# REPORT DETAILS

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| **PROJECT NAME:** | **PLAN OF STUDY FOR THE PROPOSED CONSTRUCTION OF A 400KV + - 250 KM POWER LINE FROM BORUTHO SUBSTATION IN MOKOPANE TO BOKMAKIERIE SUBSTATION IN LIMPOPO PROVINCE.**  |
| **REPORT TITLE:** | **PLAN OF STUDY FOR THE PROPOSED CONSTRUCTION OF A 400KV + - 250 KM POWER LINE FROM BORUTHO SUBSTATION IN MOKOPANE TO BOKMAKIERIE SUBSTATION IN LIMPOPO PROVINCE.**  |
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# DEFINITION OF TERMS

Alternatives

A possible course of action, in place of another, that would meet the same purpose and need (of proposal). Alternatives can refer to any of the following but are not limited hereto: alternative sites for development, alternative site layouts, alternative designs, alternative processes and materials. In Integrated Environmental Management the so-called “no action” alternative may also require investigation in certain circumstances.

Assessment

The process of collecting, organizing, analyzing, interpreting and communicating data that is relevant to some decision.

Development

The act of altering or modifying resources in order to obtain potential benefits.

Environment

The external circumstances, conditions and objects that affect the existence and development of individual organism or group. These circumstances include biophysical, social, economic, historical, cultural and political aspects.

Environmental impact

The degree of change in an environment resulting from the effect of an activity on the environment, whether desirable or undesirable. Impacts may be the direct consequence of an organization’s activities or may be indirectly caused by them. Impact can be positive or negative.

Environmental Impact Assessment

Is a process which is used to identify, predict and assess the potential environmental impacts of a proposed development on the environment.

Evaluation

The process of weighing information or the act of making valued judgments.

Interested and Affected Parties

Individual or groups concerned and or affected with an activity and its consequences.

# ABBREVIATIONS

|  |  |
| --- | --- |
| DEA  | Department of Environmental Affairs  |
| EIA  | Environmental Impact Assessment |
| EAP | Environmental Assessment Practitioner |
| EIR | Environmental Impact Report |
| EMP | Environmental Management Plan |
| HESSA | Nzumbululo Heritage Solutions South Africa |
| I&Aps | Interested and Affected Parties |
| NEMA | National Environmental Management Act (Act No: 107 of 1998) |
| PoSEIA | Plan of Study for Environmental Impact Assessment  |
| PPP | Public Participation Process |

PROPOSED CONSTRUCTION **OF A 400KV + - 250 KM POWER LINE FROM BORUTHO SUBSTATION IN MOKOPANE TO BOKMAKIERIE SUBSTATION IN LIMPOPO PROVINCE.**

# Plan of Study for EIA

# INTRODUCTION

Nzumbululo Heritage Solutions South Africa (HeSSA) was appointed by Eskom SOC Limited (Transmission) to conduct an Environmental Impact Assessment (EIA) study for the proposed construction of a 250-km-long 400kV transmission powerline and associated substation infrastructure. The powerline will traverse from the west of the Capricorn District to Vhembe District in Limpopo Province. The proposed line will start at Borutho substation in Mokopane to Bokmakierie substation in Nzhelele Limpopo Province.

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## 1.1. BACKGROUND TO THE STUDY

The proposed powerline and associated substation works are listed activities as defined by GNR 545 ( Listing Notice 1) Of 18 June 2010 of the National Environmental:

*Activity 8 (l): “The construction of facilities or infrastructure, for the transmission and distribution of electricity with a capacity of 275 kolovolts or more, outside an urban area or industrial compex.”*

The above mentioned activities requires a full Environmental Impact Assessment (EIA) study, according to the 2010 Regulations, to inform the application for the environmental authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). The original application for environmental authorisation made on 2nd February 2012 The lead environmental authority for this application is the Department of Environmental Affairs (DEA). As such an EIA application was lodged with DEA (application reference 12/12/20/1912). Acknowledgement letter is attached in Appendix 1.

This Plan of Study for Environmental Impact Assessment (PoSEIA) has been prepared in order to meet the requirements of the Environmental Impact Assessment (EIA) regulations and guidelines as outlined in Regulation 29 published in Government Notice No. R385 of April 2006 and Regulation 28 of Government Notice 543 which was enforced 2 August 2010.

The EIA process commenced in February 2012 with a submission of an Application form to Department of Environmental Affairs (DEA). The first phase of the EIA process, the Scoping Phase, culminated in the production of a Scoping Report, which identifies potential environmental impacts and project alternatives, which require more detailed investigation. This PoSEIA has been included in the Scoping Report, in order to provide guideline on the scope and details of work envisaged for the EIA process. As such in reviewing the Scoping Report, DEA will also review the PoSEIA.

