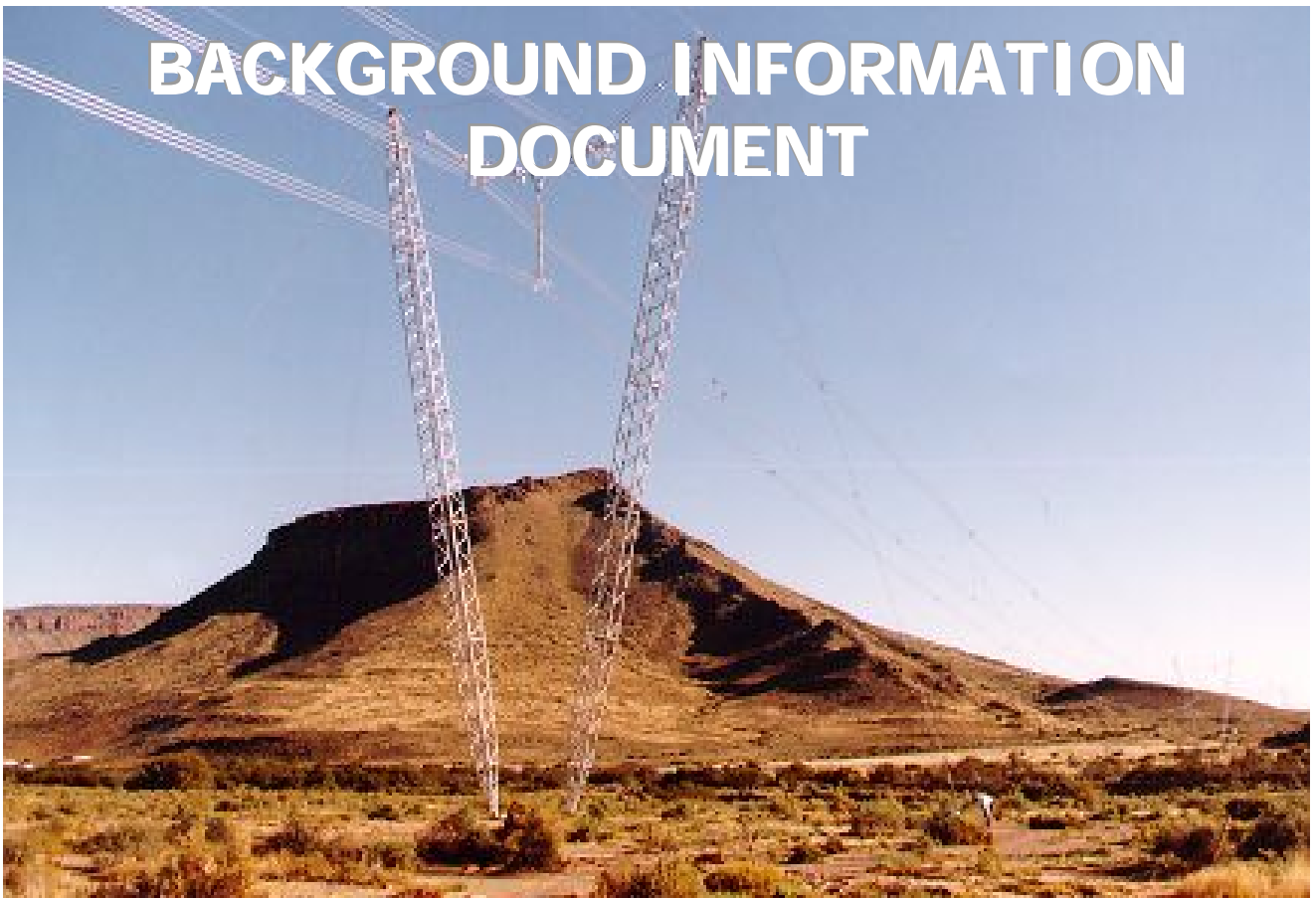


**ENVIRONMENTAL IMPACT ASSESSMENT  
FOR THE  
PROPOSED CONSTRUCTION OF A NEW DOUBLE CIRCUIT 400 kV  
TRANSMISSION POWER LINE BETWEEN  
ETNA SUBSTATION (near Ennerdale) AND GLOCKNER  
SUBSTATION (near Rothdene), GAUTENG PROVINCE**



**BACKGROUND INFORMATION  
DOCUMENT**



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## PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to inform interested and/or affected parties (I&APs) about the Environmental Impact Assessment (EIA) that is being conducted for the *new double circuit 400kV Transmission power line between Etna and Glockner Substations* that Eskom propose to construct in the Vaal/West Rand area, Gauteng Province.

