
PEGASUS-UMFOLOZI 400kV TRANSMISSION LINE

ENVIRONMENTAL IMPACT ASSESSMENT

PLAN OF STUDY FOR EIA

1. Introduction

This Plan of Study for EIA is prepared in support of the Environmental Impact Assessment process being adopted for this study. It is updated from the draft presented in Appendix E to the Plan of Study for Scoping (October 2001). The draft was prepared in support of specialist studies that were initiated during the Scoping Phase, instead of the normal procedure of undertaking the specialist assessment studies once the Scoping Phase is completed. This approach is founded on two conditions:

- ▶ There is a constrained study timeframe, primarily due to anticipated significant demands on the Transmission network in the next two years,
- ▶ There is considerable experience and understanding of environmental impacts of transmission lines, thus allowing many of the key issues to be addressed at an early stage in the EIA study.

By adopting this approach it is acknowledged that the specialist studies undertaken at this early stage may not address all the issues that may arise during the Scoping Phase, and that certain aspects may need to be revisited, or additional studies commissioned on completion of the Scoping Phase. However, the outcome of the Scoping Phase has been that no new issues were raised that will require further additional site work or desk-top analysis. There are new issues that will require input by the specialists that have already been involved in the studies to date, though it is expected that the baseline information already gathered for the study area will be sufficient to address these issues.

The background to the study, the description of the proposals, the project and timeframe motivation and the breakdown of the proposed EIA process is set out in the Scoping Report, and needs to be read in conjunction with this draft Plan of Study for EIA.

This update of the draft Plan of Study for EIA therefore comprises the final Plan of Study for EIA. In keeping with the reporting format adopted for this study, this Plan of Study for EIA is submitted as an appendix to the Scoping Report.

2. Specialist Studies Undertaken in the EIA Phase

The specialist studies undertaken in parallel with the Scoping Phase include the following:

- ▶ Visual Impact Assessment
- ▶ Socio-economic Impact Assessment
- ▶ Ecology
- ▶ Avifauna
- ▶ Soils
- ▶ Archaeology

The specialists identified for the different studies are set out in the table below.

Role	Company and key personnel	Experience summary	Transmission line experience	Experience in area
Ecology (fauna and flora)	Indiflora Environmental Services – Johan Bodenstein	Has particular experience with linear developments, and good knowledge of the area.	√	√
Avi-fauna	Endangered Wildlife Trust – Kevin McCann	Extensive research on the impacts of transmission lines on birds	√	√
Socio-economic	Afrosearch – Brian Magongoa, Kay Brügge	EIA and SIA experience on Eskom Transmission and other projects, and specific experience in the area	√	√
Archaeology & Culture	Screening assessment undertaken by AMAFA			√
Visual impacts	Cave Klapwijk Associates – Menno Klapwijk	Specialist in visual impact analysis and experienced in transmission line studies	√	
Soils and geology	Kay Environmental – Kayode Okesanjo	Specialist in soil contamination and erosion, and experienced in Eskom Transmission developments	√	

The components for each is summarised in the following table.

Specialist Investigation	Level of Study
Visual	<p>The objectives of this study include:</p> <ul style="list-style-type: none"> • Describe the visual character of the transmission line routes by evaluating components such as topography and current land use activities. • Identify elements of particular visual quality that could be affected by the proposed transmission line. • Describe and evaluate the visual impacts of the individual components of the proposed transmission line from critical areas and view fields. This assessment should assess impacts according to the criteria and terminology as indicated in the EIA document • Recommend mitigation measures to reduce the potential visual impacts generated by the components of the proposed project. • Integrate findings with the social specialist <p>The assessment will include the definition of the visual characteristics of the development, undertake a viewshed analysis within the parameters of the existing environment, the determination of impacts based on travel routes, visual resources (scenic routes, etc.), nature of viewer activity, etc. the analysis will be undertaken at desk-top level using topographic detail, and site verification will be undertaken.</p> <p>Recommendations for the environmental management plan will be made.</p>
Archaeological	<p>An initial screening exercise will be undertaken by AMAFA, the provincial cultural heritage authority. The exercise will identify any potential sites of archaeological interest, and will set out the necessary level of any further study. A specialist will be appointed as appropriate.</p>
Soils	<p>This will be a desk-top study with the following objectives:</p> <ul style="list-style-type: none"> • Identify areas of high erosion risk • Assess impact of the construction process and in particular the establishment and maintenance of access roads • Assess the potential impact on agricultural potential • Integrate findings with the social and ecology specialists • Recommend management and mitigation measures <p>Site verification may be required as appropriate.</p> <p>Recommendations for the environmental management plan will be made.</p>

