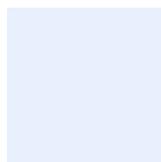


Project: Proposed Establishment of two Eskom 88 kV sub-stations (Pangaea and Kanga) in conjunction with two loop-in, loop-out lines from the existing 88 kV Erasmus-Arbor line in Gauteng and Mpumalanga
Basic Assessment Report

DEA Reference:
14/12/16/3/3/1/1006
Prepared for: Eskom
Distribution
Revision: 0
20 December 2013



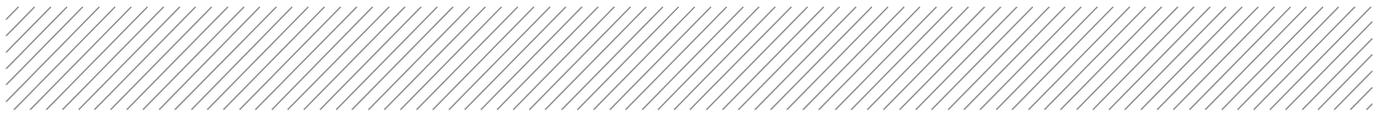


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BASIC ASSESSMENT REPORT



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

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

Kindly note that:

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

SECTION A: ACTIVITY INFORMATION

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

YES	NO
-----	----

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 proposes the establishment of two 88 kV sub-stations (Pangaea and Kanga) in conjunction with two 88 kV loop-in, loop-out lines from the existing 88 kV Erasmus-Arbor line in order to ensure electric supply for the upcoming Kusile Railway Line. The railway line obtained an Environmental Authorisation (EA) during 2010 (DEA ref. no. 12/12/20/1488). This railway line will be constructed as a private siding which is needed to transport limestone to the Kusile Power Station. Limestone is required for the Flue Gas Desulphurisation (FGD) process which contributes to minimising air pollution during the generation of electricity.

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

Listed activity as described in GN R.544, 545 and 546	Description of project activity
GN No. R544 10(i)	Construction of <u>two 88kV sub- stations</u> in conjunction with <u>two Loop-In Loop-Out Lines</u> from the existing line to the two switching stations
GN No. R544 11	Construction of two 88kV sub-stations in conjunction with two Loop-In Loop-Out Lines from the existing line to the two switching stations in or within 32 metres of a watercourse.
GN No. R544 18	The infilling or depositing as well as excavation of more than 5 cubic metres of material into or out of a watercourse in order to erect foundations for the 88 kV towers and switching stations

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

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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.

In the case of linear activities:

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. [Please refer to Appendix J1.](#)

SUBSTATIONS

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.

PANGAEA Substation area coordinates		
Corners of area	Longitude (E)	Latitude (S)
Northern corner	28°52'15.6"E	25°52'26.4"S
Eastern corner	28°52'19.2"E	25°52'26.4"S
Southern corner	28°52'19.2"E	25°52'30"S
Western corner	28°52'15.6"E	25°52'30"S

KANGA Substation area coordinates		
Corners of area	Longitude (E)	Latitude (S)
Northern corner	28°54'18"E	25°55'8.4"S
Eastern corner	28°54'18"E	25°55'4.8"S
Southern corner	28°54'21.6"E	25°55'8.4"S
Western corner	28°54'18"E	25°55'8.4"S

b) Lay-out alternatives

Note: Due to the fixed location of the railway line and its substations, the Pangaea and Kanga substations (which must be constructed adjacent to the railway line substations) cannot consider any alternative positions. The railway and these sub-stations have already undergone EIA approvals process, and therefore alternatives have already been taken into consideration.

c) Technology alternatives

Due to the nature of the project being the distribution of electricity to the Kusile Railway Line, no feasible technology alternatives exist. Eskom is continually considering and improving (where appropriate) the technology use for electricity distribution.

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

None

e) No-go alternative

The no-go alternative will either entail the use of diesel locomotives on the railway line or prevent the transportation of limestone to the Kusile Power Station. The design of the railway line has been done specifically for the use of electric trains and has also been authorised by the DEA as such. The non-supply of limestone to the power station will result in either the power station not being able to adequately filter the air leaving the station by means of flue gas desulphurisation, or the limestone will have to be transported to the station by road freight. These two alternatives are clearly detrimental to the environment. The no-go alternative will therefore not be considered as a feasible option.

