer bay and equipment. • Install two line bays for the loop in and out. • Install 2X132kV line isolators • Install 2X132kV CT's • Install 2X132kV breakers • Install 1X132kV VT • Install 1X132kV transformer bay • Install 1X 11kV transformer bay • Build an 11kV bus bar • Install 1x11kV VT • Install 1X11kV MV transformer breaker • Build 5X11kV feeder bays, one is a spare. <p>The proposed activities will have some negative but manageable impacts on the surrounding environment despite its already disturbed nature and further it will provide a long term solution to the current and future demand by creating additional capacity of approximately 20MVA as depicted in the graphs below. The 2 graphs below depict the projected capacity that will be created by deloading the existing substation and transferring some of the load onto the new substation. The first figure shows the load that will be transferred to the new substation and the second figure shows the load left on the old Bohlokong substation.</p>

New substation



Load Left on Existing Bohlokong after de-loading





The proposed project will capacitate the supply network in the area and reduce the current risk at Bohlokong, ensuring continuous and sustainable supply post 2030. The primary objective of the proposed substation is to deload Bohlokong and provide additional capacity. The advantages and disadvantages are summarised below:

Advantages	Disadvantages
Technically it offers a longer term solution and more capacity for new connections onto the deloaded Bohlokong substation as well increased capacity at the proposed new Abersethin substation for future developments (as per the google earth image above) envisaged in the Bohlokong area	Increased environmental impact on the already disturbed environment compared to Alternative 2.
New substation deloads the existing Bohlokong to create additional capacity and remains with spare capacity for future developments	
It provides an alternative point of supply, therefore reduced risk of failure at existing Bohlokong substation.	

Alternative 2

Sub-Transmission strengthening at the existing Bohlokong substation

Alternative proposal is to install an additional transformer at the existing Bohlokong substation this will entail the following activities to strengthen current supply:

132kV incomer

- Build a single span loop in line of 50m from the Sherbrook-Bethlehem traction line.
- The proposed loop in line should be built with chickadee.

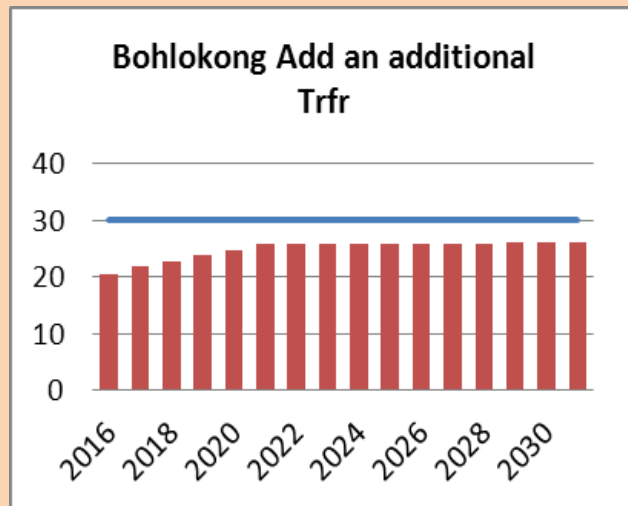
New 10MVA 132/11kV transformer

- Install two line bays for the loop in and out
- Install 2X132kV isolators
- Install 2X132kV CT's
- Install 2X132kV breakers

Install a transformer bay

- Install 1x132kV isolators for the transformer bay
- Install 1X132kV CT on the transformer bay
- Install 1X132kV breaker on the transformer bay
- Install an addition 10MVA 132/11kV transformer
- Install 2X11kV indoor breakers for MV transformer protection and bus coupler (NB: the existing breakers will be replaced see Bohlokong 132/11kV refurbishment and distribution feeder)
- Install 1X11kV indoor breaker at Bohlokong substation for a new feeder the 3BSW.

As the proposed activities will be taking place at an already existing substation the primary activities will be within the existing yard, except for the 50m loop in, this implies minimal construction activities and minimal disturbance of the surrounding environment. However, this option provides a solution that is short term, therefore similar capacity challenges may be foreseen in the near future. Post the proposed project, the load remaining on the existing Bohlokong substation will be as depicted below which doesn't leave enough spare capacity for growth and development:



The advantages and disadvantages of Alternative 2 are summarised below:

Advantages	Disadvantages
Minimum impact on the already disturbed environment	Technically it offers a short term solution.
	Higher risk of failure should there be any technical failures as compared to when the load is split between 2 substations.

Alternative 3

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

Alternative 1 (preferred alternative)		
Alternative 2		
Alternative 3		

e) No-go alternative

The no-go option was also assessed and this is the option of not proceeding with any of the proposed projects but maintaining the status quo. If the status quo is maintained, it will imply that the proposed project will not proceed and will therefore compromise electricity service provision in the area as demand will continue to exceed supply.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1¹ (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Size of the activity:

	1000m ²
	N/Am ²
	m ²

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Length of the activity:

	500m
	50m
	m

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

Alternative:

Alternative A1 (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Size of the site/servitude:

	2000m ²
	N/Am ²
	m ²

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

4. SITE ACCESS

Does ready access to the site exist?