Specialist Investigation	Level of Study
Ecological	<p>This will be a desk-top study based on available literature and aerial photographs. The main objectives cover fauna and flora, and will include:</p> <ul style="list-style-type: none"> • Identify sensitive areas and proclaimed natural areas • Determine the presence of Red Data Species • Investigate vegetation management under the Transmission lines, with particular consideration of herbicides and fire. • Identify ecologically fire sensitive areas and burning regimes • Develop an understanding of construction, operational and decommissioning activities that may increase the incidence of fire • Investigate Eskom Transmission's management and operational policies with regard to the use of herbicides • Identify areas and types of fauna and flora that are at high risk to poaching • Develop an understanding of access requirements of Eskom in order to assess the potential magnitude of the poaching impact • Assess seasonal impacts due to construction, operation, etc. • Identify likely issues associated with the construction camps following the clarification of construction camp issues by the project team • Identify potential for ecological corridors in developed areas, where appropriate • Provide recommendations for mitigation. • Integrate findings with avifauna, social, soils and archaeological specialists • Recommendation of monitoring measures • Recommend follow-up procedures for specialist involvement in the design and construction phases. <p><i>(It is anticipated further specialist input will be required in the detailed design and construction phases to refine mitigation measures pylon locations have been identified in the design)</i></p> <p>Site confirmation will be undertaken as appropriate.</p> <p>Recommendations for the environmental management plan will be made.</p>
Avifauna	<p>This will be a desk- top study, with field confirmation in key areas, with the following objectives:</p> <ul style="list-style-type: none"> • Identification of transmission line sensitive bird species in the study area • Location of species as per SABAP mapping for the area • Identification of breeding areas, preferred habitats, anticipated movement or migration patterns. • Assessment of seasonal variations • Integrate findings with the ecology specialist • Recommendation of mitigation measures • Recommendation of monitoring measures • Recommend follow-up procedures for specialist involvement in the design and construction phases. <p><i>(It is anticipated further specialist input will be required in the detailed design and construction phases to refine mitigation measures based on interim monitoring)</i></p> <p>Recommendations for the environmental management plan will be made.</p>

Specialist Investigation	Level of Study
Social & Socio-economic	<p>Through desk-top investigations, key informant interviews and site visits as appropriate, the following terms of reference will apply:</p> <ul style="list-style-type: none"> ▪ To identify any potential impacts on the social and socio-economic environment during construction, operation and decommissioning of the 400 kV Transmission Line. ▪ To incorporate the relevant issues and impacts raised by Interested and Affected Parties into the assessment process. ▪ To develop social, socio-economic and land use profiles along the proposed 400 kV Transmission route indicating the associated sensitivities of the social environment. The profile should include future social and socio-economic trends and land use planning. ▪ To describe the key social issues, problems and trends. ▪ To gain access to available Interim Integrated Development Plan (IDP) documents for the potentially affected Local and District Municipalities, and where possible, to assess the compatibility of the Eskom initiative with these. ▪ Conduct preliminary investigations to identify skills available and undertake an initial evaluation of these against the skills required for construction activities. ▪ To identify the nature and extent of new employment opportunities, including upstream and downstream opportunities that may arise as a result of the proposed development. ▪ To consider the implications of people from other regions moving into the area in search of employment opportunities. Specific reference to effects during construction (employment creation, construction camps, increase in criminal activities, increase in sex worker trade, increase in spread of HIV/AIDS and increase in traffic) should be evaluated. ▪ To identify the potential location, number and extent of construction camps, the proposed use of the construction camps at the end of construction, and the associated implications. To evaluate the social and socio-economic impacts of locating the construction camps away or closer to towns. ▪ To liaise with the visual specialist, to determine site specific visual impacts related to current and future planned tourism and game farming objectives and the socio-economic implications related to these. ▪ To evaluate the effects of the proposed Transmission line on the spiritual, aesthetic and therapeutic qualities (sense of place) experienced along the route and the possibility of reduced property values and reduced tourism potential as a consequence of this. ▪ To evaluate the possible effects of the servitude height and width requirements on various agricultural activities practiced along the proposed route. To determine the possible loss of agricultural potential and the resultant impact on economic viability of agricultural and forestry activities along the proposed route. ▪ To identify and evaluate the potential impact of the Transmission line and its servitude on residences and labour cottages, which may be more likely in the more densely populated regions. ▪ To consider the positive and negative impacts associated with construction activities taking place during various seasons including: harvesting seasons, holiday seasons, winter, dry/rainy season, breeding seasons of fauna, etc. To identify alternatives with the lowest possible impacts. ▪ To determine and recommend actions for the use and maintenance of access roads, fences and gates. ▪ To investigate the possibility of an increased risk of poaching of fauna and flora due to improved access routes. ▪ To investigate the potential health implications of the possible use of creosote poles during construction.

Specialist Investigation	Level of Study
	<ul style="list-style-type: none"> ▪ To suggest possible management actions to mitigate negative socio-economic impacts and to enhance positive impacts, whilst describing possible limitations to potential management actions. This should be in a form that is easily assimilable in an Environmental Management Plan. ▪ To prepare a detailed report outlining the findings of the study, which includes the methodologies that were used and analyses critical issues and impacts, providing an assessment with and without mitigation/ management actions. ▪ Integrate findings with visual impact, ecological and archaeological specialists <p>Recommendations for the environmental management plan will be made.</p>

3. Impact Assessment Criteria

The impact assessment criteria that will be used by the specialists are set out in Appendix F of the Scoping Report.

4. Specialist Study Timeframes

The specialist studies described above were carried out during the Scoping Phase, and were therefore completed by the end of November 2001. The detail of the study programme is set out in the Scoping Report. The integration of the specialist studies are to be integrated early in December 2001, and they will also address issues raised by landowners and key stakeholders during the Scoping Phase. The results will be presented in a draft Environmental Impact Report.

5. Reporting

The draft Environmental Impact Report (EIR) will be submitted for scrutiny by I&AP's. It is intended this report will be made available to the public early in the third week of December 2001.

6. Public Involvement

The proposed public involvement process (PIP) for the entire study was set out in the Plan of Study for Scoping. Following the Scoping Phase, there have been minor amendments to the PIP and these are detailed in the Scoping Report.

The draft EIR will be available in the public domain until the 18th January 2002, after which and comments will be compiled and the EIR finalised. It is intended to hold further meetings with the AmaKhosi before the 18th January to present the EIR. Meetings with other stakeholders may be held if required.

The final EIR will be presented to the authorities (DAEA-KZN), for a decision by the 1st February 2002.