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):

PANGAEA:

Alternative:

- Alternative P1 (preferred activity alternative)
- Alternative P2
- Alternative P3
- Alternative P4

Length of the activity:

	3 480 m
	3 120 m
	2 100 m
	2 710 m

KANGA

Alternative:

- Alternative K1a (preferred activity alternative)
- Alternative K1
- Alternative K2
- Alternative K3
- Alternative K4

Length of the activity:

	3 528 m
	3 360 m
	3 082 m
	2 713 m
	3 590 m

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

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PANGAEA SUBSTATION:

Alternative PSS¹ (preferred activity alternative)

SIZE OF THE
ACTIVITY:

4 700 m²

KANGA SUBSTATION:

Alternative KSS² (preferred activity alternative)

4 700 m²

Note: Footprint for the purpose of this calculation refers to complete transformation, for example where complete vegetation clearing has taken place, or where vegetation cover has been replaced with concrete cover.

Access:

In order to construct a transmission line, access for construction plant and vehicles is required for the entire length of the line, and for the entire width of the servitude. It can be expected that the actual ground covered by construction activities will be considerably smaller, and that most activity will be centred around the pylon positions. Existing roads will also be used as far as possible for construction access, although the servitude will be used as a “road” in cases where this is not possible.

A typical cross-section of proposed servitude is provided in **Appendix A4** – each of the servitudes (loop-in as well as loop-out) is 15.5 metres wide (thus 31 metres in total) – and with an additional 20 metres in between as a safety standard, the total width is 51 metres.

Substations:

The substation footprints were simply determined from the design drawings provided by ESKOM.

Distribution Lines:

Construction footprint:

Due to the limited nature of transformation of distribution line construction, and small footprint (only at tower positions) as opposed to for example a road or pipeline construction, the construction footprint is provided as a maximum of 30% of the servitude area.

Operational footprint:

It is not expected that any significant new transformation will take place during the operational phase of the project.

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

² “Alternative A..” refer to activity, process, technology or other alternatives.

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- c) Indicate the size of the alternative servitudes (within which the above footprints will occur):

PANGAEA:

Alternative:

Alternative P1 (preferred activity alternative)
Alternative P2 (if any)
Alternative P3 (if any)
Alternative P4 (if any)

Size of the site/servitude:

177 480 m ²
159 120 m ²
107 100 m ²
138 210 m ²

KANGA:

Alternative:

Alternative K1a (preferred activity alternative)
Alternative K1 (if any)
Alternative K2 (if any)
Alternative K3 (if any)
Alternative K4 (if any)

Size of the site/servitude:

179 928 m ²
171 360 m ²
157 182 m ²
138 363 m ²
183 090 m ²

Please note: the servitude area has been calculated by multiplying the length of the proposed power line by the width of 51 m required. This is not the area that will be disturbed – only the tower positions and access route areas will be disturbed. The affected area is thus much less than calculated above.

4. SITE ACCESS

Does ready access to the site exist?

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

YES	NO

Note: Various access roads to the servitude exists and these existing routes will be utilised as far as possible. However, a service road for travelling on the servitude itself will be made as part of the construction activities.

Describe the type of access road planned:

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. [Please refer to Appendix A2 \(Layout/route map\)](#)

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.). [Please refer to Appendix A1.](#)

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. [Please refer to Appendix A2](#)

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. [Please refer to Appendix A3.](#)