YES	NO
x	
m	

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

Describe the type of access road planned:

Access to the site will be through the existing access routes that are currently used for access to the residential settlement and for Eskom's access to the already existing lines for maintenance purposes. The primary access road will be the R26 which is approximately 250m away from the proposed site.

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.

Existing access roads are indicated on the map attached as Appendix A.

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).

Locality map attached as Appendix A.

6. LAYOUT/ROUTE PLAN

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

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

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

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

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

Sensitivity Map attached as 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.

Photographs attached as Appendix B.

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.

BASIC ASSESSMENT REPORT

Facility illustration for both alternatives attached as Appendix C.

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	YES X	NO	Please explain
The proposed activity will take place on municipal owned land.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES X	NO	Please explain
The proposed construction is part of the programme of strengthening electricity supply capacity which will allow development of additional infrastructure and consequently reliable supply.			
(b) Urban edge / Edge of Built environment for the area	YES	NO X	Please explain
The proposed activity is located outside the urban edge, hence the requirement for this study, according to the NEMA regulations.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES X	NO	Please explain
The current IDP and SDF promote industrial development and is very specific about supply of power in its clearly stated support of National and Provincial Government's key projects. The proposed activity is in line with the municipality's mandate to ensure reliable power supply within their area of jurisdiction.			
(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
The municipality is not obliged approve Eskom substation designs as it is not within the municipalities mandate.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO X	Please explain
The proposed project will have various environmental impacts, which will to an extent compromise the integrity of the EMF. However, the long term developmental and sustainability goals coupled with increased economic activity and overarching benefits to both the region and the country in terms of power supply, justifies the project.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO X	Please explain
None			

BASIC ASSESSMENT REPORT

<p>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)?</p>	YES X	NO	Please explain
The proposed project is an energy supply related project which is priority for the municipality and the country at large.			
<p>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.)</p>	YES X	NO	Please explain
The proposed development is a national priority, although this specific one will primarily benefit the communities' around the Bohlokong community need reliable energy supply and will benefit from future developments due to the proposed spare capacity, while some marginal communities still need supply of any form. Therefore it can be concluded that energy projects are much needed within communities.			
<p>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.)</p>	YES X	NO	Please explain
The required services for the proposed activities include access roads which already exist. The roads that are currently used for maintenance will be used during the construction phase. Confirmation with this regards will be sought from the municipality and attached accordingly in the final BAR.			
<p>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.)</p>	YES X	NO	Please explain
The construction of Abersethin 132/11kv substation and 2x132 loop in loop out power lines supports Dihlabeng Local Municipality energy supply initiatives. The proposed substation will connect to the existing Bohlokong substation to strengthen the arm of electricity within the Local Municipality and beyond. The proposed project is a much needed project as it will add support to form part of a link to strengthen the bulk supply network in areas. This project will allow for load growth and will improve reliability of supply as well as entrench the reach of electricity to the marginalised communities.			

BASIC ASSESSMENT REPORT

7. Is this project part of a national programme to address an issue of national concern or importance?	YES X	NO	Please explain
This project addresses a localized problem however at the national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES X	NO	Please explain
The proposed site is positioned in close proximity to the existing power lines into which the proposed lines will loop. This will allow for a shorter distance for the loop in lines.			
9. Is the development the best practicable environmental option for this land/site?	YES X	NO	Please explain
The proposed site has been approved by the municipality for the proposed land use, with the aim been to strengthen the electricity network in the area to cater for current and future development.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES X	NO	Please explain
The identified impacts will be managed according to the recommendations from the specialist as well as the EMP approved by the department, while the proposed project will benefit the community, municipality and the country at large. Moreover the proposed development will ensure a more positive economic outlook.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO X	Please explain
It is not foreseen that any similar activities will take place in the area.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO X	Please explain
<p>The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The environmental right states that:</p> <p>“Everyone has the right to secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”</p> <p>The proposed development is in line with the state's obligations as outlined in the constitution in its effort to ensure social development through ensuring reach of energy supply to marginalised communities as well as strengthening existing supply.</p>			

