

BACKGROUND INFORMATION DOCUMENT



**PROPOSED CONSTRUCTION OF THE MAHIKENG MAIN
TRANSMISSION SUBSTATION AND A 400kV PLUTO-
MAHIKENG POWERLINE**

**PROPOSED NEW MAHIKENG MAIN TRANSMISSION SUBSTATION IN THE
MAHIKENG AREA (near Miga, North West Province)
AND
A 400kV TRANSMISSION POWER LINE BETWEEN THE EXISTING PLUTO MAIN
TRANSMISSION SUBSTATION (near Carletonville, Gauteng Province) AND THE
NEW MAHIKENG TRANSMISSION SUBSTATION**

(DEA reference number to be issued)

October 2017



1. PURPOSE AND AIM OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to provide Interested and Affected Parties (I&APs) with essential information about the Environmental Impact Assessment (EIA) process being undertaken by Baagi Environmental Consultancy (Baagi) for the proposed construction of the Mahikeng Main Transmission Substation, a 400kV Pluto-Mahikeng Powerline and associated infrastructures.

This BID also provides I&APs with the opportunity to:

- Register as stakeholders in the EIA process and to participate in the public participation process; and
- Submit written comment on the proposed project.

The purpose of an Environmental Impact Assessment (EIA) is to identify and evaluate potential environmental, social and economic impacts, to recommend measures to avoid or minimise potential negative impacts and to enhance positive impacts.

The Department of Environmental Affairs (DEA) is the competent authority and will be responsible for deciding if the project satisfies all environmental, social and economic statutes.

2. OVERVIEW OF THE PROPOSED PROJECT

Eskom Transmission (Eskom) is proposing the establishment of a new 400kV Transmission substation on a site within the Mahikeng area, North-West Province. In addition, Eskom is proposing the construction of a new 400kV transmission power line from their existing Pluto Transmission substation (located near Carletonville, Gauteng Province) to the newly proposed Mahikeng Transmission substation (to be located near Mahikeng). The nature and extent of this project is explored in more detail below.

It is important to note that the proposed project forms part of Eskom's larger regional Botswana-South Africa (BOSA) Transmission Interconnecting Project. The Southern African Power Pool (SAPP) coordinates planning, generation and transmission of electricity for national electricity suppliers in the Southern African Development Community (SADC) region. SAPP identified the Botswana-South Africa (BOSA) Transmission Interconnection Project as one of the initiatives to reduce electricity supply constraints and assist in improving distribution of electricity in the region. Eskom of South Africa (Eskom) and the Botswana Power Corporation (BPC) will be the beneficiaries of the project. The project is for a proposed 210 km transmission line that will stretch from the proposed Mahikeng Main Transmission Substation to Isang in Botswana.

3. NEED FOR THE PROPOSED PROJECT

Eskom Holdings SOC Ltd is responsible for the provision of reliable and affordable power to its consumers in South Africa. Electricity generated by Eskom's coal fired power stations cannot be stored and therefore must be used as it is generated. It is, therefore, required that electricity must be efficiently transmitted from the point of generation to the end user.

It is important to address the long-term requirements of the Northern West Grid Transmission Development Plan (TDP) are met over the ten-year period from 2017 to 2026.