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. [Please refer to 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. [Please refer to 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	NO	Please explain
Additional servitudes for both Pangaea and Kanga respectively will be negotiated with the surrounding landowners. Certain parts of the proposed power line routes are located on existing Eskom property. Distribution lines on agricultural land is accepted practice.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
As Eskom is a parastatal company all electrical planning is done at the behest of Eskom. This power line is of strategic importance as it will electrify the railway line designed to bring limestone to the Kusile Power Station project which is needed for operation of the station. It is not subject to the PSDF.			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The short power lines will be built both on and adjacent to the Kusile Power Station and not in a built urban environment, hence does not affect urban edge policies.			
(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	NO	Please explain
As Eskom is a parastatal company all electrical planning is done at the behest of Eskom. This power line is of strategic importance as it will electrify the railway line designed to bring limestone to the Kusile Power Station project which is needed for operation of the station.			
(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
As Eskom is a parastatal company all electrical planning is done at the behest of Eskom. This power line is of strategic importance as it will electrify the railway line designed to bring limestone to the Kusile Power Station project which is needed for operation of the station.			

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<p>(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?)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The construction of the Kusile Power Station is of national importance – the construction of these power lines falls within the Kusile project.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<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>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The entire Kusile Power Station and its associated infrastructure is a national strategic project and is included in all integrated development plans.</p>			
<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>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>Electrifying the Kusile railway line will ensure reliable transport of limestone to the station. Not only is this an integral part of the operation of the station to produce electricity for the country, it also allows the stations Flue Gas Desulphurisation system to filter the emissions released by the station, thus minimising the potential air pollution in the area.</p>			
<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>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>No municipal services are required for this project. This power line is to service Eskom property (the Kusile railway line) only.</p>			
<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>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>This project has no relation to any municipal services or infrastructure.</p>			

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7. Is this project part of a national programme to address an issue of national concern or importance?	YES	NO	Please explain
The electrification of the railway line to provide limestone to the Kusile Power Station.			
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	NO	Please explain
The Kanga line will mostly be constructed on Eskom property already purchased for the Kusile Power Station. The Pangaea line will traverse privately owned land and a servitude will be negotiated with the landowners. Please refer to the Biodiversity Impact Assessment report for a description of the surrounding landuse. Both the lines are part of the greater Kusile project and its related infrastructure requirements.			
9. Is the development the best practicable environmental option for this land/site?	YES	NO	Please explain
The construction of these two relatively short loop-in loop-out power lines far outweighs the impacts of any alternative options considered as part of the Kusile Rail EIA in terms of transporting limestone to the power station. The construction impacts are temporary, whereas not electrifying the railway line would lead to either making use of diesel locomotives (which cause air pollution) or the use of road transport via trucks which has its own set of negative impacts.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	NO	Please explain
Electrifying the Kusile railway line will ensure reliable transport of limestone to the station. Not only is this an integral part of the operation of the station to produce electricity for the country, it also allows the stations Flue Gas Desulphurisation system to filter the emissions released by the station, thus minimising the potential air pollution in the area.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO	Please explain
Project is not related to typical land use/ development trends.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO	Please explain
Servitude agreements will be entered into with relevant land-owners as per standard practice for all ESKOM distribution lines according to legal framework of South Africa			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO	Please explain
Not relevant to urban edge debate – part of national energy supply			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
The Kusile Power Station project.			

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15. What will the benefits be to society in general and to the local communities?	Please explain
An increase in electricity production will benefit society in general. The construction of the power lines will include the appointment of contractors who must make use of local community members to a certain percentage.	
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
Addressing the energy requirements of South Africa in order to facilitate economic growth.	
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 EAP is an independent company, appointed by Eskom Distribution to determine all negative as well as positive impacts the proposed project might have on the environment. Certain specialists were appointed to assess the actual and potential impact on the environment for the corridors of the proposed alternative routes. Mitigation measures were also proposed. All the information compiled by the specialists were rated in an alternatives scoring matrix to determine the preferred alternative in an independent and fair manner, taking environmental, heritage and social/stakeholder issues into account together with the cost and constructability (feasibility) of that alternative. The draft BAR will be circulated into the public domain for a public participation process as described in NEMA. All comments received during the entire BAR process will be recorded as part of the issues and response report.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
Through section 2 of NEMA it is understood that the principles as set out in this section have been taken into account through the proper application of a basic assessment process as described by NEMA, and by assessing the predicted and actual impacts of the proposed project in order to assist the DEA in adequately making an informed decision.	

