ENVIRONMENTAL IMPACT ASSESSMENT
FOR THE
PROPOSED SOWETO INTEGRATION PROJECT
GAUTENG PROVINCE
(DEAT Ref No.: 12/12/20/984)

NALEDZI
Environmental Consultants cc.

BACKGROUND INFORMATION DOCUMENT

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**AIM OF THIS DOCUMENT**

This document aims to provide you, as an Interested and/or Affected Party (I&AP), with an overview of:

- the environmental process and studies to be undertaken during the Environmental Scoping and Impact Assessment phases; and
- an understanding of the proposed project, in its totality, and the study area.

It further indicates how you can become involved in the project, receive information, or raise issues, which may concern and/or interest you.

The following information is captured in this document with the aim of providing you with sufficient information to raise relevant comments and/or concerns regarding this proposed project:

- an overview of the proposed project planned by Eskom Transmission;
- a description of the key activities which form part of the EIA process;
- an indication of the potential impacts associated with the proposed project and the specialist studies to be undertaken;
- a map of the study area indicating the preliminary power line route alternatives routes identified for investigation within the Environmental Impact Assessment (EIA) process.

**YOUR COMMENTS AND PARTICIPATION IS IMPORTANT**

Your comment(s) will ensure that all relevant issues are evaluated in the EIA. You are kindly requested to complete the enclosed Registration and Comment Form, write a letter, call or e-mail the public participation office in Pretoria (contact details on front page). You will then receive further information about the proposed project and the EIA process.

**LIST OF ACRONYMS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BID</td>
<td>Background Information Document</td>
</tr>
<tr>
<td>DESR</td>
<td>Draft Environmental Scoping Report</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
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<td>EMP</td>
<td>Environmental Management Plan</td>
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<tr>
<td>EA</td>
<td>Environmental Authorisation</td>
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<td>I&amp;AP</td>
<td>Interested and Affected Party</td>
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<tr>
<td>NEMA</td>
<td>National Environmental Management Act</td>
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<td>DEAT</td>
<td>National Department of Environmental Affairs and Tourism</td>
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<td>ECO</td>
<td>Environmental Control Officer</td>
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OVERVIEW OF THE PROPOSED PROJECT

Eskom Holdings Ltd is responsible for the provision of reliable and affordable power to its consumers in South Africa. Electricity 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 vital that transmission capacity keeps up with both electricity generation capacity and electricity demand.

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.

BACKGROUND TO THE PROPOSED PROJECT

In order to integrate the Soweto project into the City Power’s electricity network, Eskom Transmission is proposing the following:

- the construction of a new 400kV Orlando (Quattro) Substation operated at 275kV;
- the establishment of two Transmission power lines from Etna to Orlando (Quattro) Substation, built at 400kV but to be operated at 275kV; and
- 2 x 275kV feeder bays at Etna Substation.
- Distribution 132kV yard comprising of 3 x 400/132kV transformers and 12 x 132kV bays
- 1x Radio microwave tower

Eskom Transmission will share the Quattro Substation site with City power. City power will also construct components of the station. The components are as follows:

- Distribution 88kV indoor substation comprising of 4 x 275/88kV transformers and 22 x line 88kV bays; and
- An 88/11kV substation equipped with 3 x 88/11kV transformers; and
- Re-alignment of existing 88kV lines adjacent to the Quattro Substation.

The infrastructure at the Quattro Substation will have two owners, Eskom and City Power, but it will physically be one asset.

This project is to be known as the Soweto Integration Project.

The 2x400kV Transmission power line route corridors (three corridors in total) have been identified for investigation within the EIA process. The width of each of the three proposed corridors is 500m wide. These are reflected on Figure 1 attached. Through the EIA process, a preferred alternative Transmission power line corridor will be nominated or, depending on the Department of Environmental Affairs and Tourism’s (DEAT) decision, all three the proposed route corridors will be taken through to the impact assessment phase. Should the project be authorised by DEAT, Eskom will then enter into a servitude negotiation process with each affected landowner as well as the relevant authority. The process of negotiating servitude for the proposed Transmission power lines is also an independent process of the EIA process, and will be undertaken directly by Eskom Transmission.

The decision between a 2 x 400kV Transmission power line will only be decided once DEAT had issues the Environmental Authorisation and through Eskom's negotiation process.
A pre-feasibility study was undertaken and only one suitable site for the newly proposed 400kV Orlando (Quattro) Substation, which will operate at 275kV substation, was identified. This site is located north-east of the Baragwanath Hospital and north of the Bala Shopping Centre. There are three proposed route corridors that is 500m wide within which the environmental specialists will undertake their specialist studies. The proposed substation site and the three proposed route corridors are indicated on the Map included in the BID.