BASIC ASSESSMENT REPORT

13. Will the proposed activity/ies compromise the “urban edge” as defined by the local municipality?	YES	NO X	Please explain
The project is just outside the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES X	NO	Please explain
According to SIP 10, the proposed energy project will ensure the expansion of the transmission and distribution network to address historical imbalance, 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		
<p>The proposed project is part of Eskom’s planned strengthening project for the Free State region and furthermore a step towards supporting the municipality’s Development Strategy.</p> <ul style="list-style-type: none"> • At the local level, the project would contribute to reliability of power supply. There would also be a less tangible but nonetheless important benefit of positioning the municipality on the lead in terms of sustainable energy supply to its communities. • At the national level, the project would contribute to implementing South Africa’s new energy policy as embodied in the White Paper on Energy (DME 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply. 			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
None			
17. How does the project fit into the National Development Plan for 2030?	Please explain		
The project would contribute to implementing South Africa’s new energy policy as embodied in the White Paper on Energy (DME 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply. Further in line with the NDP the proposed construction of Abersethin substation is part of upgrading electricity network to farms around Dihlabeng and newly developed sites (IDP, 2013-2014,53).			
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 general objectives of IEM have been taken into account by means of identifying, evaluating, and predicting the actual and potential impacts on the natural, cultural and social environment. The risks, consequences and mitigation measures have been considered with the aim to minimise the negative impacts, enhance the positive impacts and promote compliance with environmental management principles.			

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 NEMA have been considered in this assessment through compliance with the requirements of the applicable legislation. This BAR ensure that the impacts of the proposed activity on the environment are thoroughly and comprehensively assessed to ensure sustainability. Further successful implementation of this project will aid in minimising pollution and environmental degradation

The undertaking of the BAR has been transparent in approach and has as such involved interested and affected parties, landowners, organs of state and other key stakeholders, which will ensure that well informed decision be undertaken by the authority.

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
Republic of South Africa – Constitution, Act 108 of 1996	<p>The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The environmental right states that:</p> <p>“Everyone has the right -</p> <p>a) To an environment that is not harmful to their health and well-being;</p> <p>b) To have the environment protected in order to enjoy that environment for themselves and future generations;</p> <ul style="list-style-type: none"> • Prevent pollution and ecological degradation; • Promote conservation; and • Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.” <p>The undertaking of the BAS is in line with the state’s obligations as outlined in the constitution in its effort to ensure sustainability.</p>	National Government	1996
National Environmental	The overarching principles of	National & Provincial	1998

BASIC ASSESSMENT REPORT

<p>Management Act, Act 107 of 1998 (as amended in 2009)</p>	<p>sound environmental responsibility are reflected in the National Environmental Management Act (NEMA The principles set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereafter referred to as NEMA, applies to all listed projects. Construction and operation have to be conducted in line with the generally accepted principles of sustainable development, integrating social, economic and environmental factors.</p>	<p>Government</p>	
<p>Environmental Impact Assessment Regulations – of June 2010</p>	<p>The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa’s biodiversity within the framework of the NEMA and the protection of species and ecosystem that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. The diversity of ecological processes for the application sites was determined through the specialist studies conducted in the area</p>	<p>National & Provincial Government</p>	<p>2010</p>
<p>National Environmental Management: Biodiversity Act, Act 10 of 2004</p>	<p>The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa’s biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. The diversity of ecological processes for the application sites was determined through the specialist studies conducted</p>	<p>National & Provincial Government</p>	<p>2004</p>

BASIC ASSESSMENT REPORT

	<p>previously in the area. The specialist studies has identified sensitive areas within the study area that may need to be avoided and further proposed mitigation measures in which the biodiversity on site is to be managed.</p>		
<p>National Environmental Management: Air Quality Act, Act 39 of 2004</p>	<p>The objective of the Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air and to prevent pollution of air and ecological degradation.</p> <p>Part 6 of the Act makes provision for measures to control dust, noise and offensive odours.</p> <p>The assessment of impacts relating to air quality control and management, where appropriate, will form part of the environmental impact assessment report and environmental management plan. The Proposed Area has not been declared as a dust control area in terms of section 27 of the APPA. The proposed project may create minimal dust during excavations which is expected to be short term and site specific.</p>	<p>National & Provincial Government</p>	<p>2004</p>
<p>National Water Act, Act 36 of 1998</p>	<p>The Act ensures protection of water resources. The closest water resources is a non-perennial river which is 1500m away from the proposed activities, therefore the requirements of the Act may not necessarily apply directly. It is however, recommended that the resources be protected at all times.</p>	<p>National & Provincial Government</p>	<p>1998</p>
<p>National Heritage Act, Act 25 of 1999</p>	<p>The Act legislates the necessity for cultural and heritage impact assessments</p>	<p>National & Provincial Government</p>	<p>1999</p>

BASIC ASSESSMENT REPORT

	<p>in areas earmarked for development, which exceed 0.5ha. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).</p> <p>According to the specialist report no sites of heritage significance were noted and therefore no permits will be required for the proposed project.</p>		
<p>Noise Control Regulations in terms of the Environmental Conservation Act 73 of 1989</p>	<p>The assessment of impacts relating to noise pollution management and control, where appropriate, forms part of the environmental impact assessment report and environmental management plan. Applicable laws regarding noise management and control refers to the national noise control regulations issued in terms of the Environment Conservation Act 73 of 1989.</p> <p>The inhibition of sites by contractors may generally increase the ambient noise levels in the area and this is expected to vary along the route. Additional noise may be expected from the increased heavy duty traffic as well as construction equipment.</p>	<p>Local Authority</p>	