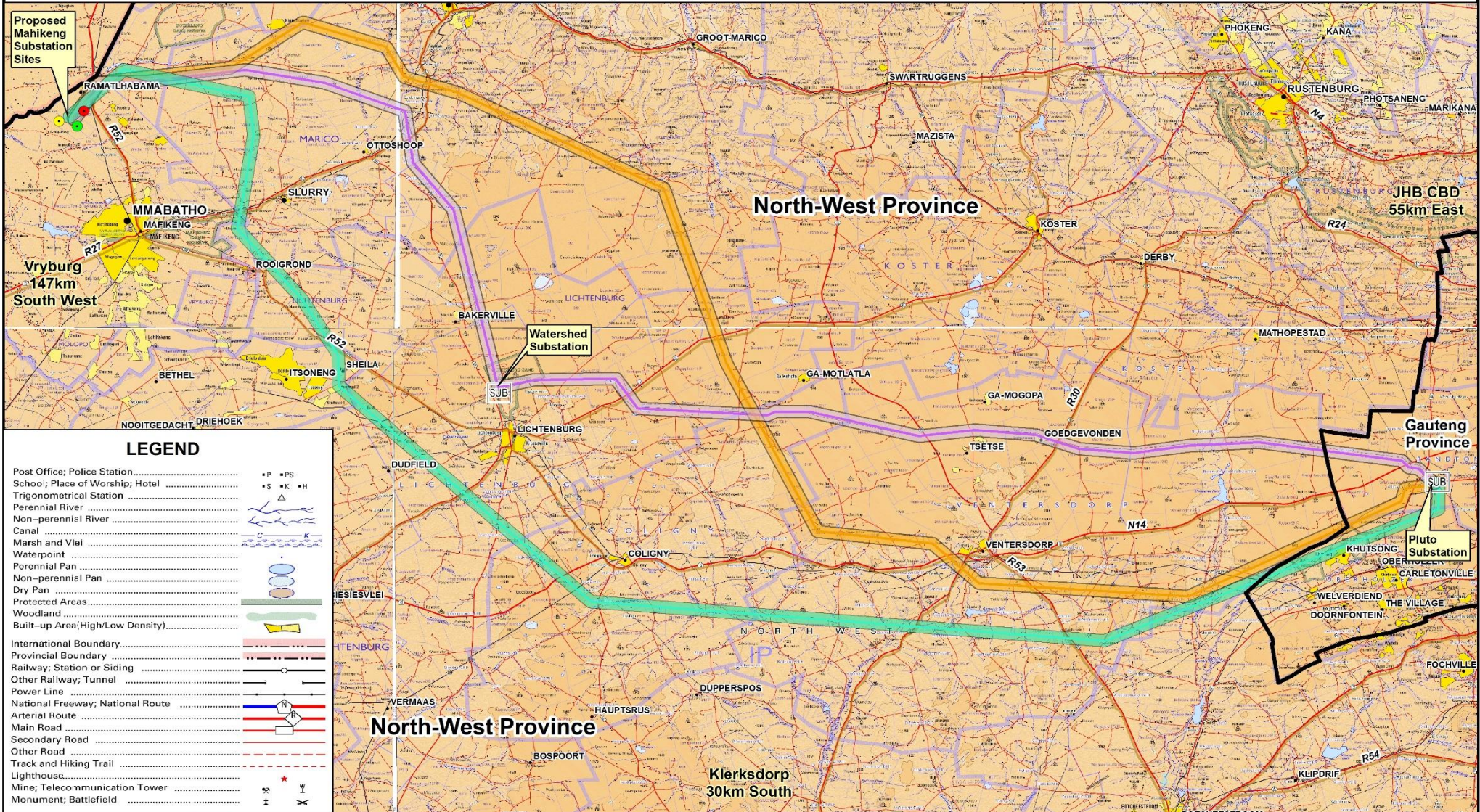
If Eskom Transmission is to meet its mandate and commitment to supply the ever-increasing needs of end-users, it has to plan, establish and expand its infrastructure of generation capacity and transmission lines on an on-going basis, in support of the generation processes.

As part of its assessment of supply requirements, and as a result of the projected load growth of the region, Eskom have determined that additional transmission capacity will be required in the North-West Province, and Eskom Transmission is proposing the following:

- » A new 400kV Transmission substation in the Mahikeng area. This substation's footprint will be approximately 1km x 1 km in extent.
- » Construction of a 400kV Transmission power line, comprising of a series of pylons, also called towers with an average height of 40 metres, from the existing Pluto Transmission substation (located near Carletonville, Gauteng Province) to the newly proposed Mahikeng Transmission substation (to be located near Miga), approximately 250km in length, depending on the nominated preferred substation site and transmission line alignment. A servitude of 55m in width (27.5m on either side of the centre line) is required for the transmission power line.
- » Associated work/infrastructure to integrate the proposed new substation and Transmission power line into Eskom's electricity Transmission grid (including the construction of service/access roads, the construction of a communication tower at the substation site, etc).