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
Constitution of the Republic of South Africa, Act 108 of 1996			1996
National Environmental Management Act	GN 544	Department of Environmental Affairs	2010
National Water Act	Section 21 (c) and (i)	Department of Water Affairs	1998
National Heritage Resources Act No 25 of 1999	Section 2, 3, 28(18) and 38	South African Heritage and Resources Agency	1999

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National Environmental Management Biodiversity Act No 10 of 2004	Chapters 3, 4 & 5	Department of Environmental Affairs	of 2004
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12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES	NO
-----	----

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

unknown

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

Construction solid waste will mainly be domestic waste and builder's rubble. Waste will be separated into containers for different types of waste. Skips will be located within the designated servitude area to prevent contamination of the clean, undisturbed environment. A service provider/waste contractor will collect the waste at regular intervals and dispose of such waste at a registered and licensed landfill site.

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

Waste will be disposed of at a registered and licensed landfill site within the Tshwane Municipality.

Will the activity produce solid waste during its operational phase?

YES	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?

YES	NO
-----	----

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

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

YES	NO
-----	----

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

b) Liquid effluent

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

YES	NO
-----	----

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

m ³	
----------------	--

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

YES	NO
-----	----

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

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO
-----	----

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
-----	----

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

YES	NO
-----	----

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

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

Dust emissions and exhaust emissions of construction vehicles

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
-----	----

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

e) Generation of noise

Will the activity generate noise?

YES	NO
-----	----

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

YES	NO
-----	----

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

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

--

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:

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

litres	
YES	NO

If YES, please provide proof that the application has been submitted to the Department of Water Affairs. *The WULA will be submitted to the DWA at a later stage. The DWA (Bronkhorstspuit) requested the application only be made once environmental authorisation has been obtained. However, Aurecon will submit the WULA shortly after the BAR has been submitted.*

14. ENERGY EFFICIENCY

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

The proposed project is for power lines which will distribute electricity.

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

None

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

- 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):

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

- 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 each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

PANGAEA ALTERNATIVE 1 (PREFERRED):

Property description/physical address:

Province	Gauteng Province
District Municipality	City of Tshwane Metropolitan Municipality
Local Municipality	N/A
Ward Number(s)	Kungwini CBLC2 and CBDC2
Farm name and number	Kortfontein 530 ptn 0 (remaining extent). SG code: T0JR0000000005300000 Kortfontein 530 ptn 1. SG code: T0JR0000000005300010 Onverwacht 532 ptn 1. SG code: T0JR0000000005320001 Onverwacht 532 ptn 11. SG code: T0JR0000000005320011 Onverwacht 532 ptn 17. SG code: T0JR0000000005320017
Portion number	See above
SG Code	See above

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PANGAEA ALTERNATIVE 2:

Property description/physical address:	Province	Gauteng Province
	District Municipality	City of Tshwane Metropolitan Municipality
	Local Municipality	N/A
	Ward Number(s)	Kungwini CBLC2 and CBDC2
	Farm name and number	Kortfontein 530 ptn 0 (remaining extent). SG code: T0JR00000000053000000 Kortfontein 530 ptn 1. SG code: T0JR00000000053000010 Kortfontein 530 ptn 5 SG code: T0JR00000000053000050
	Portion number	See above
	SG Code	See above

PANGAEA ALTERNATIVE 3:

Property description/physical address:	Province	Gauteng Province
	District Municipality	City of Tshwane Metropolitan Municipality
	Local Municipality	N/A
	Ward Number(s)	Kungwini CBLC2 and CBDC2
	Farm name and number	Kortfontein 530 ptn 0 (remaining extent). SG code: T0JR00000000053000000 Kortfontein 530 ptn 1. SG code: T0JR00000000053000010 Bossemanskraal 538 ptn 2 SG code: T0JR000000000538000020 Bossemanskraal 538 ptn 9 SG code: T0JR000000000538000090
	Portion number	See above
	SG Code	See above

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PANGAEA ALTERNATIVE 4:

**Property
description/physical
address:**

Province	Gauteng Province
District Municipality	City of Tshwane Metropolitan Municipality
Local Municipality	N/A
Ward Number(s)	Kungwini CBLC2 and CBDC2
Farm name and number	Kortfontein 530 ptn 0 (remaining extent). SG code: T0JR00000000053000000 Kortfontein 530 ptn 1. SG code: T0JR00000000053000010 Bossemanskraal 538 ptn 2 SG code: T0JR000000000538000020 Bossemanskraal 538 ptn 9 SG code: T0JR000000000538000090
Portion number	See above
SG Code	See above

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KANGA ALTERNATIVE 1a (PREFERRED):

Property description/physical address:

Province	Mpumalanga
District Municipality	Nkangala
Local Municipality	Victor Khanye
Ward Number(s)	MP311
Farm name and number	Hartbeesfontein 537 ptn 1 SG code: T0JR00000000053700001 Hartbeesfontein 537 ptn 5 SG code: T0JR00000000053700005 Hartbeesfontein 537 ptn 2 SG code: T0JR00000000053700002 Bossemanskraal 538 ptn 10 SG code: T0JR000000000538000010
Portion number	See above
SG Code	See above

KANGA ALTERNATIVE 1:

Property description/physical address:

Province	Mpumalanga
District Municipality	Nkangala
Local Municipality	Victor Khanye
Ward Number(s)	MP311
Farm name and number	Hartbeesfontein 537 ptn 1 SG code: T0JR00000000053700001 Hartbeesfontein 537 ptn 2 SG code: T0JR00000000053700002 Bossemanskraal 538 ptn 10 SG code: T0JR000000000538000010
Portion number	See above
SG Code	See above

KANGA ALTERNATIVE 2:

Property description/physical address:

Province	Mpumalanga
District Municipality	Nkangala
Local Municipality	Victor Khanye
Ward Number(s)	MP311
Farm name and number	Hartbeesfontein 537 ptn 1 SG code: T0JR00000000053700001 Bossemanskraal 538 ptn 10 SG code: T0JR000000000538000010
Portion number	See above
SG Code	See above

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KANGA ALTERNATIVE 3:

Property description/physical address:

Province	Mpumalanga
District Municipality	Nkangala
Local Municipality	Victor Khanye
Ward Number(s)	MP311
Farm name and number	Hartbeesfontein 537 ptn 1 SG code: T0JR00000000053700001 Klipfontein 566 ptn 0 SG code: T0JR00000000056600000 Dwaalfontein 565 ptn 2 SG code: T0JR00000000056500002
Portion number	See above
SG Code	See above

KANGA ALTERNATIVE 4:

Property description/physical address:

Province	Mpumalanga
District Municipality	Nkangala
Local Municipality	Victor Khanye
Ward Number(s)	MP311
Farm name and number	Hartbeesfontein 537 ptn 1 SG code: T0JR00000000053700001 Klipfontein 566 ptn 0 SG code: T0JR00000000056600000 Klipfontein 566 ptn 25 SG code: T0JR00000000056600025 Klipfontein 566 ptn 26 SG code: T0JR00000000056600026
Portion number	See above
SG Code	See above

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

Agricultural

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
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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative P1:

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 P2:

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 P3:

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 P4

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 K1a

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 K1

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 K2

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 K3

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 K4

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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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 checked="" 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 type="checkbox"/> | 2.9 Seafront <input type="checkbox"/> |

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

PANGAEA:

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

	Alternative P1:		Alternative P2:		Alternative P3:	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

	Alternative P4	
Shallow water table (less than 1.5m deep)	YES	NO
Dolomite, sinkhole or doline areas	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO
Any other unstable soil or geological feature	YES	NO
An area sensitive to erosion	YES	NO

KANGA:

	Alternative K1a:		Alternative K2:		Alternative K3:	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

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	Alternative K3:		Alternative K4:	
	YES	NO	YES	NO
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO
An area sensitive to erosion	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	Natural veld with heavy alien infestation^E	Veld dominated by alien species^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

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

5. SURFACE WATER

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

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

BASIC ASSESSMENT REPORT

Estuarine / Lagoonal wetland	YES	NO	UNSURE
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If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