BASIC ASSESSMENT REPORT

**12. WASTE, EFFLUENT,
13. AND NOISE MANAGEMENT**

a) Solid waste management

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

YES x	NO
m³	

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

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

The construction of the substation and power line will generate general construction waste which will be removed by a waste contractor and be disposed of at a registered waste disposal site. Any solid waste produced on site will be collected in suitable containers and removed from site by means of waste disposal trucks. Further detail on solid waste management is provided in the Environmental Management Programme (EMPr). Solid waste could include the following

- conductor off-cuts, steel;
- concrete rubble from structure foundations
- any vegetation cleared; and
- general waste produced by construction workers

All waste will be taken to registered waste sites. Should any hazardous waste be produced, it shall be disposed of appropriately at a registered waste disposal site.

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

Solid waste will be managed and disposed of in accordance with the attached Environmental Management Programme and may include:

- General waste, consisting of non-hazardous substances and substances that cannot be recycled. Examples include (but not limited to) rubble, that cannot be reused, and food waste. This will be disposed and collected in a waste skip and disposed of at a registered site.
- Re-usable and excess material, which can be used at construction sites will be carefully packaged and delivered to other sites for reuse
- Hazardous waste which will be disposed of accordingly at a registered hazardous waste disposal site
- Refuse will at all times be disposed of at a Department of Water Affairs (DWA) registered site, which is also approved of by the local authority. Refuse will not be burned or buried on or near the site.

Will the activity produce solid waste during its operational phase?

YES x	NO
Undetermined m³	

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

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

BASIC ASSESSMENT REPORT

Waste produced during the operational phase will be primarily from maintenance and domestic waste from employees (securities and other). Waste produced will be managed according to the requirements of the EMP, which will include proper disposal of waste at a registered site as well as recycling where feasible.

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

A registered landfill site will be used and permission will be sought from the municipality before commencement of the construction activities.

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

Waste that does not fit into the municipal waste stream will be disposed of at a registered hazardous waste disposal site while recyclable and reusable will be treated as such.

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

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

YES	NO x
-----	---------

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

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO x
-----	---------

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

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO x
-----	---------

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

m³

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

YES	NO x
-----	---------

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?

YES	NO x
-----	---------

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:

N/A

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO x
YES	NO x

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

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 only gaseous emissions will be from vehicle emission as well as limited dust generation due to construction activities.

Low levels of dust emissions may also be created from excavations during construction phase; this will be site specific and low in significance, provided that mitigation measures are in place.

Appropriate dust control measures such as dampening of surfaces will be put in place as may be required. Further detail on dust management is provided in the Environmental Management Programme.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO x
-----	---------

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 x	NO
YES	NO x

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

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

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

BASIC ASSESSMENT REPORT

Noise pollution will occur as a result of construction activities and increased traffic, however the impact will be highly localised and of a temporary nature. The potential noise impact can be mitigated by restricting operations to normal working hours, which will result in an impact of low significance. Further detail on noise management is provided in the Environmental Management Plan.

14. WATER USE

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

Municipal x	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

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

litres	
YES	NO x

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

15. ENERGY EFFICIENCY

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

Energy efficiency measures are not applicable to this activity.

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

Not applicable.

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): 0

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

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

YES	NO x
-----	---------

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

Property description/physical address:

Province	Free State Province
District Municipality	Thabo Mofutsanyana District Municipality
Local Municipality	Dihlabeng Local Municipality
Ward Number(s)	Ward19
Farm name and number	Vogelsfontein 69
Portion number	Portion 3
SG Code	F001-00000000006900003

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:

	Residential
--	-------------

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

YES	NO x
-----	---------

BASIC ASSESSMENT REPORT

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15 X	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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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
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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	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>

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) The current area is 250m north from the closest non-perennial stream	YES	NO X	YES	NO	YES	NO
Dolomite, sinkhole or doline areas Geology is dominated by Mudstone. (Beaufort mudstone, shale, sandstone and grit, with dolerite sills in places; occasional dolerite dykes. Very small outliers of Molteno sandstone and grit in the far south.)Note: The Geological classification is done across an area of 4500km ²	YES	NO X	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies) Current area is 280m west from the closest man made water body.	YES	NO X	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil (no steep slopes or rocky hills)	YES	NO X	YES	NO	YES	NO