**Proposed Route Corridor: Three proposed route alternatives (within the corridor)**

It is proposed to construct a 2 x 400kV Transmission power lines directly between the newly proposed Orlando (Quattro) and existing Etna Substations, which is envisaged to be approximately 15km in length. The final length of the proposed 2 x 400kV Transmission power lines is dependent on the outcome of the environmental studies and Eskom’s negotiations with the property owners once a preferred Alternative has been identified. The proposed New Orlando (Quattro) Substation is situated in Soweto, south west of Diepkloof and North West of Baragwanath Hospital, along the Old Potchefstroom Road while the existing Etna Substation is situated south east of Lenasia & northeast of Ennerdale, along Road 533 (Golden Highway) to Sebokeng/Evaton.

The broad farms / properties and suburbs that might be affected by the three proposed route alternatives within the proposed route corridor, at this stage of the project, are:

<table>
<thead>
<tr>
<th>Broad Farms / Properties</th>
<th>Suburbs</th>
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<tbody>
<tr>
<td>Vlakfontein 303 IQ</td>
<td>Diepkloof</td>
</tr>
<tr>
<td>Diepkloof</td>
<td>Lenasia</td>
</tr>
<tr>
<td>Diepkloof</td>
<td>Kliptown</td>
</tr>
<tr>
<td>Roodepoort 302 IQ</td>
<td>Klipspruit West</td>
</tr>
<tr>
<td>Pimville</td>
<td>Klipriviersoog</td>
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<tr>
<td>Roodepoort 302 IQ</td>
<td>Soweto</td>
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<tr>
<td>Rietfontein 301 IQ</td>
<td>Tshiawelo</td>
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<tr>
<td>Olifantsvlei 316 IQ</td>
<td>Eldorado Park</td>
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<td>Eldorado Park</td>
<td>Senoane</td>
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<tr>
<td>Misgund 322 IQ</td>
<td>Zakariyya Park</td>
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<td>Misgund 322 IQ</td>
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**PROPOSED CONSTRUCTION SCHEDULE AND METHODOLOGY FOR CONSTRUCTING TOWERS AND STRINGING OF CONDUCTORS FOR A 400kV TRANSMISSION POWER LINE**

Depending on the issuing date of the Environmental Authorisation (EA) and should a positive EA be issued by DEAT, it is proposed that Eskom will commence with construction in July 2009. The construction period for the proposed 2 x 400kV Transmission power lines is estimated to be 12 months in total. This includes the clearing of the servitude, construction of the towers and the stringing of the conductors. The construction period for the proposed new Orlando (Quattro) Substation and associated works as described above, is estimated to be 12 months in total.

The Key points regarding the proposed project are as follows:

- The route corridors for the proposed new 2x400kV Etna-Orlando (Quattro) Transmission power lines will be approximately 15km in length, depending on the final route alignment and there would atleast be three alternative alignments.
- The three proposed route alternative corridors (as indicated on the enclosed map) indicate the boundary for the identification of stakeholders and I&APs as well as for specialists to undertake their environmental studies for this proposed 2x400kV Transmission power lines.
- Currently it is proposed that any of the towers depicted below would be used. Diagrams of the proposed towers are indicated in Figures 2, 3, 4, 5 6.
The land beneath the overhead lines can be used, as normal, by the landowners. Eskom, however, require that no dwellings or vegetation/crops higher than 4m be established within the servitude.

There is only one suitable site identified for the newly proposed Orlando (Quattro) Transmission substation and that is to the east of the existing Orlando (Quattro) Transmission substation.

**Figure 2:** A Guyed Suspension type tower (double circuit) that requires 95m registered servitude
Figure 3: Cross-rope Suspension type tower that requires 55m registered servitude

Figure 4: Self-Supporting type tower (usually used on bends) that requires 47m servitude
Figure 5: Guyed Suspension type tower (single circuit) that requires 55m servitude

Figure 6: Monopole Option A
Rehabilitation of servitude after construction

The appointed Eskom Environmental Control Officer (ECO) on site will ensure that all disturbed areas are stabilised as soon as possible after construction and the area rehabilitated as close to the original condition as possible. Particular attention will be paid to slopes greater than 20° (1:5) and other areas prone to erosion, which should be appropriately vegetated. Rehabilitated areas that are susceptible to erosion due to their position in the landscape will be adequately protected by soil conservation measures.
The ECO will monitor the re-vegetated areas until the vegetation is stabilised. This monitoring, on average, occurs at three-monthly intervals for the first twelve months, and once a year thereafter, and may only halt once the vegetation has been stabilised.

**Employment opportunities during construction**  
As the construction of Transmission power lines requires highly skilled personnel, and mainly constructed by the utilisation of machinery, it is not envisaged that additional labour force will be required for this proposed project. However, as part of Eskom's Social Responsibility Programme, the appointed construction company will be required to make use of local labour as and when required. In terms of the construction of the proposed new Orlando (Quattro) Transmission substation, there is no indication of any envisaged number of jobs to be created at this stage.