In addition to supplying information about the proposed new double circuit 400kV Transmission power line and the EIA process, this BID will also provide I&APs with the opportunity to:

- Register as stakeholders in the public participation process; and
- Make initial comments on and contributions to the proposed project.

## 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

<b>BID</b>	Background Information Document
<b>DESR</b>	Draft Environmental Scoping Report
<b>EIA</b>	Environmental Impact Assessment
<b>EIR</b>	Environmental Impact Report
<b>EMP</b>	Environmental Management Plan
<b>RoD</b>	Record of Decision
<b>I &amp; AP</b>	Interested and Affected Party
<b>NEMA</b>	National Environmental Management Act
<b>DEAT</b>	National Department of Environmental Affairs and Tourism

## BACKGROUND TO THE PROPOSED PROJECT

By using the planning processes in place, Eskom Transmission has established that there is a need to increase the electricity load to the Vaal/West Rand area and these increases needs to be address as soon as possible. The analysis done by Eskom, shows that since 1995 there has been a marked increase in load demand at Taunus Substation, which primarily supplies Soweto and surrounding areas with electricity. The increase in load build-up, which has already reached a combined peak of almost 1000MW in 2005, has resulted in a significant increase in the amount of power flowing from Lethabo Power Station to Etna Substation, via the Eiger and Brenner Substations.

The analysis indicates that it will be feasible to construct a new 400kV Transmission power line from which power from Lethabo Power Station could be delivered to Etna Substation and transferred to Glockner Substation.

As previously mentioned, there is an increasing demand for electricity in the Vaal/West Rand area and should an additional double circuit 400kV Transmission power line not be constructed within the next few years, it is envisaged that possible voltage collapse on the Transmission network may occur. This could result in power failure for the end user.

## **KEY INFORMATION REGARDING THE PROPOSED PROJECT**

According to the EIA Regulations, all linear projects need to consist of two or more alternatives to be evaluated during the scoping of the EIA process. Three Alternatives are being proposed for the proposed construction of the new double circuit 400kV Transmission power line between Etna and Glockner Substations.

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

It is proposed to construct a new double circuit 400kV Transmission power line directly between Etna and Glockner Substations, which is envisaged to be 30km in length. The final length of the proposed double circuit 400kV Transmission power line is dependent on the outcome of the environmental studies and Eskom's negotiations with the property owners once a preferred Alternative has been identified within the corridor. Etna Substation is situated south east of Lenasia & northeast of Ennerdale, along Road 533 to Sebokeng/Evaton while Glockner Substation is situated northeast of Vereeniging along Road R59 to Alberton

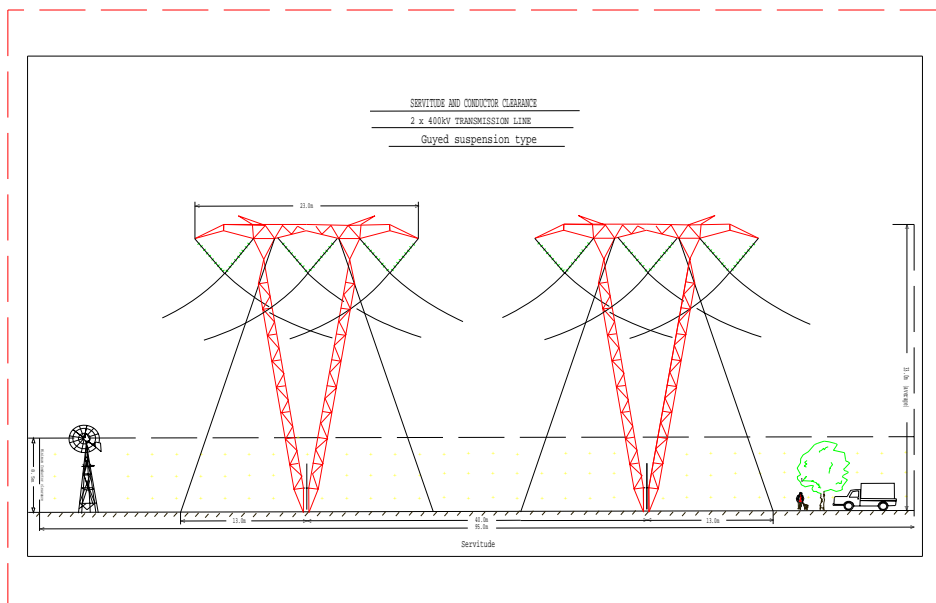
The farms that might be affected by the three proposed route alternatives within the proposed route corridor, at this stage of the project, are:

- Vlakfontein 303 IQ
- Fonteine 313 IQ
- Cyferfontein 333 IQ
- Doornkuil 369 IQ
- Dedeur 539 IQ
- Varkensfontein 373 IQ
- Aeroval 637 IQ
- Suttons 635 IQ
- Uitgevallen 432 IR
- Chrissiesfontein 365 IR

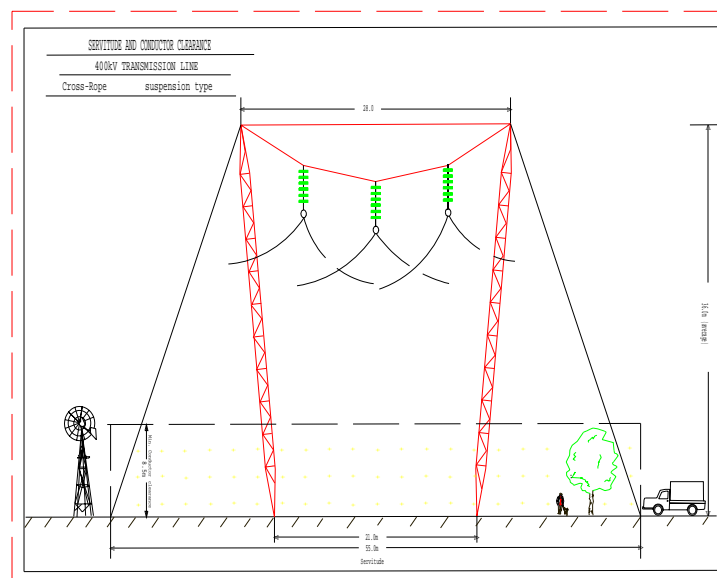
The study area is shown on the map attached as Figure 1 of the BID. **Figure 1** indicates the study area (6km radius) for the proposed three route Alternatives.

The Key points regarding the proposed project are as follows:

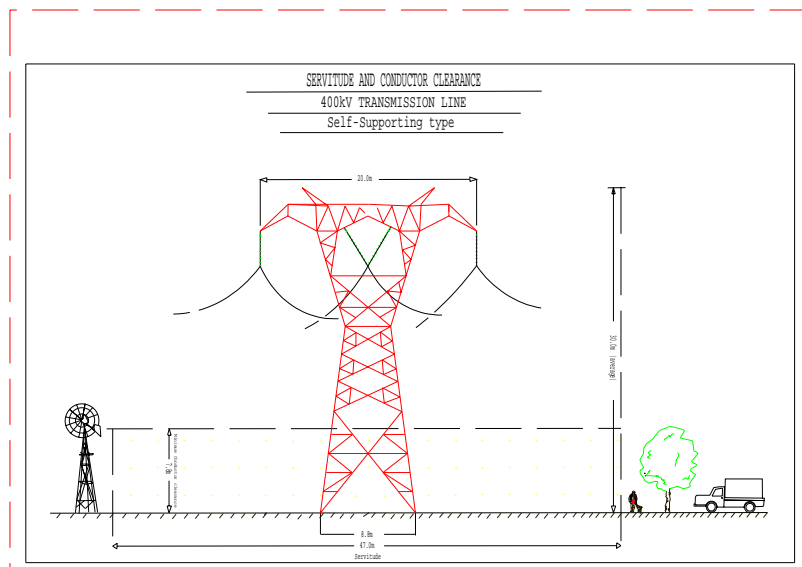
- The proposed route corridor for the new double circuit 400kV Etna-Glockner Transmission power line will be approximately 30km in length, depending on the final route alignment, and there would at least be three alternative alignments.
- The study area (as indicated on the enclosed map) indicate the boundary for the identification of stakeholders and for specialists to undertaken their environmental studies for this proposed new double circuit 400kV Transmission power lines.
- Currently it is proposed that the Gayed Suspension type tower will be used. This tower is approximately 50m in height. The total footprint area required for each tower is 80mx50m. Diagrammes of the proposed towers are indicated in **Figures 2, 3, 4** and **5**.
- 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.