#	Class	Classification	Additional Notes
Level 2: Regional Setting			
1.1	DWA Level 1 Ecoregion	Highveld	Lower Highveld
1.2	NFEPA WetVeg Group	Mesic Highveld Grassland Group 4	
Level 3: Landscape Unit			
2.1	Topographical position within landscape	Slope/ Valley floor	Average Gradient 0.03
Level 4: Hydro-geomorphic Unit			
3.1	River	Lowland River	Lowland River with an active channel
3.2	Valley Bottom Wetlands	Channelled	With overland flow, interflow and flooding
Level 5: Hydrological Regime			
4.1	River flow types	Perennial	
		Non-perennial	Seasonal
4.2	Hydro-period and depth of inundation	Permanently Inundated	Littoral (depth class)
		Seasonally inundated	Permanently Saturated (within 0.5 m of soil)
		Never inundated	Permanently Saturated (within 0.5 m of soil)

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 (proposed)	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)

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

The proposed railway line will be constructed by the Kusile project in the near future. This application is for the construction on power lines to electrify this very railway line. However, construction has not commenced to date.

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:

None

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:

None

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

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

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

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO
	Uncertain	
Although the specialist identified a number of heritage sites (including 10 burial sites) were identified in the area, none are on or close (within 20m) to the site.		

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:

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

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

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.

PANGAEA (City of Tshwane):

Level of unemployment:

24.2% (2011)

Economic profile of local municipality:

Tshwane has a population of 2 553 648 with a population density of 405.5. Tshwane's economic growth was almost 70% higher than the national average in 2011 census. For those that are employed, the average household income is R182 822 per annum. The dependency ratio is 39 % meaning that each person working has to support four others on average. Despite high economic growth, the poverty rate is 27.86 % and the majority of poor people live in previously disadvantaged areas. This can be attributed to the lack of social and economic opportunities in these areas. 18% (or 104 000 households) of all residents live in an informal dwelling.

Level of education:

34.2 % of Tshwane residents have Grade 12 as their highest level of education. 4.2% have no schooling at all while 23.6% have completed higher education.

KANGA (Victor Khanye):

Level of unemployment:

29.0% (2010)

Economic profile of local municipality:

In 2009 the LM recorded R28 344 annual per capita income, with an annual income of R99 527 per household. The LM sectoral contribution to the regional GVA for 2009 was calculated at 28.7% for the primary sector, 7.0% for the secondary sector and 64.3% for the tertiary sector, with a 16.1% contribution to the regional GVA by mining activities and 17.3% by transport.

Level of education:

14.5% have no education, with 16.3% achieving Grade 12 as their highest education. Only 4.9% of

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the population have completed higher education.

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?	R0
Will the activity contribute to service infrastructure?	YES NO
Is the activity a public amenity?	YES NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	None – existing Eskom staff will be utilised to construct the powerlines.
What is the expected value of the employment opportunities during the development and construction phase?	R0
What percentage of this will accrue to previously disadvantaged individuals?	0%
How many permanent new employment opportunities will be created during the operational phase of the activity?	0
What is the expected current value of the employment opportunities during the first 10 years?	R0
What percentage of this will accrue to previously disadvantaged individuals?	0%

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)**

PANGAEA:

Systematic Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
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Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	Contains suitable habitat for Red listed fauna & flora species.
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KANGA:

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)	Provides suitable corridor / buffer areas for natural elements.

b) Indicate and describe the habitat condition on site

PANGAEA:

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	10%	Natural areas limited to small ridges and valleys.
Near Natural (includes areas with low to moderate level of alien invasive plants)	15%	Extensive grazing practices subject to uncontrolled land management.
Degraded (includes areas heavily invaded by alien plants)	15%	Extensive grazing practices subject to poor/uncontrolled land management.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	60%	Area subject to crop cultivation (dry land) & limited plantations with dams.

