ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
FINAL BASIC ASSESSMENT REPORT

PROPOSED POWER LINE, LINKING THE PROPOSED TSITSIKAMMA COMMUNITY WIND ENERGY FACILITY TO THE PROPOSED EXTENSION OF THE EXISTING DIEP RIVER SUBSTATION IN THE TSITSIKAMMA AREA EASTERN CAPE PROVINCE

JUNE 2014

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environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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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.

PROJECT DETAILS

Title	:	Environmental Assessment Process Final Basic Assessment Report for the Proposed Power Line linking the proposed Tsitsikamma Community Wind Energy Facility to the Proposed Extension of the Existing Diep River Substation in the Tsitsikamma Area, Eastern Cape
Authors	:	Savannah Environmental Jo-Anne Thomas
Client	:	Eskom Holdings SoC Limited
Report Status	:	Final Basic Assessment Report for Authority Review

When used as a reference this report should be cited as: Savannah Environmental (2014) Final Basic Assessment Report: Proposed 132Kv Power line linking the Tsitsikamma Community Wind Energy Facility to the Diep River Substation, Eastern Cape.

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SUMMARY AND OVERVIEW OF THE PROPOSED PROJECT

Tsitsikamma Community Wind Farm (Pty) Ltd obtained environmental authorisation for the proposed Tsitsikamma Community Wind Energy Facility (TCWF; DEA reference: 12/12/20/2209) on a site located approximately 30 km west of Humansdorp, in March 2012. This project was awarded preferred bidder status in May 2012 and has subsequently reached Financial Close. Construction of the TCWF is planned to commence shortly.

The authorisation for the wind energy facility included the grid connection to the Diep River substation. However, in discussions with Eskom, it was determined that this line will be required to link to the extension of Diep River Substation at a site located approximately 1 km to the west of the current substation position. As such, an application for environmental authorisation for a power line to the extension of Diep River Substation was submitted to the Department of Environmental Affairs (DEA), and an Authorisation was issued in March 2013. This Authorisation was transferred to Eskom Holdings SoC Limited in August 2013.

Eskom is in the process of securing all the power line servitudes for the implementation of the project. During the servitude negotiation process some difficulties were experienced in securing the necessary rights along the authorised power line route (refer to Figure 1). In order to address landowner concerns which have been raised, Eskom require a deviation of a portion of the authorised power line alignment. Eskom have therefore submitted an application for authorisation for the new proposed power line alignment to the DEA.

Eskom also requires a switching station within the footprint of the Wittekleibosch substation, contained within the Tsitsikamma Community Wind Energy Facility in order to connect the TCWF to the electricity grid. This component is also included within the application for authorisation submitted to DEA.

This Basic Assessment includes an assessment of:

» A 132kV overhead power line connecting the Wittekleibosch substation (located within the wind farm) to the proposed extension of the Diep River Substation, a distance of approximately 13km.
» Access roads along the servitude for construction and operation purposes.
» a switching station within the footprint of the Wittekleibosch substation, contained within the Tsitsikamma Community Wind Energy Facility. The switching station includes an underground earth mat within and / or adjacent to the footprint of the switching station.

A broader corridor of approximately 500m wide is being considered for the proposed power line and associated infrastructure. The project is located within the Kouga Local Municipality and is proposed on the following farms: Farm 787/4; Farm 787/3; Farm 787/2; Farm 787/1; Farm 675/4; Farm 851/0; Farm 361/5; Farm 358/1; Farm 361/1; Farm 358/4; Farm 360; and Farm 954 (refer to Figure 2).

In routing the 132kV power line, it will be necessary to relocate a 450m section of an existing 22 kV power line about 15m west of the existing location. The applicable land portions in this regard are 787/3, 787/2 and 787/1. This relocation does not trigger any EIA activities, and has been agreed with the applicable parties (TDT for 787/3 and MTO for 787/1; SANRAL will be notified by Eskom when the detail design is complete), and will form part of a wayleave agreement for each party.

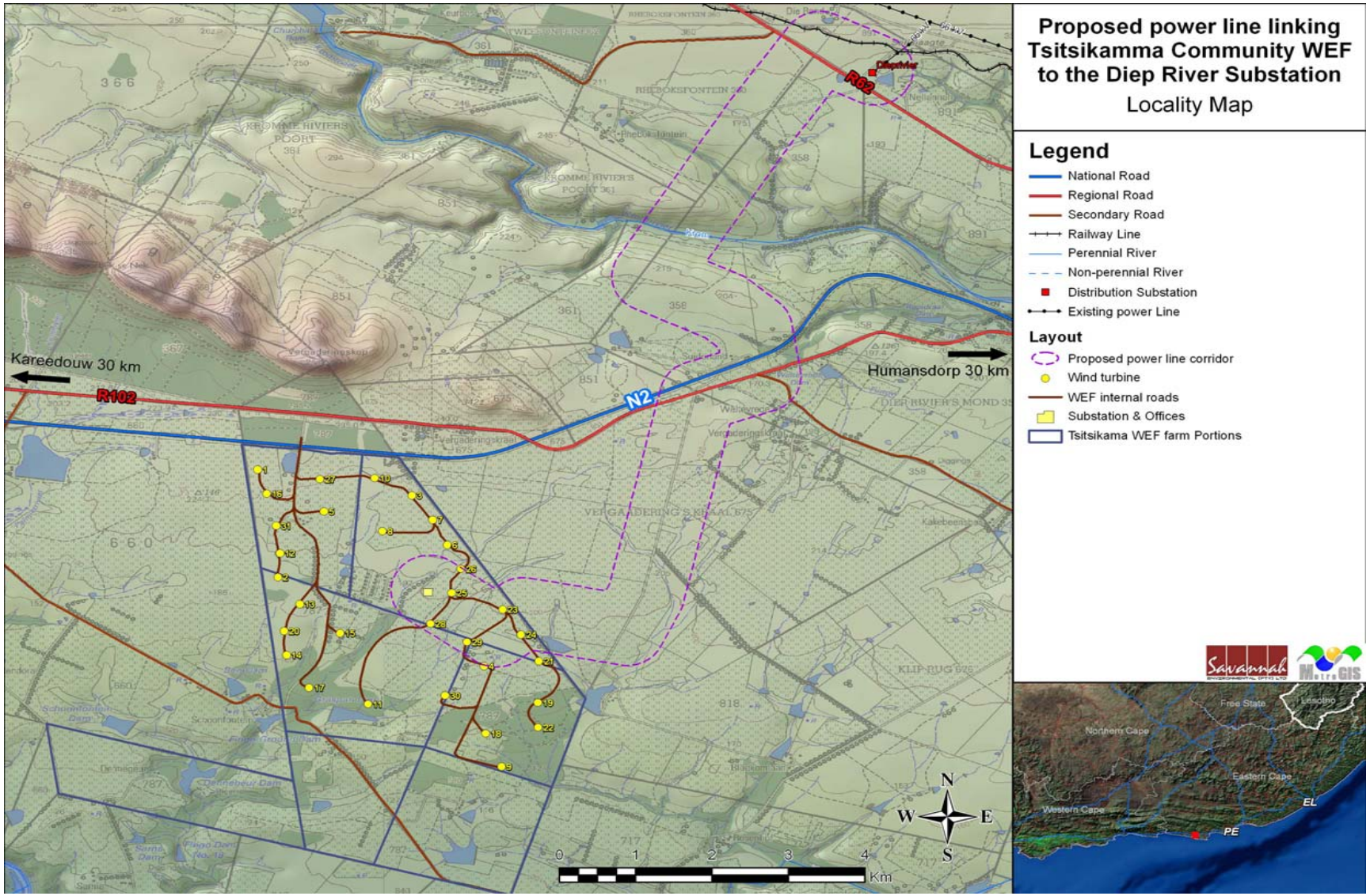

Figure 1: Authorised power line corridor linking the TCWF to the proposed extension of Diep River substation