Three (3) technically feasible alternative substation sites and three (3) transmission power line corridors (2km in width) have been identified for investigation within the EIA process. These are reflected on the map below. Through the EIA process, a preferred alternative transmission power line corridor and a substation site will be recommended to the DEA. Should the project be authorised by the DEA, Eskom will then enter into a servitude negotiation process with each affected landowner. The process of negotiating a servitude is independent of the EIA process, and will be undertaken by Eskom. Figure 1 below shows an overview of the study area.

DEVELOPMENT OF PROPOSED MAHIKENG SUBSTATION AND 1 X 400KV POWERLINE FROM PLUTO SUBSTATION TO MAHIKENG SUBSTATION (250KM) - NORTH-WEST & GAUTENG PROVINCES



LEGEND

| | |
|--|-------------|
| Post Office; Police Station..... | • P • PS |
| School; Place of Worship; Hotel | • S • K • H |
| Trigonometrical Station | △ |
| Perennial River | |
| Non-perennial River | |
| Canal | |
| Marsh and Vlei | |
| Waterpoint | |
| Perennial Pan | |
| Non-perennial Pan | |
| Dry Pan | |
| Protected Areas..... | |
| Woodland | |
| Built-up Area(High/Low Density)..... | |
| International Boundary..... | |
| Provincial Boundary | |
| Railway; Station or Siding | |
| Other Railway; Tunnel | |
| Power Line | |
| National Freeway; National Route | |
| Arterial Route | |
| Main Road | |
| Secondary Road | |
| Other Road | |
| Track and Hiking Trail | |
| Lighthouse..... | |
| Mine; Telecommunication Tower | |
| Monument; Battlefield | |

| | | |
|-----------------------|---------------------------------|---------------|
| Provincial Boundaries | Corridor 1 - 2km Buffer (Alt 1) | Alternative 3 |
| Proposed Mahikeng C | Corridor 2 - 2km Buffer (Alt 2) | Town Class 1 |
| Proposed Mahikeng B | Corridor 3_2km_Buffer (Alt 3) | Town Class 2 |
| Proposed Mahikeng A | Alternative 1 | Town Class 3 |
| Substations | Alternative 2 | Primary Road |

LOCALITY MAP

Baagi
 Environmental Consultancy

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 Date: 11 September 2017

The proposed three power line corridors will pass the towns of:

| | |
|-------------------|--|
| Corridor 1 | Khutsong, Coligny, Dudfield, Itsoneng, Sheila, Rooigrond & Miga |
| Corridor 2 | Khutsong, Goedgevonden, Tsetse, Ga-Motlatla, Lichtenburg, Bakerville, Ottoshoop & Miga |
| Corridor 3 | Khutsong, Ventersdorp, Ga-Motlatla, Jacobsdal, Khunotswana, Bewley & Miga |

4. LEGAL REQUIREMENTS

The proposed new Main transmission substation and Transmission power line are subject to the legal requirements outlined below. The applicable process will be conducted and be complemented by a combined technical process and public participation process.

The competent authority for the Environmental Authorisation (EA) applied for in terms of the National Environmental Management Act (NEMA, Act No. 107 of 1998), published under Government Notice R326, 324, 325 and 327 of 2014, as amended on the 7th of April 2017 in terms of section 24(5) and 44, is the Department of Environmental Affairs (DEA).