BASIC ASSESSMENT REPORT

Dispersive soils (soils that dissolve in water) Soil Classification: Plinthic catena: undifferentiated, upland duplex and/or margalitic soils common.	YES	NO X	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO X	YES	NO	YES	NO
Any other unstable soil or geological feature Slope between 0-9%	YES	NO X	YES	NO	YES	NO
An area sensitive to erosion	YES	NO X	YES	NO	YES	NO

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

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 X	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

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

5. SURFACE WATER

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

Perennial River	YES	NO X	UNSURE
Non-Perennial River	YES X	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE X
Seasonal Wetland	YES X	NO	UNSURE

BASIC ASSESSMENT REPORT

Artificial Wetland	YES	NO X	UNSURE
Estuarine / Lagoonal wetland	YES	NO X	UNSURE

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

There is a non- perennial river located 350 metres east of the proposed substation. A wetland specialist study has been commissioned to determine the extent of the wet area. A Wetland specialist study report has been attached.

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 X	School X	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church X	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland X
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 X
Spoil heap or slimes dam ^A	Sport facilities X	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe) Regional road

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

BASIC ASSESSMENT REPORT

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

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

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

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

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

7. CULTURAL/HISTORICAL FEATURES

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

YES	NO X
Uncertain	

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

BASIC ASSESSMENT REPORT

There is a cemetery adjacent the proposed site; however, no obvious sites of heritage significance were noted on the site. Considering the proximity of the cemetery a heritage specialist study was commissioned and the findings are summarised as follows:

- Sections of the project area are heavily disturbed by activities related to the area have been used for agriculture in the past, this was also confirmed by community members. In addition, access roads, village streets and path ways cut across the development area. Nonetheless, no sites of heritage significance were identified on the footprint during the survey. If such existed, it would have been destroyed during the time when the area was used for agricultural purposes.
- The study noted a graveyard northwest of the proposed area. Although this graveyard which is about 100m from the loop in loop out line is not fenced off or properly demarcated, it is known by the developer and community member and will not be directly affected by the proposed development. All graves and cemeteries are of high significance and are protected by various laws.

In conclusion the study recommended that in the absence of confirmable archaeological or physical cultural resources along the larger project receiving environment, and also confirmed by similar studies in the wider area, it is suggested that the project be exempted from any further archaeological and heritage assessment studies.

Noteworthy that although the section of the project area is disturbed, archaeological material may still be encountered during subsurface construction work.

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

YES	NO x
-----	----------------

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

YES	NO x
-----	----------------

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 level of unemployment rate of Dihlabeng Local Municipality is 28.7%.

Economic profile of local municipality:

Population

The Dihlabeng Local Municipality community comprises of approximately 128 704 individuals and 38593 households. According to the Stats SA 2011 Census, the population has since 2007 increased by 20 255. The number of households has also increased by 6757, whereby the population was 108 449 individuals and 31 836 household in 2007.

BASIC ASSESSMENT REPORT

Electricity

The supply and distribution functions of the municipality include the provision of grid and renewable energy to the residents in terms of National Energy Regulator of SA (NERSA) license of supply. Currently electricity demand within the municipality exceed supply hence the need for additional facilities to strengthen and ensure continuous supply to households and industry.

Level of education:

According to Stats SA community survey Less than 30% of adults in the study area completed Grade 12 or attained a higher education qualification, while 10.5% have no schooling at all.

b) Socio-economic value of the activity

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

Undetermined.
Cost estimations have not been calculated as they strongly depend on current construction costs and the site selected for use.

What is the expected yearly income that will be generated by or as a result of the activity?

It is not expected that the proposed development will earn any income – it is primarily to provide reliable bulk services to the customer and community.

Will the activity contribute to service infrastructure?

YES x	NO
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Is the activity a public amenity?

YES	NO x
-----	----------------

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

Eskom will go on open-tender for the appointment of a contractor to carry out the construction. These contractors often subcontract. Eskom requires that contractors employ local unskilled labourers to perform non-specialised work.

What is the expected value of the employment opportunities during the development and construction phase?

Unknown

What percentage of this will accrue to previously disadvantaged individuals?

>90%

BASIC ASSESSMENT REPORT

How many permanent new employment opportunities will be created during the operational phase of the activity?	None – due to the nature of the project no permanent employees will be required on site to manage the operational phase.
What is the expected current value of the employment opportunities during the first 10 years?	No direct employment opportunities will be generated by the project, in any of the phases. However it is estimated that numerous indirect employment opportunities might be generated as a result of the additional bulk infrastructure which the project proposes to install in the area.
What percentage of this will accrue to previously disadvantaged individuals?	None –it is not foreseen that any additional employment opportunities will be generated by the project.