**Health (possible impacts of Electro-magnetic Fields – EMFs)**  
Eskom power lines are designed and built to comply with the Occupational Health and Safety (OHS) Act. As long as activities under the power line comply with the servitude conditions, they are therefore safe to undertake. EMF effects decrease as distance from the power line increases and any living quarters outside the servitude will not be affected by the power line and radiation from the power line is nil at the edge of the servitude.

**THE ENVIRONMENTAL AUTHORISATION PROCESS**

In terms of the National Environmental Management Act (NEMA, No 107 of 1998), Eskom requires authorisation from the National Department of Environmental Affairs and Tourism (DEAT) for the undertaking of the proposed project. The listed activities applicable for this proposed project falls under Government Notices R386 and R387 of 21 April 2006,

**R386**

15) **The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.**

12) **The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).**

14) **The construction of masts of any material of type and of any height, including those used for telecommunications broadcasting and radio transmission, but excluding (a) masts of 15m and lower exclusively used by (i) radio amateurs; or (ii) for lightening purposes (b) flagpoles; and (c) lightening conductor pole.**

16 (a) **The transformation of undeveloped, vacant or derelict land to residential mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.**
7) The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres at any one location or site.

1(m) The construction of facilities or infrastructure, including associated structures or infrastructure, for any purpose in the one in ten year flood line of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including

(i) canals;
(ii) channels;
(iii) bridges;
(iv) dams; and
(v) weirs

R387
1 (I) The construction of facilities or infrastructure, including associated structures or infrastructure, for the transmission and distribution of above-ground electricity with a capacity of 120 kilovolts or more

2) Any development activity, including associated structures and infrastructure, where the total area of the developed area is, or is intended to be, 20 hectares or more.

THE EIA PROCESS FOR THIS PROPOSED PROJECT

Eskom Transmission has appointed Naledzi Environmental Consultants, as independent environmental consultants, to undertake environmental studies to identify and assess all potential environmental impacts associated with the proposed project. As part of these environmental studies, all I&APs will be actively involved through a public participation process. Naledzi Environmental has appointed Imaginative Africa to undertake the required public participation process.

An EIA consists of various phases, as depicted in the figure below.
The EIA for the proposed Soweto Integration Project is currently in the Scoping Phase. This project has been registered with National DEAT under Application Reference Number 12/12/20/984.

**What are the potential environmental impacts associated with the proposed project**

A number of potential environmental impacts associated with the project have been identified. As part of the EIA, these potential impacts will be assessed through the following pre-identified and preliminary specialist studies:

- Impacts on ecology, fauna & flora
- Impacts on avifauna
- Impacts on heritage sites
- Impacts on visual quality and aesthetics
- Impacts on topography, geology, hydrology, groundwater, climate and pollution
- Impacts on the social environment, including land use and tourism potential

These specialist studies will be undertaken in two phases:

1. A desk-top Scoping Study, wherein potential issues associated with all alternatives identified will be evaluated and a preferred alternative nominated for consideration in the EIA phase.
2. A detailed assessment of potentially significant impacts associated with the nominated preferred alternative/s identified in the Scoping Phase. Practical and achievable mitigation measures will be recommended in order to minimise potentially significant impacts identified. These recommendations will be included within a draft Environmental Management Plan.

Specialist studies will be informed by existing information, field observations and input from the public participation process. As people residing in the area are most familiar with the local issues, your input is considered important and we urge you to become involved in the process.
Public participation is the cornerstone of any EIA, as it will be for this proposed project. The principles of NEMA, govern many aspects of EIAs, including public participation.

The key objective of public participation during this EIA will be to provide I&APs with sufficient and transparent information on an on-going basis in order to ensure effective participation throughout the process. As part of this public participation process you will also be provided with the opportunity to comment on the findings of the EIA Report (Scoping and Impact Assessment), which will be made available for public review during the process.

It is important that relevant I&APs are identified and involved in the public participation process from the outset of the proposed project. In order to ensure effective public participation, the public participation process includes the following steps:

**Phase 1**
Primary purpose is to present the motivation for the proposed project to I&APs and to elicit comments from you. Phase 1 comprises of the following steps:
- Notification to I&APs of Eskom Transmission’s intent through personalised letter
- Advertise the project in a local and regional newspaper
- Making the BID available to identified & registered I&APs; and
- Undertake initial consultation with stakeholders (viz. local authorities, affected landowners, etc.)