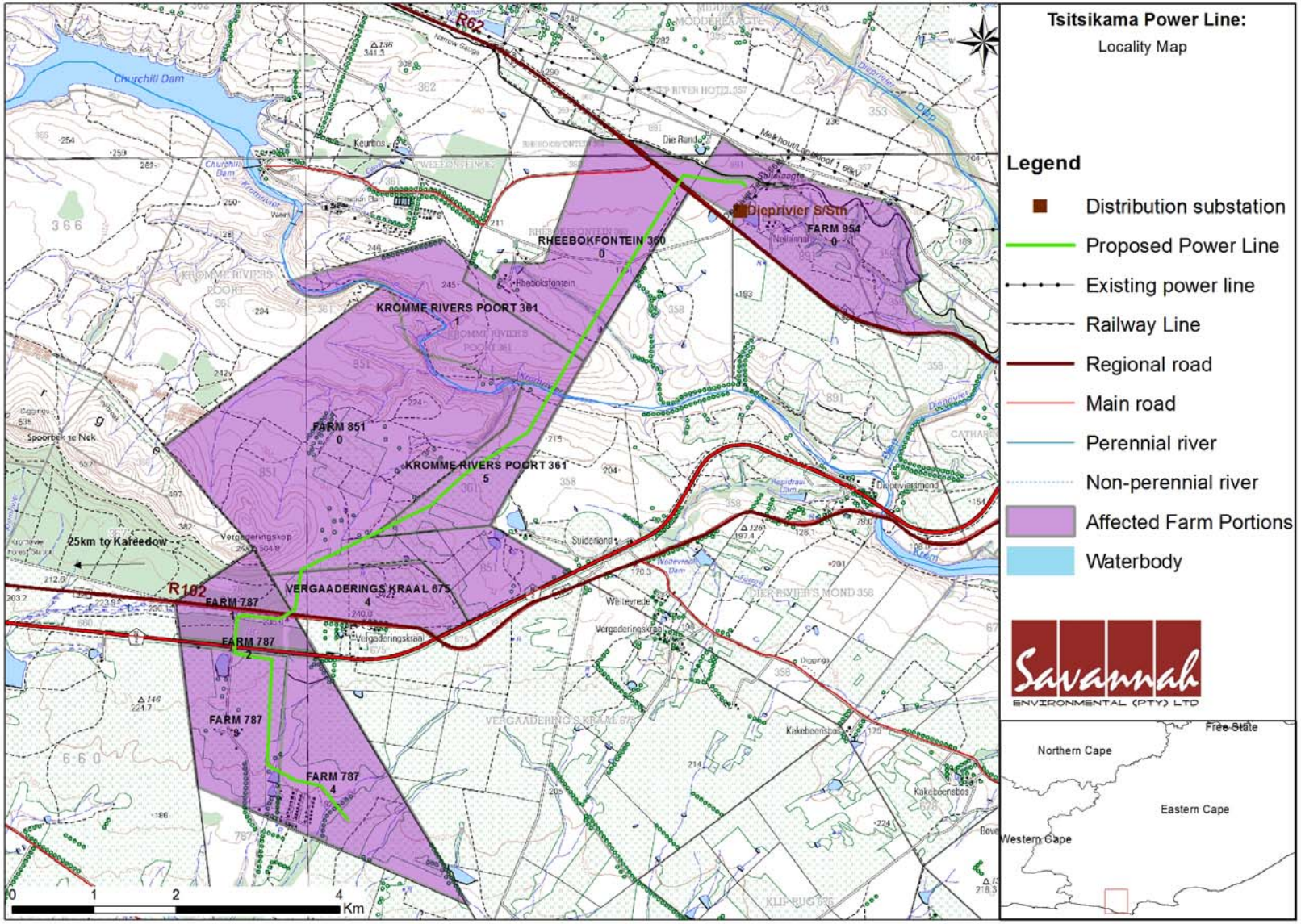

Figure 2: Proposed alternative power line corridor linking the TCWF to the proposed extension of Diep River substation

In terms of the Environmental Impact Assessment (EIA) Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), Cennergi requires authorisation for the construction and operation of the proposed power line. In terms of sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations of GN R543 – R546 a Basic Assessment process is triggered by the proposed project.

The nature and extent of the proposed project is explored in more detail in this Basic Assessment Report. This report has been compiled in accordance with the requirements of the EIA Regulations and includes details of the activity description; the site, area and property description; the public participation process; the impact assessment; and the recommendations of the Environmental Assessment Practitioner.

1.1. Requirements for a Basic Assessment Process

In terms of the Environmental Impact Assessment Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), authorisation is required from the National Department of Environmental Affairs (DEA), in consultation with the Eastern Cape Department of Economic Development and Environmental Affairs (DEDEA), for the establishment of the proposed facility. In terms of sections 24 and 24D of NEMA, as read with the Environmental Impact Assessment Regulations of GNR543; GNR544; GNR545; and GNR546, a Basic Assessment process is required for the proposed realignment. A number of listed activities are applicable. These are detailed in Section A1 of this report.

1.2. Details of Environmental Assessment Practitioner and Expertise to conduct the Basic Assessment

Savannah Environmental has been appointed as the independent environmental consultant to undertake the Environmental Basic Assessment to identify and assess the potential environmental impacts associated with the proposed power line. Neither Savannah Environmental nor any of its specialist sub-consultants on this project are subsidiaries of or are affiliated to Cennergi. Furthermore, Savannah Environmental does not have any interests in secondary developments that may arise out of the authorisation of the proposed project.

Savannah Environmental is a specialist environmental consulting company providing holistic environmental management services, including environmental impact assessments and planning to ensure compliance and evaluate the risk of development; and the development and implementation of environmental management tools. Savannah Environmental benefits from the pooled resources, diverse skills and experience in the environmental field held by its team.

The Savannah Environmental team has considerable experience in environmental impact assessments and environmental management, and have been actively involved in undertaking environmental studies, for a wide variety of projects throughout South Africa, including those associated with electricity generation. Savannah Environmental was also the EAP for the authorised Tsitsikamma Community Wind Energy Facility, and has completed various assessments for power line projects on behalf of Eskom and IPPs.

Jo-Anne Thomas, the principle Environmental Assessment practitioner (EAP) for this project, is a registered Professional Natural Scientist and holds a Master of Science degree. She has over 16 years experience consulting in the environmental field. Her key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; compliance reporting; the identification of environmental management solutions and mitigation/risk minimising measures; and strategy and guideline development. She is currently responsible for the project management of EIAs for several renewable energy and power line projects across the country.

FINAL BASIC ASSESSMENT REPORT FOR REVIEW

This Final Basic Assessment Report has been prepared by Savannah Environmental in order to assess the potential environmental impacts associated with the construction and operation of the proposed power line linking the Tsitsikamma Community Wind Energy Facility with the Diep River Substation. This process is being undertaken in support of an application for environmental authorisation to the National Department of Environmental Affairs (DEA). The draft Basic Assessment Report was made available for a 30-day public review period from **24 April 2014 –27 May 2014**. The report was available for public review at the following locations:

» Clarkson Library
» Kareedouw Library
» www.savannahsa.com

As required in terms of Regulation 56(3) of GNR543, this final Basic Assessment report has been made available to registered interested and affected parties for comment and has also been submitted to DEA, as the competent authority, for review and decision making. I&APs have been advised to submit any additional comments directly to DEA with a copy submitted to Savannah Environmental, in accordance with Regulation 56(6) f GNR543.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	YES [redacted]

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

Tsitsikamma Community Wind Farm (Pty) Ltd obtained environmental authorisation for the proposed Tsitsikamma Community Wind Energy Facility (TCWF; DEA reference: 12/12/20/2209) on a site located approximately 30 km west of Humansdorp, in March 2012. This project was awarded preferred bidder status in May 2012 and has subsequently reached Financial Close. Construction of the TCWF is planned to commence shortly.

The authorisation for the wind energy facility included the grid connection to the Diep River substation. However, in discussions with Eskom, it was determined that this line will be required to link to the extension of Diep River Substation at a site located approximately 1 km to the west of the current substation position. As such, an application for environmental authorisation for a power line to the extension of Diep River Substation was submitted to the Department of Environmental Affairs (DEA), and an Authorisation was issued in March 2013. This Authorisation was transferred to Eskom Holdings SoC Limited in August 2013.

Eskom is in the process of securing all the power line servitudes for the implementation of the project. During the servitude negotiation process some difficulties were experienced in securing the necessary rights along the authorised power line route (refer to Figure 1). In order to address landowner concerns which have been raised, Eskom require a deviation of a portion of the authorised power line alignment. Eskom have therefore submitted an application for authorisation for the new proposed power line alignment to the DEA.

Eskom also requires a switching station within the footprint of the Wittekleibosch substation, contained within the Tsitsikamma Community Wind Energy Facility in order to connect the TCWF to the electricity grid. This component is also included within the application for authorisation submitted to DEA.

This Basic Assessment includes an assessment of:

- A 132kV overhead power line connecting the Wittekleibosch substation (located within the wind farm) to the proposed extension of the Diep River Substation, a distance of approximately 13km.
- Access roads along the servitude for construction and operation purposes.
- a switching station within the footprint of the Wittekleibosch substation, contained within the Tsitsikamma Community Wind Energy Facility. The switching station includes an underground earth mat within and / or adjacent to the footprint of the switching station.