4.1. National Environmental Management Act (NEMA)

An EIA consisting of Scoping and Environmental Impact Report (S&EIR) process will be followed for the proposed construction of the 400kV Transmission substation and Transmission power line triggers the following Listed Activities:

| Listed activity as described in GN R. 983, GN R. 984 and GN R.985 | Description of project activity that may trigger the listed activity |
|--|--|
| e.g. GN R.983 Item XX(x): The development of bridge exceeding 100 square metres in size within a watercourse | e.g. A bridge measuring 110 square metres will be constructed within the watercourse |
| GN R. 327 item 14: The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres. | The proposed project will involve the storage of diesel on site. |
| GN R 327 item 24: The development of a road— with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; | The proposed project will involve the construction of access roads. |
| GN R 325 item 9: The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex | The proposed project will involve the construction of a 400 kilovolts transmission line and a substation outside an urban. |

| | |
|---|---|
| <p>GN R 325 item 15: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity</p> | <p>The construction of the proposed substation will involve the clearing of 100ha of vegetation for the preferred substation site.</p> |
| <p>GN R 324 item 12 (c)(h): The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>c. Gauteng</p> <p>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>ii. Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans; or</p> <p>iii. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</p> <p>h. North West</p> <p>i. World Heritage Sites; core of biosphere reserve; or sites or areas identified in terms of an international convention;</p> <p>ii. A protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other legislation;</p> <p>iii. All Heritage Sites proclaimed in terms of National Heritage Resources Act, 1999 (Act No. 25 of 1999);</p> <p>iv. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;</p> <p>v. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; or</p> <p>vi. Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.</p> | <p>The construction of the proposed transmission line will involve the clearing of vegetation for the final preferred route (tower footprints and vegetation clearing heights.)</p> |

5. ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

An EIA is an effective planning and decision-making tool. It allows the environmental, social and economic consequences resulting from a technical facility during its establishment, operation and closure to be identified and appropriately managed. It provides the opportunity for the developer to be fore-warned of potential environmental, social and economic issues and allows for the resolution of issues reported on in the EIA report as well as dialogue with affected parties.

5.1. Technical and Public Participation Processes

An EIA also has two parallel and integrated processes namely, a technical and a public participation process.

The technical process investigates environmental facts based on scientific and technical studies, statistics or technical data. It is through this process that potential negative and positive impacts are identified and provides the environmental specialist the opportunity, at this early stage, to recommend ways to reduce / avoid any possible negative impacts and to enhance the positive impacts.

The EIA Regulations require that an Environmental Management Programme (EMPr) be developed. The EMPr provides recommendations on how the project must be implemented, by whom and when; in this regard, the EMPr streamlines roles and responsibilities e.g. the Contractor's duties versus the Developers obligations. The EMPr also provides specific mitigation measures o specific aspects of the natural and socio-economic environments. The EMPr is also a legally binding document not only to the developer but also the appointed contractor.

Public participation ensures that the EIA process is fair, open and transparent. It also provides I&APs with sufficient and relevant information and gives them the opportunity to contribute by reviewing and commenting on the information provided.

The public participation process is also designed and aims to provide accessible information to I&APs in an objective manner to assist them to:

- Access, for review, information containing all relevant facts in respect of the application;
- Raise issues of concern and make suggestions for alternatives and enhanced benefits;
- Contribute their local knowledge;
- Have a reasonable opportunity to comment on the application;
- Adequate review periods are provided for I&APs to comment on the findings of the draft Scoping and EIA reports;
- Verify that their issues have been captured and considered by the technical investigations; and
- Comment on the findings of the EIA

5.2. Your responsibilities as an I&AP

In terms of the EIA Regulations, your attention is drawn to your responsibilities as an I&AP:

- To participate in this EIA process, you must register yourself on the project database.
- You must ensure that any comments regarding the proposed project are submitted within the stipulated the timeframes.
- You are required to disclose any direct business, financial, personal or other interest which that you may have in the approval or refusal of the application for the proposed project.