**Phase 2**
Primary purpose of this phase is to present the draft Environmental Scoping Report (ESR) to I&APs, to show how their comments to date have been incorporated into the draft ESR and to obtain any additional comments. Phase 2 comprises of the following steps:
- Incorporate I&APs comments received into the draft ESR, as a Comment and Response Report
- Lodging the draft ESR in public domain e.g. public libraries, municipal offices, etc and on the Eskom project website; and
- Hold a public meeting to present the draft ESR. Newspaper notices will be used to publicise the public meeting and all registered I&APs will be notified of the meeting and the availability of the draft ESR by a personalised letter.

**Phase 3**
Primary aim is to present the draft Environmental Impact Report (EIR) to I&APs, and Phase 3 comprises of the following steps:
- Lodging the draft EIR in public domain as identified during Phase 2, and on the Eskom project website;
- Hold a public meeting to present the draft EIR. Newspaper notices will be used to publicise the public meeting and all registered I&APs will be notified of the meeting and the availability of the draft ESR by a personalised letter;
- Finalise the EIR by incorporating all comment received into an updated Comment and Response Report; and
- Notify all registered I&APs of the outcome of the EIA process, and a newspaper notice will be placed informing the public at large.

**Phase 4:**
This is the 30-day appeal period during which I&APs have the opportunity to appeal against the Environmental Authorisation (EA) issued by the competent environmental authority – for this proposed project it is the National Department of Environmental Affairs and Tourism (DEAT). Persons wishing to appeal need to inform the competent authority of their intent to appeal within 10 days of being notified of the decision, thereafter they have 30 days in which to lodge an appeal. The appeal period commences as soon as the EA is issued.
You will receive personal notification by mail or e-mail of all documents available for comment, and due dates for comment at every stage.

YOUR RESPONSIBILITIES AS AN I&AP:

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

- In order to participate in this EIA process, you must register yourself on the project database.
- You should inform any other parties who may be interested and/or affected by the proposed project about the EIA process and encourage them to become involved. To exercise this right, you are kindly requested to register with the public participation office, or you could register through someone/an organisation (e.g. tribal chief, residents’ association) who speaks for you or on behalf of your community.
- You must ensure that any comments regarding the proposed project are submitted the timeframes that have been approved or set by DEAT and that any extension of a timeframe agreed to by DEAT and the applicant (i.e. Eskom).
- 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 Soweto Integration Project.

OUR RESPONSIBILITIES AS INDEPENDENT ENVIRONMENTAL CONSULTANTS:

In terms of the NEMA, our responsibilities for the public consultation process include:

- We must ensure that sufficient information regarding this proposed project is made available to you, either through the BID or providing information as and when requested.
- We must ensure that you have an understanding of the proposed project to be able to comment informatively and to enable you to submit any concern in an informed manner.
- We must ensure that the following actions are taken upon receiving any comments/queries/issues:
  - the contact details provided by you are entered into the project database and that you are sent all further information releases
  - if you send us queries or comments, we respond in writing
  - if you call us, your details and queries / comments are recorded. Should we not be able to answer your question immediately, your call will be returned as soon as possible with a response.

The public participation consultant will endeavour to inform I&APs and stakeholders as widely as possible regarding the proposed project. However, it is not possible to ensure that each and every possibly affected landowners and/or community along the proposed three route alternative corridors are informed regarding the proposed project. It is therefore requested that when you as an I&APs who are informed regarding this proposed project inform neighbours, friends and colleagues, at any stage of the EIA, regarding this proposed project. They are at any stage welcome to contact the public participation consultant and we will ensure that they receive all previous public documents are brought up to date regarding the proposed project as at that time.

HOW TO BECOME INVOLVED

1. By responding (by phone, fax or e-mail) to our invitation for your participation, which has been advertised in the printed media.
2. By mailing, faxing or e-mailing the attached Registration and Comment Form to Naledzi Environmental or Imaginative Africa.
3. By attending the meetings to be held during the course of the project. Should you register as an I&AP you will automatically be invited to attend these meetings. The
public meeting date will also be advertised in the printed media. Please be on the lookout for these advertisements.

4. By telephonically contacting us if you have a query, comment or require further project information.

5. By reviewing the draft Environmental Scoping Report and the draft Environmental Impact Report within the 30-day review periods that will be stipulated in the advertisement and well as in your personalised letter.

If you consider yourself an I&AP for this proposed project, we urge you to make use of the opportunities created by the public participation process to become actively involved in the process and provide comment or concerns which affect and/or interest you, or about which you would like more information. Your input into this process forms a key part of the Environmental Studies and we would like to hear from you to obtain your views on the proposed project.

By completing and submitting the accompanying Registration and Comment Form, you automatically register yourself as an I&AP for this proposed project, and are ensured that your comments and/or concerns raised regarding the proposed project are noted. The public participation consultants will respond to all comments and queries received during the course of the project.

We look forward to your contributions. Please also feel free to suggest other stakeholders to be consulted.

**COMMENTS AND QUERIES**

**Nicolene Venter or Marissa Steenkamp**

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