## 1.2. PURPOSE OF STUDY

The purpose of this document is to outline how Nzumbululo Heritage Solutions will undertake the Environmental Impact Assessment study as part of a comprehensive EIA process for the proposed development. The PoSEIA provides information as required for such a document in terms of Regulations 27 to 36 as published in terms of Chapter 5 of the National Environmental Management Act (NEMA) of 1998 (Act 107 of 1998). The PoSEIA indicates the proposed approach to the EIA study in order to ensure that the next phase of this EIA process satisfies the requirements of DEA by outlining the anticipated process and products of the process.

The overall process is referred to as the Environmental Impact Assessment (EIA) process, which is composed of three phases:

* The Application Phase;
* The Scoping Report Phase; and
* The Environmental Impact Assessment Phase

# 2. PLAN OF STUDY

## 2.1 DESCRIPTION OF THE TASKS TO BE PERFORMED

The EAP of Nzumbululo Heritage Solutions assisted by a team of in-house environmental officers will conduct the Environmental Impact Assessment field study. Other specialists will be retained to further identify and examine additional specialised biophysical and human environmental impacts associated with the proposed activity. The identified impacts will be assessed using the rating scales discussed in Section 2.3 below.

### 2.1.1. Description of Proposed Activity

The nature of the activity is described in detail in the Scoping Report. It comprises the construction of a 250km 400kv powerline, which will start from Borutho substation in Mokopane to Bokmakierie substation in Nzhelele.

## 2.2 POTENTIAL ENVIRONMENTAL IMPACTS IDENTIFIED DURING SCOPING

The Scoping investigation has reviewed the range of potential environmental impacts associated with the proposed activities. Pursuant to this assessment, which was based on input from the authorities, interested and affected parties (I&APs) and various professionals, a shortlist of potentially significant environmental impacts were identified for further and more detailed investigation during the EIA Phase. Specifically, the potential environmental impacts are described in the Scoping Report.

## 2.3. METHOD FOR ASSESSING THE SIGNIFICANCE OF POTENTIAL ENVIRONMENTAL IMPACTS

This section outlines the proposed method for assessing the significance of the potential environmental impacts outlined in the Scoping Report. These include both operational and construction phase impacts. For each impact, the EXTENT (spatial scale), MAGNITUDE (size) and DURATION (time scale) would be described (Table 1). These criteria would be used to ascertain the SIGNIFICANCE (consequence) of the impact, both in the case of no mitigation and with the most effective mitigation measure(s) in place. The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude (Table 2). The mitigation described in the EIR would represent plausible and pragmatic measures but does not necessarily imply that they would be implemented as such. Eskom (the development proponent) will indicate at the Draft EIR phase which mitigations would be applied in cases where such intervention is recommended. Subsequent to determining the significance of an impact, the PROBABILITY of this impact occurring and the associated CONFIDENCE in the assessment of the impact would be determined (Tables 3 and 4).

All the Specialist studies proposed for the proposed construction of the power line and substation will use ratings provided above when assessing the potential impacts. The concerns raised by the I&APs on impacts will be taken into consideration and recommendations will be made in order to avoid or minimise the negative impacts.

**Table 1:** Assessment criteria for the evaluation of impacts.

|  |  |  |
| --- | --- | --- |
| **CRITERIA**  | **CATEGORY**  | **DESCRIPTION** |
| Extent or spatialinfluence of impact | Regional Local Site specific  | Beyond a 10 km of the site boundaryWithin a 10 km of the site boundaryOn site or within 10 m of linear infrastructureCorridors |
| Magnitude of impact(at the indicatedspatial scale) | High Medium Low Very Low Zero  | Natural and/ or social functions and/ or processes are *severely* altered.Natural and/ or social functions and/ or processes are *notably* altered.Natural and/ or social functions and/ or processes are *slightly* altered.Natural and/ or social functions and/ or processes are *negligibly* altered.Natural and/ or social functions and/ or processes remain *unaltered.* |
| Duration of impact | Construction period Medium Term Long Term  | Up to 5 years0-10 years after constructionMore than 10 years after construction |
|  |  |  |

**Table 2:** Definition of significance ratings.

|  |  |
| --- | --- |
| **SIGNIFICANCE** | **DESCRIPTIVE RATINGS** |
| **High** | * High magnitude with a regional extent and long term duration
* High magnitude with either a regional extent and medium term duration or a local extent and long term duration
* Medium magnitude with a regional extent and long term duration
 |
| **Medium** | * High magnitude with a local extent and medium term duration
* High magnitude with a regional extent and construction period or a site specific extent and long term duration
* High magnitude with either a local extent and construction period duration or a site specific extent and medium term duration
* Medium magnitude with any combination of extent and duration except site specific and construction period or regional and long term
* Low magnitude with a regional extent and long term duration
 |
| **Low** | * High magnitude with a site specific extent and construction period duration
* Medium magnitude with a site specific extent and construction period duration
* Low magnitude with any combination of extent and duration except site specific and construction period or regional and long term
* Very low magnitude with a regional extent and long term duration
 |
| **Very low** | * Low magnitude with a site specific extent and construction period duration
* Very low magnitude with any combination of extent and duration except regional and long term
 |
| **Neutral** | * Zero magnitude with any combination of extent and duration
 |