9. BIODIVERSITY

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

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

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

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

BASIC ASSESSMENT REPORT

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	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	0%	
Degraded (includes areas heavily invaded by alien plants)	25%	The proposed site is highly disturbed due to previous development activities in the area. The vegetation on site includes some alien species.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	75%	The study area is characterised by a residential area and other services such as roads, power lines, and the recently completed pipeline adjacent to the proposed site.

c) Complete the table to indicate:

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

Terrestrial Ecosystems		Aquatic Ecosystems								
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline			
	Endangered									
	Vulnerable									
	Least Threatened	YES	NO	UNSURE	YES	NO	YES	NO		
x	x					x		x		

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

The table below gives a brief description of the biodiversity and aquatic ecosystem present on site.

Water course	Closest perennial river is the Liebensbergvlei river which is 1175m North of the proposed site The closest non-perennial stream is 350m East and 200m South.
Ridges	There are no ridges within the vicinity of the site; the general area is relatively flat.
Indigenous Vegetation	The proposed site was used for agricultural activities in the past. No indigenous vegetation exists.
Avifauna	There are no sensitive areas on site in terms of avifauna.

A detailed Biodiversity and Wetland delineation report is attached as Appendix D2 and D3.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Eastern Free State Issue and Vrystaat local newspapers	
Date published	21 November 2013	
Site notice position	Latitude	Longitude
	28°11"36.0 S	28°20"24.0 E
Date placed	18 November 2013	

Include proof of the placement of the relevant advertisements and notices in [Appendix E1](#).

2. DETERMINATION OF APPROPRIATE MEASURES

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

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

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Mr Sejake S.D	Principal-Bethlehem Comprehensive Secondary School	+27583042182
Mr Nzimande N	Councillor – Ward 3	+27583035732 078 407 7960
Mr Thabiso Tsoaeli	Municipal Manager – Dihlabeng Local Municipality	+27583035732

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

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No issues were raised to date	No issues were raised hence no response.

BASIC ASSESSMENT REPORT

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	Matlala Rabothata	012 310 3911	0123207539	mrabothata@environment.gov.za	P/Bag x 447 Pretoria 0001
Department Of Water Affairs		012) 392 1317	(012) 392 1422	-	Private Bag X313, Pretoria, 0001
Department of Water Affairs (Frees State Regional Office)	Ms Koekemoer	(051) 405-9000	(051) 430-5146	-	Sanlam Plaza Eastburger Street Bloemfontein
Free State Department of Tourism, Environmental and Economic Affairs.	Grace Mkhosana	0514004843	0514004842	mkhosana@dtea.fs.gov.za	P/Bag x20801 Bloemfontein 9300
Free State Heritage Resources Agency	Mr Roodt	0514062100	0514104805	-	P.O Box 28278 Danhof 9310

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.

BASIC ASSESSMENT REPORT

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

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

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

SECTION D: IMPACT ASSESSMENT

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

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

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

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	<p>Employment - Job creation and investments into the project result in opportunities during the planning and design phase. This impact will typically be limited to skilled engineers and planning professionals. Proposed project will result in very limited opportunities to the skilled local community during the construction phase. This impact will be positive.</p>	Medium	No mitigation
	<p>Air Pollution - The only potential air pollutant during construction may be dust emanating from site preparation and excavations during construction. Given the nature and magnitude of the proposed project it is anticipated that if not mitigated the impact may be local in extent, and short term.</p>	Low	<ul style="list-style-type: none"> • Dust suppression techniques must be implemented. These techniques will include spraying of the site with a water truck, adhering to site speed limits etc. all construction staff must wear their dust masks whenever necessary. • No burning of waste material, such as vegetation from any clearing operations is allowed; • Drive at moderate speeds on the access road in order to minimise or avoid dust pollution.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>Visual Impact The proposed activity will certainly change the visual character of the area particularly considering that the proposed site is located in an area that is slightly elevated thus may be viewed from a distance. Given the topography of the site and the proximity to the R26 and residential settlement the impact can be considered definite, long term, local in extent and low to medium in significance.</p>	Medium	<ul style="list-style-type: none"> • Keep the construction sites and camps neat, clean and organised in order to portray a tidy appearance; and • Screen the construction camp and lay-down yards by enclosing the entire area with a dark green or black shade cloth of no less than 2m height. • Ensure that the proposed substation blends in with the surrounding environment.
	<p>Noise An increase in noise is expected due to construction, which might have an impact especially on the surrounding residential settlements as well as the adjacent schools in Thorisong. Given the proximity of the proposed site to the community noise during the construction phase may be a disturbance, however, given the short span of the construction phase it can be managed.</p>	Medium	<ul style="list-style-type: none"> • It must be ensured that all vehicles used during construction are properly maintained. • Surrounding residents should be notified in advance of construction schedules. • Working hours must be restricted to daytime only (7am – 5pm). • Selecting equipment with lower sound power levels which is in accordance with the Health and Safety Regulations • Taking advantage during the design stage of using natural topography as a noise buffer
	<p>Bird Population Habitat destruction, disturbance and displacement impacts associated with the construction and maintenance of the substation and power lines should be of very low significance due to the already disturbed nature of the site. The likelihood of sensitive or Red Listed bird species utilising this site regularly is very low. Collision of birds with the power lines and electrocution of birds perching on the power line pylons is very unlikely</p>	Low	Mitigation would need to be comprehensive i.e. the insulation of all the live components within the substation yard.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	due to the disturbed nature of the site and habitat, and the short length of the proposed loop in and out lines.		
	<p>Soil Erosion Movement of heavy machinery across the land as well as vegetation clearance may cause destabilisation of soils which then become susceptible to erosion. Continuous movement of vehicles over the land during the construction phase may leave it susceptible to erosion.</p>	Low	<ul style="list-style-type: none"> • Implementation of anti-erosion measures such as the construction of berms to reduce the water velocity is essential. • Storm water runoff shall be considered and its flow controlled on the construction site. • Foundation excavations must be inspected by a competent person during construction. • In the event of significant erosion occurring, adequate corrective measures must be implemented to prevent any further soil loss.
	<p>Heritage Cemeteries were noted, within a 100m distance from the proposed site. No obvious sites of heritage significance were noted on the proposed site.</p>	Low	<ul style="list-style-type: none"> • If any archaeological material (e.g. fossils, bones, artefacts etc.) is found during excavation the Contractor shall stop work immediately and inform the ECO.
	<p>Traffic During the construction phase increased heavy vehicle traffic should be expected. Without management, such increased traffic loads may negatively impact existing traffic flow. Further unmanaged construction vehicles may decrease road safety for other road users and uncontrolled movement of construction vehicles may result in unnecessary impacts to the environment through vegetation and habitat destruction.</p>	Medium	<ul style="list-style-type: none"> • The delivery of construction material and equipment should be limited to hours outside peak traffic times (including weekends) prevailing on the surrounding roads. • Delivery vehicles must comply with all traffic laws and by laws;
	<p>Social Environment The construction phase may have an impact on the surrounding residents if not properly managed. It</p>	Low	<ul style="list-style-type: none"> • Residents must be kept abreast with the ingoing activities. • A Land owner liaison officer