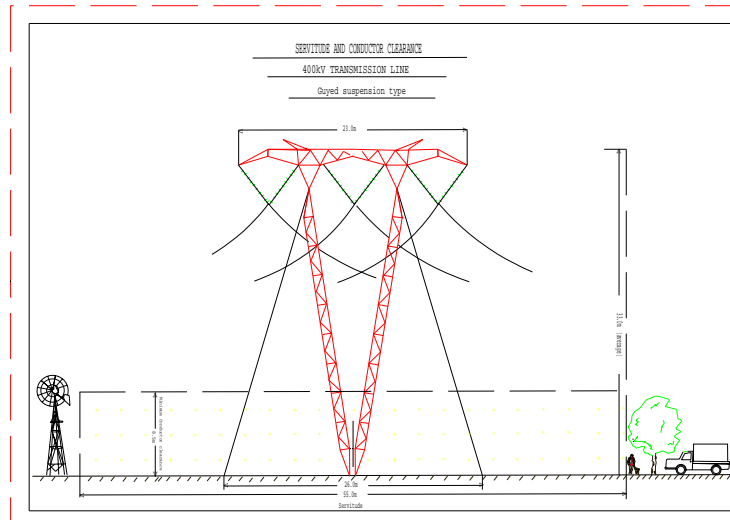
**Figure 2:** A Gayed Suspension type tower (double circuit) that requires 95m registered servitude



**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

## **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 approval or Record of Decision (RoD), and should a positive RoD be issued by the National Department of Environmental Affairs and Tourism (DEAT), and to address the increasing demand for electricity, it is proposed that Eskom will commence with construction in April 2008. The construction period for the proposed 400kV Etna-Glockner Transmission power line 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.

It is currently being proposed to start construction from Etna Substation down to Glockner Substation, which will be a continuation construction period of the proposed 400kV Transmission power line.

### **Rehabilitation of servitude after construction**

The appointed Eskom Environmental Control Officer 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 Environmental Control Officer 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 are highly skilled, 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.

### **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**

### **What is an Environmental Impact Assessment?**

An Environmental Impact Assessment (EIA) is a process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration for each particular application.

EIA's are used by planning authorities/developers to obtain an independent and objective view of the potential environmental (biophysical and social) impacts that could arise during the construction and operation of the proposed development, in this case a 400kV Transmission power line. This information needs to provide the competent Authority with a sound basis for their decision-making.