A broader corridor of approximately 500m wide is being considered for the proposed power line and associated infrastructure. The project is located within the Kouga Local Municipality and is proposed on the following farms: Farm 787/4; Farm 787/3; Farm 787/2; Farm 787/1; Farm 675/4; Farm 851/0; Farm 361/5; Farm 358/1; Farm 361/1; Farm 358/4; Farm 360; and Farm 954 (refer to Figure 2).

In routing the 132kV power line, it will be necessary to relocate a 450m section of an existing 22 kV power line about 15m west of the existing location. The applicable land portions in this regard are 787/3, 787/2 and 787/1. This relocation does not trigger any EIA activities, and has been agreed with the applicable parties (TDT for 787/3 and MTO for 787/1; SANRAL will be notified by Eskom when the detail design is complete), and will form part of a wayleave agreement for each party.

The purpose of the proposed project is to connect the TCWF to the national electricity grid thereby facilitating the transmission of the power generated at this facility. The following is relevant in terms of the listed activities applied for:

1. The overhead power line will be a 132kV line to be constructed and operated within a servitude of ~36m.
2. The switching station will comprise a 132kV busbar.
3. The power line corridor investigated crosses over the Krom River, some wetlands and a number of drainage lines. Infrastructure may be constructed within 32m of these watercourses.
4. The power line corridor includes small patches classified as critical biodiversity areas according to the Eastern Cape Biodiversity Conservation Plan, i.e. CBA1 Natural landscapes (Maintain biodiversity in as natural state as possible, manage for no biodiversity loss); CBA2 - Near natural landscapes (Maintain biodiversity in near natural state with minimal loss of ecosystem integrity. No transformation of natural habitat should be permitted); and CBA3 - Functional landscapes (Manage for sustainable development, keep natural habitat intact in wetlands (including wetlands buffers) and riparian zones. Environmental authorisations should support ecosystem integrity). CBA2 areas will be impacted by the proposed project (refer to specialist ecological study contained within Appendix D1).
5. There are a number of roads in the general area therefore creating new roads to

access the power line will be limited. Some existing roads may need to be extended or repaired to enable the construction and maintenance of the 132kV overhead power line. These roads will possibly be extended in areas that are identified as conservation areas (as described above).

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

Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant notice) :	Describe each listed activity as per project description:
GN 544, 18 June 2010	10 (i)	The construction of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts ***The project will entail construction of a 132 kV power line and associated switching station (outside an urban area)***
GN 544, 18 June 2010	11	The construction of: (xi) infrastructure or structures covering 50 m^2 or more Where such construction occurs within a watercourse or within 32 m of a watercourse, measures from the edge of a watercourse. ***The power line may include the construction of bridges or culvert within 32m of a watercourse***
GN 544, 18 June 2010	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from (i) a watercourse ***Potential activities such as construction of an access road may be required to traverse a watercourse which could result in infilling of the watercourse.***
GN 546, 18 July 2010	4 (b) (ii) (ee)	The construction of a road wider than 4 metres with a reserve less than 13,5 metres (b) Outside urban areas, in: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans ***Construction of roads may be required within CBA areas along the power line corridor***
GN 546, 18 July 2010	12 (b)	The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within critical biodiversity

Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant notice) :	Describe each listed activity as per project description:
		areas identified in bioregional plans. ***The power line corridor crosses over small portions classified as critical biodiversity areas (category 1,2 and 3)***
GN546	19 a (ii) (ee)	The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. ***Existing roads may need to be widened or lengthened as part of the project. The study area corridor crosses over a three small portions classified as critical biodiversity areas (category 1,2 and 3) (refer to Ecology specialist report)***

2. FEASIBLE AND REASONABLE ALTERNATIVES

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

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

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

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

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

a) Site alternatives

Switching Station:

The Wittekleibosch switching station is proposed within the footprint of the authorised Wittekleibosch substation, contained within the Tsitsikamma Community Wind Energy Facility. The switching station includes an underground earth mat within and / or adjacent to the footprint of the switching station. The position of this switching station is therefore determined by the position of this substation. There are therefore no alternative locations for the switching station.

Alternative 1 (preferred alternative)		
Description	**Lat (DDMMSS)**	**Long (DDMMSS)**
	34° 4'23.85"S	24°30'20.94"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Power line:

Three alternative options were assessed in the EIA for the Tsitsikamma Community Wind Energy Facility and a preferred alternative was nominated as the preferred option on the basis of specialist study conclusions and public consultation. The nominated preferred alternative was authorised by the Department of Environmental Affairs.

The conclusions of the EIA as well as landowner requirements were taken into consideration in the determination of an appropriate corridor for the realignment of the power line to accommodate connection to the Diep River Substation extension. This is

the currently authorised corridor. The proposed power line corridor considered within this Basic Assessment provides an alternative to the authorised power line corridor. This proposed alternative corridor is located in close proximity to the TCWF-Diep River power line alternative considered within the EIA for the TCWF. There are no feasible alternatives to this alternative corridor.

In order to allow for some flexibility and avoidance of sensitive areas identified as far as possible, a broader corridor of 500m has been considered within this Basic Assessment process. This corridor passes over the following farm portions (refer to Figure 2): Farm 787/4; Farm 787/3; Farm 787/2; Farm 787/1; Farm 675/4; Farm 851/0; Farm 361/5; Farm 358/1; Farm 361/1; Farm 358/4; Farm 360; and Farm 954.

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• Starting point of the activity	34° 4'23.85"S	24°30'20.94"E
• Middle/Additional point of the activity	34° 2'07.62"S	24°31'15.09"E
• End point of the activity	34° 0'11.91"S	24°33'29.44"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, please find the coordinated attached in **Appendix A**.

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) Layout alternatives

No layout alternatives have been assessed within this Basic Assessment as the placement of the power line towers and any associated access roads will be required to be in line with Eskom's technical requirements, as well as with specific landowner requirements. This will be negotiated within the broader 500m corridor. This broader

corridor also allows for the possible avoidance of environmentally sensitive areas identified through this Basic Assessment process.

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

The choice of technology will be determined in consultation with Eskom and does not significantly affect the environmental impact of the proposed development in any way. In all likelihood use will be made of monopole structures for the proposed power line, which is preferable over the existing self-supporting tower structures. The line must be constructed according to the authorised standards for a power line approved by Eskom.

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

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

No other alternatives are applicable.

Alternative 1 (preferred alternative)
.
Alternative 2
Alternative 3

e) No-go alternative

This is the option of not constructing the 132kV power line within the corridor proposed or the switching station within the Wittekleibosch Substation footprint. This option is assessed as the "no go alternative" in this Basic Assessment Report.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	200m x 100m
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	13 km
Alternative A2 (if any)	m
Alternative A3 (if any)	m

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

Alternative:	**Size of servitude:**
Alternative A1 (preferred activity alternative)	36m
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

4. SITE ACCESS

Does ready access to the site exist?	YES

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

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

Describe the type of access road planned:

Existing roads in the area will be utilised to access the power line servitude as far as possible. This includes the National roads (N2), Provincial roads (R102 and R62) and many gravel farm roads. Where new access roads are required, these will be gravel roads of approximately 4m in width. The switching station will be accessed via the existing and authorised roads within the TCWF.

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

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 km, 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).

A locality map has been included as part of this report 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.

A route plan has been included as part of this report as **Appendix A.**

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.

A sensitivity map has been included as part of this report 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.

Site photographs have been included as part of this report 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.

A facility illustration has been included as part of this report as **Appendix C** (**Note that** the tower structure to be implemented has not yet been finalised).

10.ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?		NO	Please explain
Environmental authorisation is required to construct this 132 kV overhead power line and switching station.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		Please explain
The PSDF for Eastern Cape Province aims at 'building a prosperous, sustainable growing provincial economy to reduce poverty and improve social development'. The proposed project will address such aspects of the province since it will support a 100MW wind energy facility which will have a positive economic impact at a local and regional scale.			
(b) Urban edge / Edge of Built environment for the area		NO	Please explain
The project area is approximately 30 km west of the town Humansdorp, on either side of the N2 national road and to the east of the Tsitsikamma river in a rural area. The site is outside of the urban edge and will not impact on this in any way.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).		NO	Please explain
The project will not compromise any IDP it will assist it in reaching its objectives as the IDP in the Kouga local municipality aims to ensure that all formal households have access to reliable and affordable electricity as well as streetlights, which supports safety and access for emergency services by 2012. This project will assist in supporting the local electricity supply through strengthening of power to the Diep River substation.			
(d) Approved Structure Plan of the Municipality	YES		Please explain
The municipality is aware of the approved Tsitsikamma Community Wind Energy Facility project.			