5.3. How to become involved

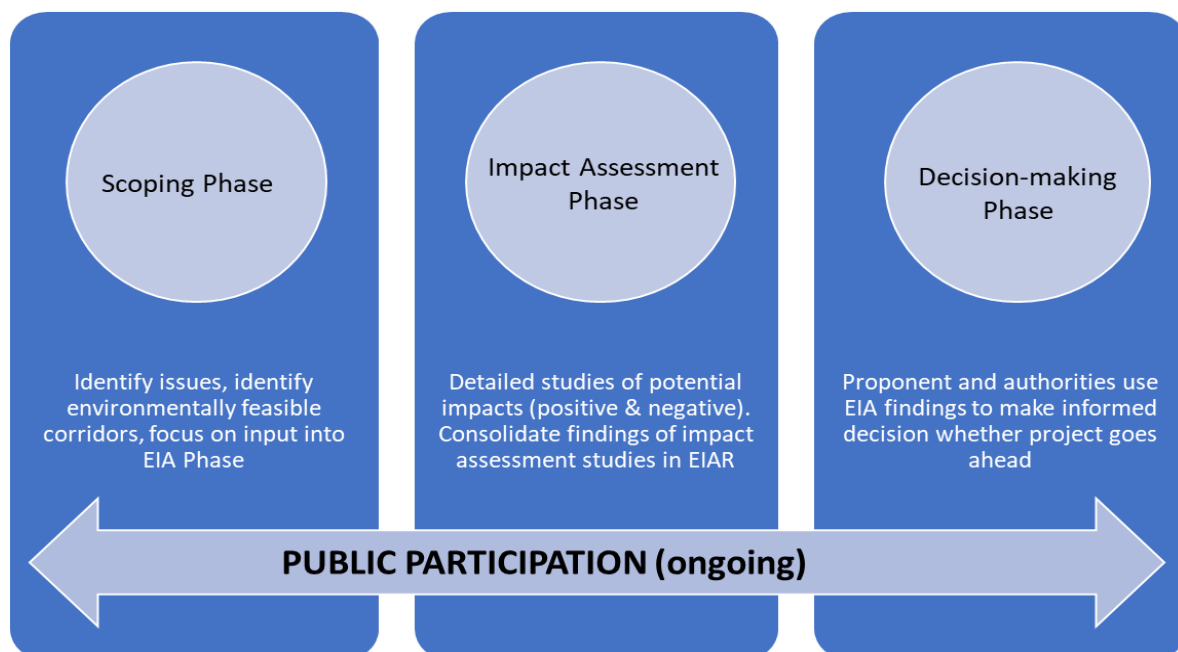
- By responding (by phone, fax or e-mail) to our invitation for your involvement which has been advertised in local and regional newspapers.
- By returning the attached Registration and Comment Form (enclosed with this this BID) to the relevant contact person.
- By attending the meetings to be held during the course of the project. As a registered I&AP you will automatically be invited to attend these meetings. Dates for public meetings will also be advertised in local and regional newspapers.
- By contacting the consultants with queries or comments.
- By reviewing and commenting on the draft Scoping and EIA Reports within the stipulated 30 calendar day review periods.

Consultation with landowners will also form an integral part of the public participation process. However, it is important to note that the negotiations for a servitude, should the DEA grant an EA, will be undertaken by Eskom’s Land and Rights Department and will take place in a separate process. These negotiations will be done on a one-on-one basis with the registered property owner or appointed Trustee member, should the property be registered in a trust.

The list of farm portions that will be affected by the three proposed corridor alternatives is available upon request (by e-mail, fax, WhatsApp or mms) from the Public Participation Office (see details below).

6. THE PHASES IN AN EIA PROCESS

A summary of the EIA process is captured in Figure 2 below.



6.1. Scoping Report Phase

The **first phase** of an EIA is the Scoping Phase, which is conducted to gain an understanding of the potential environmental, social and economic issues that are relevant to the project and to determine where further information is required, in the form of specialist studies/investigations. The Scoping Report and Plan of Study for the EIA are submitted to the DEA for review and to approve the proposed approach to the detailed investigation required in the next phase.

Activities involved in the Scoping Phase include:

- Meetings with the DEA to agree on process and study requirements;
- Initial public and landowner notification, which includes placing of site notices and the distribution of this BID;
- Advertisements in local and regional newspapers to announce opportunities to participate;
- Progress feedback letter i.e. availability of the Draft Scoping Report (DSR) for review and comment;
- Convening public meetings in the study area to present the content of the DSR and obtain comment on the DSR;
- Making the Draft Scoping Report (DSR) available for comment; and
- Submission of a Final Scoping Report (FSR), including the Plan of Study for the EIA to the DEA.