### ***National Environmental Management Act (NEMA)***

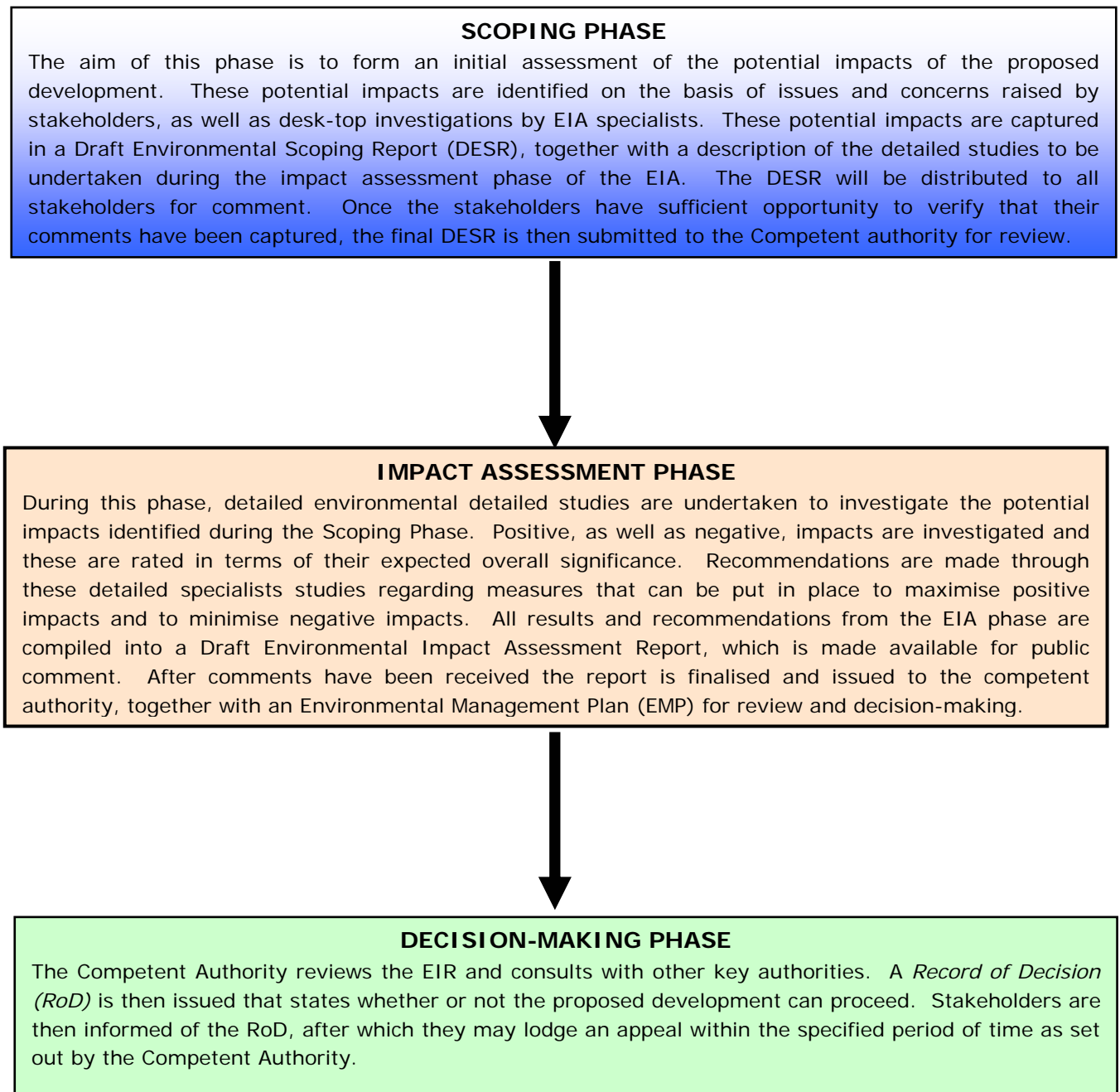
The EIA for the proposed new 400kV Transmission power line will be conducted in terms of the new EIA Regulations (27 to 36) under Government Notice No R387 promulgated on 21 April 2006, in terms of Section 24 (5) read with section 44 of the National Environmental Management Act (Act No. 107 of 1998). The activity to be undertaken in terms of the R387 Notice is:

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.

### **Competent Authority**

The Competent Authority, as described according to the new EIA Regulations, for this proposed project is the National Department of Environmental Affairs and Tourism (DEAT).

## **THE EIA PROCESS FOR THIS PROPOSED PROJECT**



## ENVIRONMENTAL ISSUES TO BE INVESTIGATED DURING THE EIA

SPECIALIST STUDY	SPECIALIST UNDERTAKING THE STUDY
Visual Impacts	Gerhard Griesel: Strategic Environmental Focus
Avifauna Impacts (Birds)	Christelle Pauw: Endangered Wildlife Trust
Archaeological and Heritage Impacts	Stephan Gaigher & Eric Mathoho: Archaeo-Info Northern Province
Agricultural Potential Impacts	Kingsley Avisi: Africa Geo-Environmental Services
Ecology Sensitivity Assessment	Koos Steyn: University of Venda
Geographical Information (GIS)	Thabelo Mulaudzi: Naledzi Environmental Consultants

## PUBLIC PARTICIPATION PROCESS

Public participation is the cornerstone of any EIA and will also be for this proposed project. The principles of the National Environmental Management Act (NEMA), govern many aspects of EIAs, including public participation. This process will enable I&APs to influence the course of the investigation and to review the findings of the independent environmental studies, which will be undertaken.

The key objective of public participation during this EIA is to provide I&APs with sufficient and transparent information on an ongoing basis. The public participation process also allows you the opportunity to comment on the findings of the EIA Report (Scoping and Impact Assessment) that will be made available for public review.