The proposed switching station and 132kV power line feeding into the extension of the existing Diep River Substation supports this approved project and does not compromise the structure of the municipal plan.			
(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		Please explain
There is no EMF for the study area. The relevant conservation plan is the Eastern Cape Biodiversity Conservation Plan. In terms of this plan, the study area falls within CBA1, 2 and 3 areas. The majority of the power line corridor is transformed through agriculture or due to invasion by alien vegetation. The Biodiversity Conservation Plan aims to protect indigenous natural vegetation. Therefore, provided the project avoids natural vegetation as far as possible, the proposed project will not compromise the integrity of the existing environmental management priorities for the area.			
(f) Any other Plans (e.g. Guide Plan)		NO	Please explain
Not applicable			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?		NO	Please explain
The main purpose of the power line is to connect the Tsitsikamma Community Wind Energy Facility to the electricity grid. This project is not specifically considered within the existing approved SDF.			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES		Please explain
The main purpose of the power line is to connect the Tsitsikamma Community Wind Energy Facility to the electricity grid. As the wind energy facility is a community owned project, the proposed project will benefit the local community.			
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.)		NO	Please explain
All the services needed for the project have been adequately provided for and should any need for other services arise the relevant authority will be communicated with.			

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.)		NO	Please explain
The proposed project is to be developed Eskom and not the municipality. It therefore does not fall within the infrastructure planning of the municipality. The project will not have any implications for the municipality.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES		Please explain
Within a policy framework, the development of renewable energy in South Africa is supported by the White Paper on Renewable Energy (November 2003). In order to meet the long-term goal of a sustainable renewable energy industry, a goal of 17,8GW of renewables by 2030 has been set by the Department of Energy (DoE) within the Integrated Resource Plan (IRP) 2010. This energy will be produced mainly from wind, solar, biomass, and small-scale hydro (with wind and solar comprising the bulk of the power generation capacity). This amounts to ~42% of all new power generation being derived from renewable energy forms by 2030. This is however dependent on the assumed learning rates and associated cost reductions for renewable options. The Tsitsikamma Community Wind Energy Facility has been selected as a preferred bidder for wind energy and has reached Financial Close. Construction is planned to commence shortly. In order to integrate the power generated at this facility into the electricity grid, the facility is required to be connected to the Diep River substation extension as described in this report.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES		Please explain
The Tsitsikamma Community Wind Farm is an authorised facility. The location of this facility is therefore fixed. In terms of Eskom's requirements, the wind energy facility is required to connect to the Diep River Substation extension. The proposed power line corridor is considered to be the most appropriate routing of this infrastructure, taking technical and environmental (social and biophysical) issues into consideration.			
9. Is the development the best practicable environmental option for this land/site?	YES		Please explain
The Tsitsikamma Community Wind Farm is an authorised facility. The location of this facility is therefore fixed. In terms of Eskom's requirements, the wind energy facility is required to connect to the Diep River Substation extension. The proposed power line corridor is considered to be the most appropriate routing of this infrastructure, taking technical and environmental (social and biophysical) issues into consideration. The specialist studies undertaken for the proposed project conclude that the development of the 132kV power line within the corridor investigated will have low environmental impacts.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES		Please explain
The specialist studies undertaken for the proposed project conclude that the development of the 132kV power line within the corridor investigated will have low environmental impacts. The proposed project will facilitate the connection of the Tsitsikamma Wind Farm to the national grid			

thereby facilitating the transmission of renewable energy. This will have a positive impact at a local, regional and national level.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?		NO	Please explain
The proposed power line and switching station is associated with an approved wind energy facility. Any other similar activities in the area would depend on the feasibility of developing additional wind energy facilities in this area (thus requiring power lines).			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES		Please explain
Private landowners will be affected by the proposed project. These landowners have been consulted by the developer and the environmental team and are aware of the proposed project.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		NO	Please explain
The project will not undermine the urban edge in any way as the site is located in an agricultural area (i.e. outside of the urban edge).			
14. Will the proposed activity/ies contribute to any of the 18 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
As the 18 Strategic Integrated Projects promotes balanced economic development, Unlock economic opportunities, promote mineral extraction and beneficiation, address socio-economic needs, promote job creation and help integrate human settlements and economic development. The development of the 132kV power line will assist in promoting balanced economic development, economic opportunity, assist in achieving socio-economic needs, promote jobs through job creation and assist with economic development. The proposed 132kV power line from a construction perspective will give people living in the area opportunities to gain employment which would address the socio economic needs of individuals. The power line in operation will provide an increase of electricity supply in the Eastern cape which will enable rural areas without electricity with power, this will increase and balance economic development, which in effect will address the socio-economic needs of the people in the area.			
15. What will the benefits be to society in general and to the local communities?			Please explain
The main purpose of the power line is to connect the proposed Tsitsikamma Wind Farm to the electricity grid. As the wind energy facility is a community owned project, the proposed project will benefit the local community.			
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
By 2030 South Africa aims to reduce carbon emissions, promote economic development and increase the GDP. To achieve this, the Province has aimed to improve Infrastructure and Basic Services; Socio-economic Development; Institutional Transformation; Good Governance and Public Participation; Financial viability and Management. This power line and switching station will assist in reducing the carbon footprint, as it will be transporting energy gathered from a renewable energy project (Wind) and it will facilitating the infrastructure growth in the area, through employment and increasing infrastructure.			
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.			
According to section 23, appropriate environmental management tools must be utilised to			

ensure the integrated environmental management of activities. The potential impacts of the proposed project and the alternatives have been investigated to avoid impacts and minimise the possible harm on the environment. Furthermore, socio-economic conditions and cultural heritage were also taken into consideration.

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

Section 2 of NEMA states that environmental management must place people and their needs at the forefront, and serve their physical, psychological, developmental, cultural and social interests equitably. These principles of NEMA include the following:

» Development must be sustainable;
» Pollution must be avoided or minimised and remedied;
» Waste must be avoided or minimised, reused or recycled;
» Negative impacts must be minimised; and
» Responsibility for the environmental health and safety consequences of a policy, project, product or service exists throughout its life cycle.

The principles of NEMA have been considered in this assessment through compliance with the requirements of the relevant legislation in undertaking the assessment of potential impacts, as well as through the implementation of the principle of sustainable development where appropriate mitigation measures have been recommended for impacts which cannot be avoided. In addition, the successful implementation and appropriate management of this proposed project will aid in achieving the principle of minimisation of pollution and environmental degradation.

This process has been undertaken in a transparent manner and all effort has been made to involve interested and affected parties, stakeholders and relevant Organs of State such that an informed decision regarding the project can be made by the Regulating 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. Refer to Table 1 overleaf.

Table 1: Applicable Legislation, Policies and/or Guidelines

Title of the Legislation / Policy / Guideline	Application to the project	Relevant Authority
National Environmental Management Act (Act No 107 of 1998)	EIA Regulations have been promulgated in terms of Chapter 5. Activities which may not commence without an environmental authorisation are identified within these Regulations. In terms of Section 24(1) of NEMA, the potential impact on the environment associated with these listed activities must be considered, investigated, assessed and reported on to the competent authority (the decision-maker) charged by NEMA with granting of the relevant environmental authorisation. In terms of GNR 544 of June 2010, a Basic Assessment process is required to be undertaken for the proposed project	National Department of Environmental Affairs – lead authority. Provincial Environmental Department - commenting authority.
National Environmental Management Act (Act No 107 of 1998)	In terms of the Duty of Care provision in S28(1) the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to ensure that any pollution or degradation of the environment associated with this project is avoided, stopped or minimised. In terms of NEMA, it has become the legal duty of a project proponent to consider a project holistically, and to consider the cumulative effect of a variety of impacts.	Department of Environmental Affairs (as regulator of NEMA).
National Environmental Management: Waste Act (Act No 59 of 2008)	The purpose of this Act is to reform the law regulating waste management in order to protect health and the environment by providing for the licensing and control of waste management activities. To set standards for waste management on the project. The Regulations associated with this Act detail activities which require waste licensing and also detail standards for handling and storage of waste.	Provincial Environmental Authorities.