**Table 3:** Probability rating estimations

|  |  |
| --- | --- |
| **PROBABILITY** | **DESCRIPTIVE RATING** |
| **Definite** | Estimated greater than 99 % chance of the impact occurring. |
| **Highly probable**  | Estimated 80 to 99 % chance of the impact occurring. |
| **Probable** | Estimated 20 to 80 % chance of the impact occurring |
| **Possible** | Estimated 1 to 20 % chance of the impact occurring. |
| **Unlikely**  | Estimated less than 1 % chance of the impact occurring. |

**Table 4:** Confidence ratings

|  |  |
| --- | --- |
| **LEVEL OF CONFIDENCE** | **DESCRIPTIVE RATING** |
| **Certain** | Wealth of information on and sound understanding of the environmental factors potentially influencing impact |
| **Sure** | Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact. |
| **Unsure** | Limited useful information on and understanding of the environmental factors potentially influencing this impact. |

## 2.4 SPECIALIST STUDIES

The following will be explained in detail and the specialist input will be used to address the following issues:

* Baseline Environmental Condition
* Potential Environmental Impacts
* Alternative
* Mitigation measure (Draft environmental management plan)
* Risk assessment and evaluation after closure

The following specialists have been retained by Nzumbululo Heritage Solutions to further investigate the key potential impacts on the proposed project’s receiving environment.

**Table 5:** Project Specialists

|  |  |
| --- | --- |
| **Area of specialisation** | **Name of Specialist** |
| Avi-faunal studies | Luke Strandell |
| Ecological Studies [Flora and Fauna) | George Bredenkamp |
| Archaeological. Palaeontological, Historical and Cultural Heritage studies | Trust Mlilo |
| Tourism | Gillian Kombora |
| Agricultural Studies | Kingsley Ayisi |
| Wetland Studies | Shaun Tailor |
| Social Impact Assessment | Kelebogile Mogajane |

# 3. PUBLIC PARTICIPATION PROCESS (PPP)

The purpose of the Public Participation Process (PPP) would be to provide I&APs (key stakeholders and the public) with adequate opportunity to have input into the environmental process as is legislatively required under Government Notice No. R385 and R543 (NEMA Act No. 107 of 1998). (Information dissemination is the corners stone of the PPP exercise. Communication with the I&APs will be conducted through advertising, open meeting and placement of on-site notices. On-site notices will be placed in public areas that are visible and accessible by Interested and /or affected parties. These notices will be in English. A newspaper advert (as shown below) will be placed in the local whereby the I&APs will be given 30 days to comment, the advert will also call for I&APs to register their names and contact details.

**Table 6:** Sample Public Notice and Advert for the EIA process for the proposed activity.

# NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

**(DEA REFERENCE NO. (14/12/16/3/3/2/287**

Notice is hereby given in terms of the Environmental Impact Assessment regulations, published in Government Notice No. R 543 of 2010 of activities identified in terms of Section 24 and 24D of the National Environmental Management Act of 1998 (Act No: 107 of 1998) as amended. Nzumbululo Heritage Solutions on behalf of Eskom SOC Limited intend to carryout an Environmental Impact Assessment Study for the proposed construction of 250km 400kV powerline from Borutho Substation in Mokopane to Bokmakierie Substation in Nzhelele in Limpopo Province.

# DESCRIPTION OF DEVELOPMENT

The proposed construction will ensure infrastructural reliability and adequate supply of electricity. in terms of Government Notice R545 ( Listing Notice 2 ) activity no 8 applies to the proposed development, i.e The construction of facilities or infrastructure for the transmission and distribution of electricity with the capacity of 275 kilovolts or more, outside an urban area or industrial complex

# LOCATION

The project area is located within Limpopo Province in the following district municipalities: Capricorn, Vhembe and localy municipalities Makhado, Blouberg, Mogalakwane, Molemole and Aganang local Municipality

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Interested and Affected Parties are invited to participate in the EIA process by commenting or raising issues pertaining to the above-proposed development. In order to ensure that you are identified as an Interested or Affected Party, please submit your name, contact details and comments to Hellen Mlotshwa of Nzumbululo Heritage Solutions. **Please note that you should submit your concerns/queries on or before the 23 July 2012**