KANGA:

Habitat Condition	Percentage of habitat condition	Description and additional Comments and Observations (including additional insight into condition, e.g. poor
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	class (adding up to 100%)	land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	30%	Natural areas limited to small ridges & valleys.
Near Natural (includes areas with low to moderate level of alien invasive plants)	25%	Extensive grazing practices subject to uncontrolled land management.
Degraded (includes areas heavily invaded by alien plants)	25%	Extensive grazing practices subject to uncontrolled land management.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	20%	Area subject to crop cultivation (dry land) & limited plantations with dams.

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.

PANGAEA:

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		

KANGA:

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		

- 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)

PANGAEA:

Rand Highveld grassland; Wige River

KANGA:

Eastern Highveld grassland; Klipfonteinspruit.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Beeld and Middelburg Observer	
Date published	10 September 2013 & 6 September 2013	
Site notice position	Latitude	Longitude
Kusile Lonerock road	25°54'36.50"	28°53'59.97"
R104 farm entrance	25°50'47.35"	28°52'36.33"
Bronkhorstspuit municipality	25°48'33.60"	28°44'36.60"
Bronkhorstspuit post office	25°48'34.19"	28°44'41.39"
Wilge post office	25°58'43.11"	28°58'52.94"
Eskom Wilge stakeholder centre	25°58'34.98"	28°59'08.65"
Date placed	6 September 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)
B Mehlomakulu	Eskom Holdings for properties: Hartbeesfontein 537 ptns 1 & 2.	011 800 8111. P.O. Box 1091, Johannesburg, 2000
B Mehlomakulu	Eskom Holdings for properties: Dwaalfontein 565 ptn 2	011 800 8111. P.O. Box 1091, Johannesburg, 2000
B Mehlomakulu	Eskom Holdings for properties: Klipfontein 566 ptns 3, 5, 25 & 26	011 800 8111. P.O. Box 1091, Johannesburg, 2000
Mr P Vervoort for Topigs SA (Pty) Ltd	Bossemanskraal 538 ptns 9 & 10	012 348 3676 P.O. Box 35492 Menlo Park 0043; P.O.Box 839 Bronkhorstspuit 1020
Mr J.E. Kotze	Bossemanskraal 538 ptn 2 & Kortfontein 530 ptn 0 (remaining extent)	012 347 1217 P.O. Box 36899 Menlo Park 0102
G.C van Aswegen (Van Stad Beleggings)	Kortfontein 530 ptn 1	P.O.Box 9015 Van Riebeeckpark 1629
H.P. Sharp (Sharp Farming)	Kortfontein 530 ptn 5	P.O.Box 11248 Hatfield 0028
Mr R.M. Kgosana (RM Kgosana Family Trust)	Onverwacht 532 ptn 1 (remaining extent)	P.O.Box 1779 Sunninghill 2157
L.S. Ditchfield (Dykefeld Country Estate)	Onverwacht 532 ptn 11 (remaining extent)	P.O.Box 1769 Bronkhorstspuit 1020

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Mr J.F.C. Venter	Onverwacht 532 ptn 17	P.O.Bo 153 Bronkhorstspuit 1020
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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 by any of the I&APs. The Topigs SA (Pty) Ltd representatives and Mr J.E. Kotze requested all correspondence be done through the Kusile Power Station project team (Mr Leon Stapelberg) as they have existing concerns regarding the power station. No specific concerns regarding this project were raised. Topigs representatives were present when the specialists conducted their assessments on the Topigs properties and were cooperative.	Due to no issues being raised by the I&APs, no response was compiled.

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 Agriculture and Land Administration	Dr L.B. Cele	013 947 2551	013 947 2809	lcele@mpg.gov.za	Private Bag x 4017 Kwamhlanga

BASIC ASSESSMENT REPORT

(DALA)					
Gauteng Department of Agriculture and Rural Development (GDARD)	Mr Nicolas Maise	011 240 2500		Nicky.Maisa@gauteng.gov.za	P.O.Box 8769 Johannesburg 2000
City of Tshwane Metropolitan Municipality	Ms Jeanette Ramathoka	013 932 9160		Jeanette.ramathoka@gauteng.gov.za	P.O.Box 1471 Bronkhorstspuit 1020
Victor Khanye Local Municipality	Development and Planning Unit	013 249 2039	013 249 2145	ICT@nkangaladm.gov.za	P.O Box 6 Delmas 2210

Include proof that the Authorities and Organs of State received written notification of the proposed activities as [Appendix E4](#).