Title of the Legislation / Policy / Guideline	Application to the project	Relevant Authority
Environment Conservation Act (Act No 73 of 1989)	In terms of section 25 of the ECA, the national noise-control regulations (GN R154 in Government Gazette No. 13717 dated 10 January 1992) were promulgated. The NCRs were revised under Government Notice Number R. 55 of 14 January 1994 to make it obligatory for all authorities to apply the regulations. Subsequently, in terms of Schedule 5 of the Constitution of South Africa of 1996, legislative responsibility for administering the noise control regulations was devolved to provincial and local authorities. Provincial Noise Control Regulations exist in the Free State, Western Cape and Gauteng provinces, but the Eastern Cape province have not yet adopted provincial regulations in this regard. Allows the Minister of Environmental Affairs to make regulations regarding noise, among other concerns	National Department of Environmental Affairs Provincial Environmental Department Local Municipality
National Water Act (Act No 36 of 1998)	In terms of Section 19, the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to prevent and remedy the effects of pollution to water resources from occurring, continuing or recurring. In terms of Section 21, a Water Use License is required to be obtained for specified listed activities (such as crossing of watercourses).	Department of Water Affairs (as regulator of NWA)
National Environmental Management: Air Quality Act (Act No 39 of 2004)	Sections 18, 19 and 20 of the Act allow certain areas to be declared and managed as “priority areas” in terms of air quality. Declaration of controlled emitters (Part 3 of Act) and controlled fuels (Part 4 of Act) with relevant emission standards. Section 34 makes provision for:	National Department of Environmental Affairs Local Municipality

Title of the Legislation / Policy / Guideline	Application to the project	Relevant Authority
	(1) the Minister to prescribe essential national noise standards - (a) for the control of noise, either in general or by specified machinery or activities or in specified places or areas; or (b) for determining – (i) a definition of noise (ii) the maximum levels of noise (2) When controlling noise the provincial and local spheres of government are bound by any prescribed national standards.	
National Heritage Resources Act (Act No 25 of 1999)	Section 38 states that Heritage Impact Assessments (HIAs) are required for certain kinds of development including » the construction of a road, power line, pipeline, canal or other similar linear development or barrier exceeding 300 m in length; » any development or other activity which will change the character of a site exceeding 5 000 m^2 in extent. The relevant Heritage Resources Authority must be notified of developments such as linear developments (such as roads and power lines), bridges exceeding 50 m, or any development or other activity which will change the character of a site exceeding 5 000 m^2; or the re-zoning of a site exceeding 10 000 m^2 in extent. This notification must be provided in the early stages of initiating that development, and details regarding the location, nature and extent of the proposed development must be provided. Standalone HIAs are not required where an EIA is carried out as long as the EIA contains an adequate HIA component that fulfils the provisions of Section 38. In such cases only those components not addressed by the EIA should be covered by the heritage component.	South African Heritage Resources Agency (SAHRA) – National heritage sites (grade 1 sites) as well as all historic graves and human remains.

Title of the Legislation / Policy / Guideline	Application to the project	Relevant Authority
Nature Conservation Ordinance (Act 19 of 1974)	Article 63 prohibits the picking of certain fauna (including cutting, chopping, taking, gathering, uprooting, damaging or destroying). Schedule 3 lists endangered flora and Schedule 4 lists protected flora, many schedule 4 plants occur in the general area of the site. An article 26 to 47 regulates the use of wild animals.	National Department of Environmental Affairs
National Environmental Management: Biodiversity Act (Act No 10 of 2004)	In terms of Section 57, the Minister of Environmental Affairs has published a list of critically endangered, endangered, vulnerable and protected species in GNR 151 in Government Gazette 29657 of 23 February 2007 and the regulations associated therewith in GNR 152 in GG29657 of 23 February 2007, which came into effect on 1 June 2007. In terms of GNR 152 of 23 February 2007: Regulations relating to listed threatened and protected species, the relevant specialists must be employed during the EIA phase of the project to incorporate the legal provisions as well as the regulations associated with listed threatened and protected species (GNR 152) into specialist reports in order to identify permitting requirements at an early stage of the EIA phase. the developer has a responsibility for: » The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations). » Promote the application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all development within the area are in line with ecological sustainable	National Department of Environmental Affairs Eastern Cape DEDEAT

Title of the Legislation / Policy / Guideline	Application to the project	Relevant Authority
	development and protection of biodiversity. » Limit further loss of biodiversity and conserve endangered ecosystems.	
Conservation of Agricultural Resources Act (Act No 43 of 1983)	Regulation 15 of GNR1048 provides for the declaration of weeds and invader plants, and these are set out in Table 3 of GNR1048. Declared Weeds and Invaders in South Africa are categorised according to one of the following categories: » Category 1 plants: are prohibited and must be controlled. » Category 2 plants: (commercially used plants) may be grown in demarcated areas providing that there is a permit and that steps are taken to prevent their spread. » Category 3 plants: (ornamentally used plants) may no longer be planted; existing plants may remain, as long as all reasonable steps are taken to prevent the spreading thereof, except within the floodline of watercourses and wetlands. These regulations provide that Category 1, 2 and 3 plants must not occur on land and that such plants must be controlled by the methods set out in Regulation 15E.	Department of Agriculture, Forestry and Fisheries
National Veld and Forest Fire Act (Act 101 of 1998)	In terms of Section 12, the applicant would be obliged to burn firebreaks to ensure that should a veld fire occur on the property, that it does not spread to adjoining land. In terms of section 13 the applicant must ensure that the firebreak is wide and long enough to have a reasonable chance of preventing the fire from spreading, not causing erosion, and is reasonably free of inflammable material. In terms of section 17, the applicant must have such equipment,	Department of Agriculture, Forestry and Fisheries

Title of the Legislation / Policy / Guideline	Application to the project	Relevant Authority
	protective clothing and trained personnel for extinguishing fires.	
National Forests Act (Act No 84 of 1998)	Protected trees: According to this act, the Minister may declare a tree, group of trees, woodland or a species of trees as protected. The prohibitions provide that ' no person may cut, damage, disturb, destroy or remove any protected tree, or collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a licence granted by the Minister'. Forests: Prohibits the destruction of indigenous trees in any natural forest without a licence.	Department of Agriculture, Forestry and Fisheries

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES ■
If YES, what estimated quantity will be produced per 13.5 meters^2 month?	Not determined at this stage

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

The solid waste will be disposed of at a licensed facility by a suitably qualified contractor.

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

The solid waste will be disposed of at the closest registered waste facility

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

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

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

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

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

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

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

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

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

b) Liquid effluent

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

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

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

If YES, provide the particulars of the facility:

Facility name:			
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:

Not applicable.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?		NO
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:

Minor dust impacts may occur during the construction of the switching station, power line and any new access roads, but will not exceed acceptable limits.

d) Waste permit

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

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

e) Generation of noise

Will the activity generate noise?		NO
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:

Noise may be generated by vehicular movement during construction, but would not exceed acceptable limits.

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:	N/A
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	NO

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

14.ENERGY EFFICIENCY

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

Not applicable.

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):

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

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

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

Property description/physical address:

Province	Eastern Cape Province
District Municipality	Cacadu
Local Municipality	Kouga Local Municipality
Ward Number(s)	Ward 2
Farm name and number	Please see attached in Appendix A
Portion number	Please see attached in Appendix A
SG Code	Please see attached in Appendix A

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

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

Agriculture (crop production)

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

Is a change of land-use or a consent use application required?		NO

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

2. LOCATION IN LANDSCAPE

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

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES		YES	NO	YES	NO
Dolomite, sinkhole or doline areas		NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES		YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil		NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES		YES	NO	YES	NO

Soils with high clay content (clay fraction more than 40%)		NO	YES	NO	YES	NO
Any other unstable soil or geological feature		NO	YES	NO	YES	NO
An area sensitive to erosion	YES		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		
Non-Perennial River			UNCERTAIN
Permanent Wetland		NO	
Seasonal Wetland	YES		
Artificial Wetland	YES		
Estuarine / Lagoonal wetland		NO	

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

The proposed power line corridor crosses over the Krom River, which is a perennial river. The Ecological specialist identified and mapped seasonal wetlands and dams (artificial wetlands) across the power line corridor area (refer to Appendix D2).

6. LAND USE CHARACTER OF SURROUNDING AREA

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

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station [H]
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential[A]	Church	**Agriculture**
Retail commercial & warehousing	Old age home	**River, stream or wetland**
Light industrial	Sewage treatment plant[A]	Nature conservation area
Medium industrial [AN]	Train station or shunting yard [N]	**Mountain, koppie or ridge**
Heavy industrial [AN]	Railway line [N]	Museum
Power station	Major road (4 lanes or more) [N]	Historical building
Office/consulting room	Airport [N]	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam[A]	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Agriculture

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

N/A

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

N/A

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

N/A

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

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

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

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES
The archaeologist identified Earlier and Middle Stone Age stone tools on the site and concluded that the power line route is of low archaeological sensitivity (refer to Appendix D1).	