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	could result in the disturbance of residents due to construction related activities. Other impacts may be safety, considering the proximity of schools to the proposed site. The potential increase in traffic may pose a safety risk to surrounding residents, particularly scholars. Other social related issues may include theft; however, this will be local.		must be appointed to manage and address societal issues accordingly.
	Indirect impacts: None		
	Cumulative impacts: None		
Alternative 3			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
No-go option			
None of the environmental impacts identified for the proposed activity will occur (including positive and negative impacts) if the proposed activity does not proceed. Technically, the no go alternative will have a negative impact as the municipality will not be able to meet the required demand hence slow down development.			
	Direct impacts: Economic: Insufficient energy supply will have a direct impact on the economic outlook of the municipality and the country at large in the longer term.	Medium	Reliable energy supply must be sought at all times. Alternative energy resources need to be used.
	Indirect impacts:		
	Cumulative impacts:		

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

2. ENVIRONMENTAL IMPACT STATEMENT

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

Alternative A (preferred alternative)

Certain factors have been taken into account when assessing the impact of the proposed activity on the environment:

FACTORS	COMMENTS
A transformation of a locality	An impact of low significance on the aesthetic environment can be expected, however mitigation measures will be put in place to reduce the impact as far as practically possible.
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations	The proposed site is adjacent a cemetery however the site contains no known heritage sites.
Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974);	The proposed site is not expected to have an impact on any habitat of protected fauna as the proposed site is heavily disturbed. The possible impact on bird species has been rated low in significance according to the avifaunal specialist studies, no other wildlife exist in the area or in proximity to the proposed site.
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air;	No species of animal or plant is expected to be endangered by the proposed activities. The proposed site is already disturbed i.e. there is no flora that requires conservation as the site is heavily infested with alien species.
Any long-term effects on the environment	No long term effect on the environment is expected.
Any degradation of the quality of the environment;	Mitigation measures will be employed to ensure no significant degradation of the environment.
Any risk to the safety of the environment	No long term risk to the safety of the environment is expected.
Any pollution of the environment	The proposed activity is not expected to result in long term pollution of the environment. Mitigation measures are proposed to ensure pollution is restricted to short term localised effects.

Any environmental problems associated with the disposal of waste	No long term environmental problems are expected associated with the disposal of waste material. Construction waste of any form will be disposed of appropriately as per the EMP.
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PLANNING AND DEVELOPMENT PHASE

Impacts associated with the planning and development phase of the proposed activity include the creation of job opportunities for skilled engineers and planning professions. This positive impact will be definite and short term in duration. No significant negative impact has been associated with this phase and the proposed activity.