An Issues and Response Report (IRR) will be compiled, it will include verbal, faxed, telephonic or written issues raised during meetings with and feed back from the I&APs. The IRR will also include responses to the issues raised. Further public participation process would include the following:

## 3.1 PUBLIC COMMENT ON THE DRAFT EIR

The Draft EIR will be lodged at appropriate venues (including the Public Library/ Municipality Offices. Registered I&APs will be notified of the lodging by means of letters, and given a 30-day period in which to comment on the report. During the comment period, a public meeting will be held to enable I&APs to provide feedback on the draft report. The public meeting will be advertised in the local media and in the letters informing registered I&APs of the release of the Draft EIR. The public comments would be consolidated into an Annexure of the EIR. This would take the form of an Issues Trail, which would summarise the issues raised and provide responses thereto. The draft report would then be revised in light of feedback from the public.

## 3.2 OPPORTUNITY FOR APPEAL

All registered I&APs would be notified in writing of the release of the Environmental Authorization. They would be reminded of their right to appeal against DEA’s decision to the national Minister, in terms of the environment legislation and regulations.

# 4. PROJECT ALTERNATIVES IDENTIFIED DURING SCOPING

The Scoping investigation has reviewed the project alternatives associated with the proposed powerline. Section 9 of Scoping Report describes the alternatives. The following reasonable project alternatives have been identified for further, more detailed investigation during the EIA Phase:

* Alternative alignments for the powerline servitude

# 5. THE ENVIRONMENTAL IMPACT REPORT [EIR]

The purpose of the EIR would be to undertake a comparative assessment of the significance of the potential environmental impacts of the project alternatives outlined. The EIR would thus include the following:

* A brief overview of the potential environmental impacts and reasonable alternatives identified during the Scoping Phase.
* A summary of the key findings of the various specialist studies.
* An overview of the public participation process conducted during the compilation of the EIR.
* A detailed assessment of the significance of the potential environmental impacts for the various project alternatives. This assessment, which would use the methodology outlined in Section 2.4, would be informed by the findings of the specialist studies, professional judgment of the environmental practitioners, inputs from the Eskom technical team and comment from the various I&APs.
* An overview of the full range of mitigation measures including an indication of how these would influence the significance of any potential environmental impacts. These mitigation measures would be informed by the specialist studies, professional experience of the environmental practitioners, input from the technical team and comment received from the I&APs.
* A construction phase Environmental Management Plan (EMP) to minimise the impacts of the construction phase.
* A generic operational phase EMP, which would set environmental guidelines for the operation phase of the proposed power substation and associated infrastructure.

## 5.1. DISTRIBUTION OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

The draft EIR will be prepared based on the issues identified during the scoping and impact assessment phase and the results from specialist studies. After inclusion of comments from the I&APs, the final EIR will be submitted to DEA.

## 5.2. AUTHORITY REVIEW

The final EIR will be submitted to DEA for Decision Making.

# 6. SCHEDULE OF TASKS FOR THE EIA PROCESS

The schedule of tasks below has been created on the assumption that this PoSEIA and scoping report will be approved by the Department of Environmental Affairs. There after, the EIA process would proceed as approved.

**Table 7:** Proposed Schedule of activities

|  |  |
| --- | --- |
| **ACTIVITY**  | **DATE** |
| Submission of scoping report and plan of study for EIA | August 2012 |
| Approval of scoping report and plan of study by DEA | September 2012  |
|  Public Participation Process will continue up until the EIR as we have not found all the land owners | August 2012 |
| Circulation of draft EIR to I&Aps | October 2012 |
| Comments from I&Aps | November 2012 |
| Final EIR (including Issues and Response Report) to DEA | December 2012  |
| Notification to I&APs of outcome of Environmental Authorisation | February 2013 |

# 7. CONCLUSION

This plan of study for EIA serves as a guiding tool to DEA, and it informs the authority on how the impact assessment exercise pertaining to the proposed development will be conducted. DEA will review this plan of study for the EIA study and provide a decision if the EAP may proceed to the Impact Assessment phase of the project.

Nzumbululo Heritage Solutions, independent EIA consultants appointed by Eskom SOC Limited, believe that the process outlined in this draft PoSEIA is fully compliant with the requirements of environmental and other auxiliary legislations and applicable regulations. Nzumbululo Heritage Solutions has both the resources and relevant experience to undertake the approach outlined in this document to the satisfaction of both DEA and I&APs.

# 8. BIBLIOGRAPHY

*National Environmental Management Act* (Act 107 of 1998), Department of Environmental Affairs and Tourism, South Africa, Pretoria.

*EIA Regulations* (Government Notice no R.385 and R.387) April 2006, Department of Environmental Affairs and Tourism, South Africa,

*EIA Regulations* (Government Notice no R.543 and R.544) August 2010, Department of Environmental Affairs and Tourism, South Africa,