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:

Apart from occasional Earlier and Middle Stone Age stone tools observed in areas adjacent to the proposed revised/alternative power line route where the sub-surface ferricrete land floors were exposed by erosion or in vehicle tracks, no other significant archaeological or historical sites/materials were located. The specialist study concluded that the revised power line route is of low archaeological sensitivity and construction may proceed as planned.

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

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

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

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

Level of unemployment:

Unemployment within the Municipality is estimated at 15.4% (2001) which is below the Eastern Cape average of ~32% (Eastern Cape State of the Environment Report, 2004), while ~42% of the population are listed as 'not economically active'. The largest sectors in terms of employment within the municipality in 2001 were Agriculture, Forestry & Fishing (~9%), Community Service (~8%%), Wholesale and Retail (4%) Construction (~3%) and Manufacturing (~2%). The 2001 Census data listed 73% as Undetermined.

Economic profile of local municipality:

The population the Kouga Municipality is estimated at 73 274 (Community Survey, 2007) with an annual growth rate of ~2.4% per annum (Kouga Local Municipality IDP, 2007-2012). The population constitutes approximately 18% of the greater Cacadu District. The population density within the Municipality is estimated at 30.3 people/km (Community Survey, 2007). The majority of the population (~75%) lives in the urban nodes while ~25% live in rural villages or homesteads (Kouga Local Municipality IDP, 2007-2012).

The age profile of the population reveals that approximately 66% of the population falls within the economically active age bracket 15 to 65 years of age. The dependency ratio is, however, is 0.5 which means that every 2 working individual supports 1 non-working/unemployed individual.

Just under half of the population is classified as Coloured (47.7%) followed by Black African (33.4%) and White (18.7). These demographics are reflected in the dominant languages within the Municipality, with 64.9% of the population being Afrikaans speaking, 29% isiXhosa speaking and 4.9% English speaking.

Level of education:

The level of education within the Municipality is relatively high. Just over 10% of the population (~ 1 in 10) has no schooling, while over 20% have Std 10/Grade 12 certificate. Approximately 6% of those with a Grade 12 qualification go on to obtain an education at University/Technikon level.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R52 500 000.00
What is the expected yearly income that will be generated by or as a result of the activity?	Nil
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	20-30
What is the expected value of the employment opportunities during the development and construction phase?	R10 500 000.00
What percentage of this will accrue to previously disadvantaged individuals?	30%
How many permanent new employment opportunities will be created during the operational phase of the activity?	Nil. Eskom will maintain from current staff complement
What is the expected current value of the employment opportunities during the first 10 years?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	N/A

9. BIODIVERSITY

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

Refer to Ecology specialist report contained in Appendix D.

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)	CBA 2 and 3 areas fall within the power line corridor (refer to Appendix A).

b) Indicate and describe the habitat condition on site

The power line crosses areas designated by the Eastern Cape Biodiversity Conservation Plan (ECBCP) as critical biodiversity areas (CBA) 1 and 2. However the site visit conducted by the ecologist in 2012 and the subsequent analysis of the aerial imagery, indicates that these areas have been transformed into agricultural land and are therefore considered to be degraded from an ecological perspective. With the exception of two very small wetlands, this entire corridor can be considered an area of low sensitivity. The new power line route does not cross any protected areas, threatened ecosystems or areas delineated by the national protected area expansion strategy (NPAES)

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	40%	Fynbos occurs on a small portion of the study site, along the steeper rocky slopes. The dominant species in this vegetation type *includes Leucodendron salignum, Leucospermum cuneforme, Berzelia intermedia, Erica glumiflora, Erica sp* and *Watsonia sp*. This vegetation is in good condition, as a result of the inaccessibility to livestock. Grassland / Renosterveld Mosaic is the second vegetation type found in the study area and dominates the natural vegetation in the site. This vegetation occurs in the relatively flatter areas and consists of *Aristida junciformis, Themeda triandra, Elytropappus*

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).
		rhinoceratis and Cyperus congestus.
Near Natural (includes areas with low to moderate level of alien invasive plants)	10%	There are numerous stands of alien vegetation, especially along the river banks, drainage lines and along the road but in low densities. The stands comprise of a mixture of *Acacia mearnsii, Acacia Cyclops and Acacia melanoxylon*
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	50%	Commercial agricultural irrigated lands used for crop production

c) Complete the table to indicate:

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

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

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

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

The vegetation types described by Mucina and Rutherford for the area are Humansdorp Shale Renosterveld (Endangered), Eastern Coastal Shale Band Vegetation (Endangered), Tsitsikamma Sandstone Fynbos (Vulnerable), Langkloof Shale Renosterveld (Endangered), Kouga Grassy Sandstone Fynbos (Least Threatened). STEP describes the vegetation types of the area as Kromme Fynbos/Renosterveld Mosaic (Vulnerable) and Humansdorp grassy fynbos (Not vulnerable). Two vegetation

types were found to occur in the area during the site visit in October 2012. These included the Grassland/Renosterveld Mosaic (low sensitivity) and the Fynbos vegetation type (high sensitivity).

There were numerous stands of aliens, especially along the river banks, in drainage lines and along the roads. These stands comprised of a mixture of *Acacia mearnsii* (Schedule 2), *Acacia cyclops* (Schedule 2) and *Acacia melanoxylon* (Schedule 2). *Pinus pinaster* (Schedule 2) was also present on site. These invaders are required to be removed by law, as they are each Category 2: Declared Invaders. Ten Species of Special Concern were found on site, and it is highly likely that more will be recorded in the construction phase, if the development should go ahead.

The power line crosses areas designated by the Eastern Cape Biodiversity Conservation Plan (ECBCP) as critical biodiversity areas (CBA) 1 and 2. However the site visit conducted in 2012 and the subsequent analysis of the aerial imagery, indicates that these areas have been transformed into agricultural land and are therefore considered to be degraded from an ecological perspective. With the exception of two very small wetlands, this entire corridor can be considered an area of low sensitivity. The new power line route does not cross any protected areas, threatened ecosystems or areas delineated by the national protected area expansion strategy (NPAES)

Lack of pristine terrestrial habitat in the study area, particularly due to loss of natural vegetation caused by transformation of land to agricultural land and overgrazing of domestic livestock, has impacted on terrestrial fauna. Despite this, a few small and medium sized animals occur in the area. Reptile and amphibians include many species of frogs, lizards and snakes. Some animal Species of Special Concern are likely to be present.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Die Burger Newspaper The Herald newspaper
Date published	25 April 2014
Site notice position	**Location** / **Latitude (S)** / **Longitude (E)** Capepine Fence / 34^0 3' 0.6947" / 24^0 29' 52.0250" Fence on site / 34^0 4' 17.1932" / 24^0 29' 31.5489" Koukamma Municipal Office / 34^0 0' 41.8104" / 24^0 20' 54.686" Wittekleibosch Community Hall / 34° 4'21.81" / 24°29'48.41"
Date placed	14 April 2014

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.

The public consultation process has included the publishing of notices regarding the proposed project, as well as the distribution of notification letters to identified I&APs. Affected and neighbouring landowners were consulted through one-on-one consultation sessions and via telephone.

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)
	Kou-Kamma Local Municipality Kareedouw	(042) 288 7200/0303 Fax (042) 288 0797
Mark	Tsitsikamma Development Trust	mark@wattenergy.co.za
Ms. L Thandoxola	South African Heritage Resources Agency EC	tlungile@ec.sahra.org.za
Mr. T Pillay	Municipal Manger, Cacadu District Municipality	tpillay@cacadu.co.za
Mr J Van Zyl	Eskom Transmission - Southern Grid	Johan.vZyl@eskom.co.za
Ms B Morgan	WESSA Conservation Officer	morgan@wessaep.co.za
Mr A Struwig	Department of Economic	andries.struwig@deaet.ecape.gov.za

Title, Name and Surname	Affiliation / key stakeholder status	Contact details (tel number or e-mail address)
	Development and Environmental Affairs	
Mr W Erlank	Regional Manager: West Eastern Cape Parks	wayne.erlank@ecparks.co.za
Mr F Gerber	Cape Pine Plantations	

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

All comments and responses received during the process are included in **Appendix E** of this Basic Assessment Report.