CONSTRUCTION PHASE

The positive impacts identified for this phase include job creation and a positive economic outlook for the municipality and the country at large, these impacts will be enhanced in order to maximise the benefits. Impacts associated with the construction phase of the proposed activity can be regarded as being of medium significance. The negative impacts include:

- Visual impact from the construction activities which will be short term and low in significance;
- visual impact of the facility from the local community and the R26 which will be long term;
- air pollution during excavation and foundation digging will be a negative short term impact which is low in significance; and
- The impact of traffic as a result low in significance for the duration of the construction phase.

With corrective measures in place none of the identified negative impacts are considered to be a fatal flaw.

OPERATIONAL PHASE

No significant negative impact can be associated with the operational phase of the proposed activity; impacts identified included minimal employment creation for maintenance purposes as well as reliable power supply.

DECOMMISSIONING PHASE

No significant impacts have been identified for the decommissioning phase of the proposed activity since decommissioning will not take place for the proposed activity in the foreseeable future. However, if decommissioning were to take place it will have a negative impact due to job losses, soil erosion and waste generation.

Alternative B

PLANNING AND DEVELOPMENT PHASE

Impacts associated with the planning and development phase of the proposed activity include the creation of job

opportunities for skilled engineers and planning professions. This positive impact will be definite and short term in duration. No significant negative impact has been associated with this phase and the proposed activity.

CONSTRUCTION PHASE

The positive impacts identified for this phase include job creation and a positive economic outlook for the municipality and the country at large, these impacts will be enhanced in order to maximise the benefits. Impacts associated with the construction phase of the proposed activity can be regarded as being of **low** significance. The negative impacts include:

- The visual impact will be insignificant as the substation is already existing;
- air pollution during excavation and foundation digging will be a negative short term impact which is very low in significance as the construction activities will small scale and the fore not intense; and
- The impact of traffic as a result low in significance for the duration of the construction phase.
- Possible interruption in current supply during the construction phase which will affect communities and industry and medical facilities in the area.

With corrective measures in place none of the identified negative impacts are considered to be a fatal flaw.

OPERATIONAL PHASE

No significant negative impact can be associated with the operational phase of the proposed activity; as the substation is already operational. The positive impact will be a slight increase in capacity once the substation is deloaded by the proposed new substation.

DECOMMISSIONING PHASE

No significant impacts have been identified for the decommissioning phase of the proposed activity since decommissioning will not take place for the proposed activity in the foreseeable future. However, if decommissioning were to take place it will have a negative impact due to job losses, soil erosion and waste generation.

Alternative C

No-go alternative (compulsory)

The no-go alternative was assessed not to be an option given the economic and social benefits of the proposed project which far outweigh other identified impacts. If the no-go alternative is considered none of the identified impacts will be realised.

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

None

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.

It is recommended that **Alternative A** be approved as it offers a longer term solution to the current energy problem in the area. From a technical perspective alternative one is more sustainable, while environmentally the anticipated impacts on the already disturbed site are manageable.

Environmental Management Programme (EMPr) has been prepared by the consultant and it is hoped that it will serve as the key reference of the EAPs recommendations jointly with Eskom's policies that are already in place. The EMPr has included measures proposed to mitigate any adverse impacts of the activities and the monitoring. Some of the key recommendation include:

- Recommendations made by the Agricultural Specialist must be adhered to at all times.
- Areas outside of the footprint and reasonable construction access to be marked as no-go areas.
- Implement erosion control measures where applicable.
- Maintenance done on construction vehicles must be done off site.
- Rehabilitate the site in accordance with the EMPr after construction.
- Whilst the proposed project specifically is not anticipated to add significantly to the current ambient noise levels it is recommended that noise be reduced at all times
- It is recommended that should archaeological artefacts be discovered during excavations, all works must be stopped at the affected site and an archaeologist be contacted for further investigation.
- The cemetery adjacent to the site must be barricaded to avoid disturbance.
- Proper management of storm water must be put in place to avoid any possible impacts on the stream despite the distance.
- Ensure strict compliance with the requirements of the National Water Act.
- The attached construction EMPr must be implemented and adhered to in order to minimise all potential negative impacts and to enhance positive impacts where applicable.

Is an EMPr attached?

YES X	NO
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BASIC ASSESSMENT REPORT

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.

MUNYADZIWA RIKHOTSO

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

D1: AVIFAUNA SPECIALIST REPORT

D2: WETLAND DELINEATION REPORTS

D3: BIODIVERSITY REPORT

D4: HERITAGE SPECIALIST REPORT

Appendix E: Public Participation

E1: PROOF OF PLACEMENT OF ADVERTISEMENT AND NOTICE

E2: PROOF OF DELIVERY OF WRITTEN NOTIFICATION TO KEY STAKEHOLDER

E3: COMMENTS AND RESPONSE REPORT

E4: WRITTEN NOTIFICATION TO AUTHORITIES

E5: LIST OF REGISTERED I&AP

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information