6.2. Environmental Impact Report Phase

The **second phase** is the Environmental Impact Report (EIR) Phase, which entails undertaking various specialist studies and compiling a Draft EIR (DEIR).

As part of the assessment, a Draft EMPr as well as an Operational and Decommissioning Plan will be submitted to the DEA for approval. By following the EMPr, Eskom and its contractors will ensure compliance to environmental regulations during the planning, construction, operation and decommissioning (if applicable) phases.

The list of identified specialist studies required for this EIR (as identified at this stage) is listed below in alphabetical order (all seasonal dependent studies will be undertaken in the wet season):

| | |
|--|--------------------------------|
| Economic Impact Assessment | Fauna and Avi Fauna Assessment |
| Floral Impact Assessment | GIS for mapping purposes |
| Heritage Impact Assessment | Legal Review |
| Public Participation | Social Impact Assessment |
| Soil Potential & Agriculture Impact Assessment | Visual Impact Assessment |
| Wetland & Watercourse Impact Assessment | |

Specific activities in this phase will include:

- Specialist studies focused on outcomes of the Scoping Phase and issues raised by stakeholders;
- Progress feedback to stakeholders;
- Compilation of a DEIR and draft EMPr indicating the potential positive and negative impacts and measures to enhance positive impacts and to reduce or avoid negative impacts;
- Environmental Impact Statement, highlighting the preferred alternatives (substation and power line corridor) and reasons thereof;
- Advertise the availability of the DEIR and draft EMPr in local and regional newspapers;
- Distribution of the DEIR and draft EMPr, including the Comments and Responses Report (CRR), for comment;
- Public meetings to present the findings as per the DEIR; and
- The EIR and EMPr will then be finalised and submitted to the DEA for decision-making.

6.3. Decision-making (Environmental Authorisation)

This involves notifying the registered I&APs about the decision from the Competent Authority (DEA). The DEA must accept or reject the Final EIR within 107 days of acknowledgment of receipt of the Final EIR. Registered I&APs will be informed of the DEA's decision, highlight the conditions as stipulated in the EA, and of the appeal procedure should they wish to appeal the decision.

7. REGISTRATION AS AN INTERESTED AND AFFECTED PARTY

If you consider yourself an I&AP for this proposed project, we urge you to make use of the opportunities created by the public involvement process to provide comment, or raise those issues and concerns which affect and/or interest you, and about which you would like more information. Your input into this process forms a key element of the EIA process (contact details below).

All public documents will be available on the internet at:

- Eskom's website:
http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx; and
- Baagi Environmental Consultancy: <http://baagi.co.za/index.html>

Public Participation Office

Nicolene Venter, Imaginative Africa (Pty) Ltd

PO Box 61164, Pierre van Ryneveld, 0157

Tel.: (012) 662-2843; Fax 086 415 5011; Email: nicolene@imaginativeafrica.co.za

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Your comments are important

The purpose of an Environmental Impact Assessment is to provide the decision-making authority with sufficient information on which to base their decision to grant or refuse an Environmental Authorisation and if granted, to define conditions for the development. The contributions made by stakeholders from all sectors of society will ensure informed decision-making.

You are invited to participate freely and to submit any comments or information you feel may be useful to the EIA process. Registered interested and affected parties are entitled to comment, in writing, on all written submissions to the competent authority (the DEA) and to bring to the attention of the competent authority, any issues which the party believes may be of significance to the consideration of the application.

To view project documentation, visit www.baagi.co.za or http://www.eskom.co.za/OurCompany/SustainableDevelopment/EnvironmentalImpactAssessments/Pages/Environment_Impact_Assessments.aspx

**Tokomane e e fitlhelwa gape le ka Setswana ge o e kopa
Hierdie dokument is op versoek ook in Afrikaans beskikbaar**