Summary of main issues raised by I&APs	Summary of response from EAP
Jan Truter – Cape Pine 1. We support the route alignment as depicted on the enclosed diagram; 2. The use must be licensed in terms of section 23 of the NFA; 3. An agreement must be put in place (probably as part of the license) about who takes responsibility for maintaining the servitude area and for who's costs; and 4. Agreement on a communication protocol in emergency events.	These comments have been noted as part of the process and are considered within the EMPr for the project.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the 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.

All comments received during the process and responses provided are included in **Appendix E** of this Basic Assessment Report.

6. 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
BirdLife South Africa	Hanneline Smit	0117891 122	011789 5188		PO Box 515 Randburg Gauteng 2125 South Africa
SANRAL	J.C Landman	+273339 28120		conservation@birdlife.org.za	PO Box 1000410 Scottsville KwaZulu-Natal 3209 South Africa
Department of Agriculture, Forestry & Fisheries	Mashudu Marubani	+271231 97619		landmanc@nra.co.za	Private Bag X120 Pretoria Gauteng 0001 South Africa
Department of Energy	The Director: Eastern Cape	+274139 63910	086 517 2574	mashuduma@daff.gov.za	Eastern Cape Mount Croix 690 Crispin Hall c/o Mount and Diaz Road Port Elizabeth Eastern Cape 6001 South Africa
Department of Mineral Resources	Brenda Ngebulana	+271244 43000	-	-	Private Bag X 6076 Port Elizabeth Eastern Cape 6000 South Africa
Department of Water Affairs	Starkey	+274360 45402	043604 5592	Brenda.Ngebulana@dmr.gov.za	Private Bag X7485 King William's Town Eastern Cape 5600 South Africa

Authority / Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Eastern Cape Department of Roads and Public Works	Bongani Gxilishe	+274060 24000	040-639-2733	starkeya@dwa.gov.za	Office of MEC for Public Works, No. 5 Qasana Building, Independence Avenue Bisho Eastern Cape 5605 South Africa
Eastern Cape Department of Rural Development & Agrarian Reform	Glen Thomas	+274060 93471	040-635-0604	zukiswa.ngwane@dpw.ecape.gov.za	Private Bag X0040 Bisho Eastern Cape 5605 South Africa

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.

7. CONSULTATION WITH OTHER STAKEHOLDERS

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

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

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

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

SECTION D: IMPACT ASSESSMENT

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

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

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

Activity	Impact summary	Significance	Proposed mitigation and management
Alternative 1 (preferred alternative)			
Impact on indigenous natural vegetation and fauna as a result of the construction of the 132kV power line and access roads	***Direct impacts:*** » Impacts on natural vegetation - Grassland/ Renosterveld Mosaic & Fynbos. As the switching station and power line tower footprints are small, impacts are expected to be limited if managed correctly. » Loss of species of conservation concern - There are ten species of special concern confirmed on this study site. Removal of vegetation could negatively impact these species' populations. » Impacts on animal species of special concern and their habitats - There are a few species of special concern that occur within the study site. This development is unlikely to affect most of these as few are restricted to the site specifically and any found on site are likely to move away when construction begins. However, the Fynbos Golden Mole, if found on site, is likely to be negatively impacted as this species is not mobile and is dependent on habitat remaining intact. The further loss of habitat from impacts that cause soil erosion and the invasion of alien plant species may exacerbate the impact » Fragmentation of vegetation and edge effects - This impact is unlikely to occur if the	Low	» Keep removal of vegetation and trampling to a minimum. » Educate staff to keep construction activities within the demarcated areas. » Where possible, site power line towers and associated infrastructure outside of the natural vegetation » Areas containing species of special concern, particularly in the fynbos vegetation type, be noted and every effort made to reduce the impacts of construction on these sections of vegetation. » SSC in any area to be cleared should be identified and rescued. » Some SSC will not transplant. These individuals should, as far as possible, be left untouched. » Permits will be required to remove species of special concern. » Where possible, power lines structures should be placed outside of the wetland 500 m buffer area. Where this is not possible, a permit from the Department of Water Affairs will need to be obtained.

Activity	Impact summary	Significance	Proposed mitigation and management
	development is managed effectively. Considering that the switching station and power line have very small footprints, it is unlikely that fragmentation will occur if the natural vegetation is left beneath them and the construction of new roads kept to a minimum. » Damage to wetlands and water courses associated with the power line		
	Indirect impacts: None if the mitigation measures are followed	None	None
	Cumulative impacts: » Loss of natural vegetation » Impacts on wetlands » Loss of sensitive faunal habitats » Spread of alien and invasive vegetation	Low-Medium	From a cumulative perspective, if additional power lines are erected in the area a greater loss of vegetation will occur, causing the impacts of the activity to be greater.
Impact on Soil degradation	***Direct impacts:*** » Increased erosion potential in disturbed areas » Loss of topsoil resources » Soil contamination through spillages	Low	» Minimise size of construction area » Keep to existing roads, where practical, to minimise impacts on undisturbed ground and ensure erosion mitigation measures are implemented to minimse potential erosion. » Implement appropriate management measures to minimise the risks of spillages (as detailed in the EMPr)
	Indirect impacts: Downstream contamination and sedimentation	Low	» Rehabilitate soil and vegetation in construction areas when construction is completed » Implement appropriate management measures to minimise the risks of spillages (as detailed in the EMPr)

Activity	Impact summary	Significance	Proposed mitigation and management
	Cumulative impacts: » Loss of topsoil resources » Contamination of soils, and sedimentation of watercourses	Low	Implement appropriate erosion control measures throughout the life cycyle of the project.
Impact on drainage lines, wetlands and water courses	***Direct impacts:*** » Use of various materials, such as sediments, diesel, oils and cement during construction – potential for contamination of water resources » Road and culvert construction involves the creation of hard surfaces, which usually includes the provision of stormwater drainage - Diversion of flow away from one water body, while increasing flow velocities of run-off into another, during the operational phase.	Low	» Implement appropriate management measures to minimise the risks of spillages (as detailed in the EMPr) » A stormwater and erosion control plan, as well as a rehabilitation plan should be compiled and implemented. » Stormwater and any runoff generated by the hard surfaces should be discharged into retention swales or areas with rock rip-rap » All stormwater control features should have soft engineered areas that attenuate flows allowing for water to percolate in the local aquifers
	Indirect impacts: The soils within the study area are susceptible to erosion when subjected to high flows (high volumes and velocities), with head-cuts readily forming within the streams and wetlands. This creates bed and bank instability of the aquatic ecosystems and consequent sedimentation of downstream areas. Should surface water flows be diverted, changes in regional hydrological patterns could also occur, i.e. lead to the drying out of certain areas.	Low	As detailed above
	Cumulative impacts: Increased potential for erosion in the study area, and increased sedimentation of downstream areas	Low	Implement appropriate erosion control measures throughout the life cycyle of the project.

Activity	Impact summary	Significance	Proposed mitigation and management
Birds	***Direct impacts*** » Loss of birds through collisions and electrocution » Disturbance and loss of habitat	Medium to high	» A buffer of 500m should be implemented around wetlands and watercourses, as far as possible. » Due to the habitat types and presence of large terrestrial species, extensive sections of power line will need to be marked (10m spacing) with an industry approved bird flight diverter. » Clearance distances between the live conductors must be a minimum of 1.8m to accommodate large perching eagles. If the steel monopole is to be used, the structure must be fitted with the standard bird perch. » Environmental best practice must be enforced during construction and maintenance activities. This means that all activities should be designed to ensure as little impact on habitat as possible. » Minimise development footprint as far as possible
	Indirect impacts: » Displacement of bird species » Disturbance of species in the area during construction and maintenance	Medium to high	As detailed above
	Cumulative impacts The increase in power lines in an area will increase the risk collisions of birds and loss of vital ecosystems for the birds to live.	Medium to high	As detailed above
Visual	***Direct:*** Impacts on the visual character of the area	Moderate to Low	The visual impact of people seeing the line and the construction cannot be mitigated. Impacts

Activity	Impact summary	Significance	Proposed mitigation and management
	Impacts on road users and local residents		can be minimised to some extent through: » Minimisation of vegetation clearance during construction and operation. » Rehabilitation of disturbed areas following the completion of construction in an area. » Implementation of good housekeeping practices during construction and maintenance activities.
	Indirect: None		
	Cumulative Impacts: Numerous power lines in an area can increase the visual impact on the area.	Moderate	Consolidate similar infrastructure as far as possible.
Agricultural Potential	***Direct:*** Loss of agricultural land	Low (due to limited footprint)	» Infrastructure must be placed in locations which minimise impacts on centre pivots or active irrigation systems
	Indirect: None		
	Cumulative Impacts: Loss of agricultural land within an area can result in reduced agricultural potential and productivity from an area.	Low	» Infrastructure must be placed in locations which minimise impacts on centre pivots or active irrigation systems
Social Impacts	***Direct*** Job creation and skills development	Low	» Employ local community members for low and semi-skilled positions as far as possible » Implement a skills development programme
	Indirect impacts: » Indirect job creation through development of support industries (such as catering companies, accommodation, etc.) » Economic upliftment at a local and regional level	Low to Medium	» Utilise local companies as far as possible for support services to the construction and maintenance phases (i.e. accommodation, etc.)