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

6. CONSULTATION WITH OTHER STAKEHOLDERS

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

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

A list of registered I&APs must be included as [Appendix E5](#).

Copies of any correspondence and minutes of any meetings held must be included in [Appendix E6](#).

SECTION D: IMPACT ASSESSMENT

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

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

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

PANGAEA:

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Moderate Moderate Insignificant	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Insignificant	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
Alternative 2			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Moderate High Insignificant	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Insignificant	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
Alternative 3			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	High Moderate Low	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Moderate	
	Cumulative impacts: Air Quality in area due to Dust	Low	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Wetlands impacts in the area	Low	
Alternative 4			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Low Low Low	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Moderate	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
No-go option			
	Direct impacts: Railway line cannot take place	High	No mitigation possible
	Indirect impacts: Limestone cannot reach Kusile, and Flue Gas Desulphurisation (FGD) cannot be done	High	
	Cumulative impacts: Air Quality Impacts of Kusile due to SOx will be unacceptably high	High	

KANGA:

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1a (preferred alternative)			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Low Low Insignificant	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Moderate	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
Alternative 1			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Low Low Insignificant	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Moderate	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
Alternative 2			
	Direct impacts: Terrestrial ecology	High	See detailed mitigation

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Wetlands Heritage resources	Moderate Insignificant	measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Moderate	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
Alternative 3			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Moderate High Insignificant	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Insignificant	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
Alternative 4			
	Direct impacts: Terrestrial ecology Wetlands Heritage resources	Moderate High Insignificant	See detailed mitigation measures in Annexure F – Impact Assessment
	Indirect impacts: Land use of private owners	Insignificant	
	Cumulative impacts: Air Quality in area due to Dust Wetlands impacts in the area	Low Low	
No-go option			
	Direct impacts: Railway line cannot take place	High	No mitigation possible
	Indirect impacts: Limestone cannot reach Kusile, and Flue Gas Desulphurisation (FGD) cannot be done	High	
	Cumulative impacts: Air Quality Impacts of Kusile due to SOx will be unacceptably high	High	

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.

PANGAEA:

Alternative 1 (preferred alternative)

No fatal flaws – mitigation possible – feasible alternative.

Alternative 2

Wetland impacts are moderate to high, causing fatal flaw – constructability also rated as fatal flaw. Alternative is not deemed feasible.

Alternative 3

Terrestrial ecology impact is moderate to high, causing fatal flaw. Alternative is not deemed feasible.

Alternative 4

No environmental fatal flaws. Constructability rated as fatal flaw. Alternative is not deemed feasible.

No-go alternative (compulsory)

Indirect impact of Flue Gas Desulphurisation not taking place is fatal flaw. Alternative is not deemed feasible.

KANGA:

Alternative 1a (preferred alternative)

No fatal flaws - mitigation possible – feasible alternative.

Alternative 1

No environmental fatal flaws. Constructability rated as fatal flaw. Alternative is not deemed feasible.

Alternative 2

Terrestrial ecology impact is moderate to high, causing fatal flaw - constructability also rated as fatal flaw. Alternative is not deemed feasible.

Alternative 3

Wetland impacts are moderate to high, causing fatal flaw. Alternative is not deemed feasible.

Alternative 4

Wetland impacts are moderate to high, causing fatal flaw. Alternative is not deemed feasible.

No-go alternative (compulsory)

Indirect impact of Flue Gas Desulphurisation not taking place is fatal flaw. Alternative is not deemed feasible.

SECTION E. RECOMMENDATION OF PRACTITIONER

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

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

N/A

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.

Mitigation measures as per the EMPr must be adhered to.

Is an EMPr attached?

YES	NO
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The EMPr must be attached as [Appendix G](#).

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

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

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

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information

J1: Table of 250 m coordinates of each alternative