It is important that relevant I&APs are identified and involved in the public participation process from the outset of the proposed project, and as communication and consultation is a two-way process, we would like to draw your attention to these two *responsibility roles* which are as follows:

### ***Your responsibilities***

You, as an I&AP, have a right to participate in this process by requesting further information or by informing the consultant of your concerns regarding the environment - which is well known to you who resides in the area - and the proposed construction the new 400kV Transmission power line between the Etna Substation and Glockner Substation. 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, farmers' association) who speaks for you or on behalf of your community. As an I&AP you also have a responsibility, and that is to inform others whom you think may be interested and/or affected by the proposed development, and encourage them to register. You can register at any stage of the study, but it is important to register as early as possible.



## ***Our responsibilities***

You can contact us by telephone, cell phone, fax, e-mail, registration form or post using the contact details provided at the end of this BID. The following actions will be taken upon receiving any comments/queries/issues:

- the contact details provided by you will be entered into the project database and you will be sent all further information releases;
- if you send us queries or comments, we will respond in writing;
- if you call us, we will record your details and queries / comments. Should we not be able to answer your question at that moment, we will provide an official response as soon as the information has been made available to us.

To ensure effective public participation, the public participation process includes the following steps:

### **PHASE 1 – Scoping Phase**

Primary purpose of this phase is to present the motivation for the proposed project to I&APs and to elicit comments from you.

***Announcing the opportunity to comment:*** I&APs will be informed about the EIA and the proposed project by means of:

- letters to identified stakeholders;
- advertisement in local newspapers; and
- making the BID and invitation letters to participate in the EIA process available at selected public places that are easily accessible to I&APs

***Issues to be evaluated:***

- Focus Group Meetings will be conducted with groups of stakeholders along the proposed study area, including affected landowners.
- Stakeholder Workshop will be conducted with the relevant Provincial and local Authorities and Government Structures (e.g. WESSA)

The purpose of these meetings will be to brief I&APs about the proposed project and the EIA process. It will also provide another opportunity for stakeholders to submit any comments regarding the proposed project.

All issues raised, whether telephonically, by e-mail, post or meetings, will be captured in the Comments and Response Report.

***Environmental Scoping Report:*** A draft ESR will be prepared, which will contain:

- a preliminary description of the proposed project;
- the potential impacts (positive as well as negative);
- a record of all comments and concerns raised by I&APs; and
- the Terms of Reference for the environmental specialist studies

The DESR, including the Comments and Response Report, will be made available for public comment. The comment period will be 30 consecutive calendar days. All registered I&APs will be notified by letter and advertisements will be placed in local newspapers. After the comment period, a final ESR will be compiled for submission to the Competent Authority and copies will be made available to stakeholders.

***Progress feedback to I&APs***

All registered I&APs will receive a personalised letter, giving feedback on the progress of the EIA and to thank those who commented to date, and to outline the next steps in the EIA process.

## **PHASE 2: Impact Assessment Phase**

Primary purpose is to:

**Draft EIR/EMP:** After the various environmental specialist studies of the potential impacts have been completed, the results will be compiled into the draft EIR/EMP.

**Public review of the draft EIR/EMP:** The draft EIR/EMP will be made available for public review for a period of 30 consecutive calendar days. This provides I&APs an opportunity to verify that their comments and concerns raised, are adequately addressed, and to submit any further comments.

A second round of Focus Group Meetings and a Stakeholder Workshop will be held to review the draft EIR/EMP. Any comments raised by I&APs will be captured in the final EIR/EMP, which will be submitted to the Competent Authority.

**Final correspondence/notification:** Once the Competent Authority has issued the RoD, I&APs will be notified by personalised letters, of the Competent Authority's decision and of the procedure to follow should they wish to appeal the RoD.

## **A REFRESHER AS TO HOW YOU CAN PARTICIPATE**

1. By responding (by phone, fax or e-mail) to our invitation for your participation, which will be advertised in local newspapers.
2. By mailing, faxing or e-mailing the attached Registration and Comment Form to Naledzi Environmental Consultants.
3. By telephonically contacting us if you have a query, comment or require further project information.
4. By reviewing and commenting on the draft Environmental Scoping Report and the draft Environmental Impact Report within the 30-day review periods.