Activity	Impact summary	Significance	Proposed mitigation and management
	Cumulative Impacts: A number of developments within an area will result in numerous job opportunities and skills development opportunities, and will all contribute to the local and regional economic upliftment	Low to Medium	» Employ local community members for low and semi-skilled positions as far as possible » Implement a skills development programme » Utilise local companies as far as possible for support services to the construction and maintenance phases (i.e. accommodation, etc.)
	Direct Safety and security risks associated with » Increased fire risk » Ingress of strangers to the area	Low	» No open fires must be allowed on site and areas for smoking must be demarcated. » Members of the construction team should be easily identifiable (through the use of uniforms or name badges) and should behave fittingly at all times. » Fines should be given to employees for not adhering to rules and regulations (with regards to conduct and safety). » Residents should be informed of the construction activities and schedules prior to the construction workforce entering the property. » Privacy of residents and property owners should be respected. » Access to the site should be strictly controlled.
	Indirect: None	N/A	None required
	Cumulative Impacts: Increased construction activities in the area associated with numerous developments can increase the risks associated with safety and security.	Low to moderate	» Mitigation measures as detailed above should be strictly implemented.

Activity	Impact summary	Significance	Proposed mitigation and management
Alternative 2: N/A			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
Alternative 3: N/A			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		

No-go alternative

This is the option of not constructing the proposed switching station or power line. This option will result in limited or no impacts occurring on the environment. However, this will result in the situation where the Tsitsikamma Community Wind Farm (a Preferred Bidder Project which has reached Financial Close) cannot be connected to the electricity grid (as the current authorised power line corridor is no longer feasible). This is an undesirable option for the project as it will pose negative impacts on the Wind Facility Project, This option also represents a lost opportunity for renewable energy production within the country and the local community, as this is a community-owned project.

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 is 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)

The environmental impacts associated with the construction and operation of the Wittekleibosch switching station and 132kV power line to link the Tsitsikamma Community Wind Farm to the extension of the existing Diep River Substation is predominantly low to medium as summarised below:

» **Ecology:** The potential impact is rated as having a predominately **low to medium significance**. A sensitivity analysis confirmed that the majority of the power line corridor is located in an area of low sensitivity. However, a few small patches of fynbos, as well as wetlands and watercourses (which are highly sensitive ecosystems) are present in small areas within the corridor. The alternative corridor assessed within this report presents a potentially lower impact on sensitive wetland areas as there are only two such areas within the corridor as compared with three within the currently authorised corridor. The proposed project is considered to be acceptable from an ecological perspective provided that the identified sensitive no go areas are avoided and appropriate mitigation is implemented (as recommended in the ecology specialist report).

» **Geology, Soil, and Erosion potential**: The potential impact is rated as having a predominately **low to medium significance**. The soil erosion potential for the site is considered low due to dominant vegetation cover. However, if vegetation is removed, corrective erosion management mitigations must be established.

» **Heritage:** The potential impact is rated as being **low** as there are few Stone Age tools located from the Early Stone Age era on the site. No sites of significance were noted in the study area.

» **Agricultural Potential:** the potential impact is rated as being predominately **low significance**. The major impact on the natural resources of the study area would be the loss of agricultural land due to the construction of the towers for the power line. However, this impact would only be of significance if either high potential or irrigated land were to be affected. The footprint of the power line towers is relatively small and therefore the extent of the impacts would be limited. As the switching station is located within the authorised TCWF, which has already been rezoned for the purposes of the wind farm, impacts associated with this infrastructure would be insignificant.

» **Visual**: The area visibly exposed to the switching station and the power line would

include the local communities and farms within close proximity of the potential structure. Impacts associated with the switching station are considered to be insignificant as this infrastructure occurs within the wind farm development area. Impacts associated with the proposed power line could have an impact of **moderate significance**.

» **Avifauna:** This is a relatively short length of power line, running through an area with some conflicting issues in terms of its avifauna. The proposed power line will possibly affect populations of regionally or nationally threatened (and impact susceptible) birds (mainly large terrestrial species and raptors) likely to occur within or close to the proposed alignment, and the line may have a detrimental impact on these birds, particularly in terms of collision and electrocution mortality risk, unless commitment is made to mitigating these effects. Therefore if no mitigation is followed the impacts on birds as a result of the 132kV power line will have a **High to moderate** significance. However, with the implementation of appropriate mitigation (as recommended in the specialist studies undertaken), impacts can be reduced to **low to moderate** significance. Careful and responsible implementation of the required mitigation measures should reduce impacts to sustainable levels.

Cognisant of the above-mentioned conclusions established through the Basic Assessment investigation, there are areas of ecological sensitivity identified in the power line corridor. These areas containing sensitive vegetation are shown in the environmental sensitivity map (refer to Appendix A). Through implementation of the EMPr (Refer to Appendix G) and the mitigation measures recommended in the specialist report (Appendix D2) and this report, the impact on this sensitive vegetation type can be mitigated to acceptable levels.

It is the conclusion of the Environmental Assessment Practitioner that the establishment of the Wittekleibosch switching station and 132kV power line is considered acceptable from an environmental perspective. Based on the nature and extent of the proposed project, the potential impacts associated with the proposed power line and its relevant infrastructure can be mitigated to an acceptable level.

Alternative B: N/A

Alternative C: N/A

No-go alternative (compulsory)

This is the option of not constructing the proposed switching station or power line. This option will result in limited or no impacts occurring on the environment. However, this will result in the situation where the Tsitsikamma Community Wind Farm (a Preferred Bidder Project which has reached Financial Close) cannot be connected to the electricity grid (as the current authorised power line corridor is no longer feasible). This is an undesirable option for the project as it will pose negative impacts on the Wind

Facility Project, This option also represents a lost opportunity for renewable energy production within the country and the local community, as this is a community-owned project.

SECTION E. RECOMMENDATION OF PRACTITIONER

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

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

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

It is the conclusion of the Environmental Assessment Practitioner that the establishment of the proposed Wittekleibosch switching station and 132kV power line is considered acceptable from an environmental perspective. Based on the nature and extent of the proposed project, the potential impacts associated with the proposed project can be mitigated to an acceptable level.

The following mitigation and management measures should be implemented:

Construction:

- All relevant practical and reasonable mitigation measures detailed within this report and the specialist reports contained within Appendix D must be implemented.
- The implementation of this EMPr for all life cycle phases of the proposed project is considered key in achieving the appropriate environmental management standards as detailed in this report.
- An independent Environmental Control Officer (ECO) should be appointed to monitor compliance with the specifications of the EMPr for the duration of the construction period.
- Existing tracks/roads should be used as far as possible, and construction activities should be limited to the authorised site.
- Identified sensitive areas should be avoided as far as possible.
- During construction, unnecessary disturbance to habitats should be strictly controlled and the footprint of the impact should be kept to a minimum.
- Disturbed areas should be rehabilitated as soon as possible once construction is complete in an area.
- A walk-through survey of the final power line tower positions should be undertaken by an ecologist, heritage specialist and avifauna specialist to determine any additional site-specific mitigation which should be implemented.
- Before development can continue the regions need to be checked for the presence

of bird nesting sites.

» Contractors must be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
» All declared alien plants must be identified and managed in accordance with the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), the implementation of a monitoring programme in this regard is recommended.
» The developer should obtain all necessary permits prior to the commencement of construction.

Operation Phase:

The mitigation and management measures previously listed in this Basic Assessment Report should be implemented in order to minimise potential environmental impacts. The following mitigation measures should also be implemented.

» Maintenance of erosion control measures (i.e. berms).
» Development and implementation of a storm water management plan.
» On-going maintenance of the infrastructure to minimise the potential for visual impacts.
» On-going monitoring of the development sites to detect and restrict the spread of alien plant species.

Is an EMPr attached?	YES	

The EMPr must be attached as Appendix G.

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

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

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

JO-ANNE THOMAS

_____

NAME OF EAP

_____ _____

SIGNATURE OF EAP DATE

SECTION F: APPENDICES

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