PLAN OF STUDY FOR EIA FOR THE PROPOSED 400kV ESKOM TRANSMISSION POWER LINE: Aries-Garona

Date of Submission: May 2006

Prepared by:
Tswelopele Environmental (Pty) Ltd.
P.O. Box 2083, Pinegowrie, 2123
Tel: (011) 789-7170
Fax: (011) 787-3059
E-mail: liam@eims.co.za

Proponent:
Eskom Transmission
P.O. Box 1091, Johannesburg, 2000
Tel: (011) 800-2621
Fax: (011) 800-3917
Contact Person: Mamokete Mafumo

PLAN OF STUDY FOR EIA:
ESKOM ARIES-GARONA TRANSMISSION POWER LINE

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	Name	Sign	Date
COMPILED:	**Brian Whitfield**		
CHECKED:	**Liam Whitlow**		
AUTHORIZED:	**Margaret Kalule-Sabiti**		

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REVISION AND AMENDMENTS

DATE	No.	DESCRIPTION OF REVISION OR AMENDMENT
20.04.2006	1	Plan of Study for EIA

PLAN OF STUDY FOR EIA
PROPOSED ARIES-GARONA ESKOM POWER LINE

Submitted to the Northern Cape Department of Agriculture, Land Reform, Conservation, Environment and Tourism and National DEAT to fulfil the requirements of the Environmental Impact Assessment Regulations published in Government Notices No. R.1182 and R.1183 promulgated under Sections 21, 22 and 26 of the Environment Conservation Act (ECA) (No. 73 of 1989)

APPLICATION SUMMARY DATA

PROJECT: Construction of a 400kV Transmission Power line between the existing Aries Substation and the existing Garona Substation as well as an extension of the existing Garona substation.

LOCATION: The study area spans numerous farms in the areas around Groblershoop and Kenhardt in the Northern Cape Province.

APPLICANT: ESKOM TRANSMISSION

Contact: Ms. Mamokete Mafumo
Contact details: P.O. Box 1091
Johannesburg
2000
Tel: (011) 800 2621
Fax: (011) 800 3917

CONSULTANT: Tswelopele Environmental (Pty) Ltd.

Contact: Dr Margaret Kalule-Sabiti (Project Director)
Mr Liam Whitlow (Project Manager)

Contact details: Tswelopele Environmental
PO Box 2083
Pinegowrie
2123
Tel: (011) 789-7170
Fax: (011) 787-3059

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1 INTRODUCTION AND MOTIVATION

Electricity cannot be stored. It is therefore necessary to generate and deliver power over long distances at the very instant it is needed. In South Africa, thousands of kilometres of high voltage Transmission power lines transmit power, mainly from the Power Stations located at the Mpumalanga coalfields to major substations where the voltage is reduced for distribution to industry, businesses, homes and farms all over the country.

If Eskom Transmission is to honour its commitment to meet the increasing needs of end users, it has to establish and expand its infrastructure of Transmission power lines and Substations on an ongoing basis. Due to normal load growth as well as possible new Railway loads in the Northern Cape area, it has become necessary to reinforce the existing electrical infrastructure.

Most towns and cities purchase electricity in bulk from Eskom and sell it to households, industrialists and other end users within their areas of jurisdiction, while Eskom also sells electricity directly to end users in some parts of South Africa.

1.1 Eskom Transmission In The Cape Region

Additional Transmission power line infrastructure will be required in the future to meet customer load demands in the Cape load centres.

This introduction is concerned only with the section between Aries and Ferrum substations (refer to Figure 1 below). This plan of study for EIA refers only to the proposed Aries to Garona 400kV Transmission power line. A separate EIA application will be lodged by a separate independent consultancy for the Ferrum to Garona transmission power line.

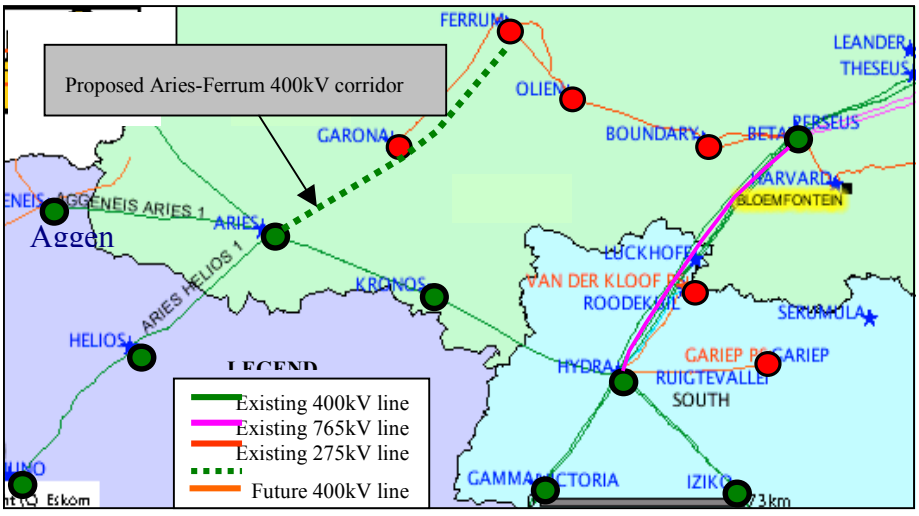

Figure 1. Proposed future network linking Aries and Ferrum substations with a 400kV Transmission power line.

Eskom has a mandate to satisfy potential customer needs, which implies certain responsibilities. One of the most significant of these is to find and maintain the balances between satisfying the needs of society and remaining within the capabilities of the environment. In order to achieve this

Eskom must continually re-assess its present infrastructure and take into account new developments to ensure that there is a continued supply of electricity, without negatively impacting on the environment.

1.2 The Need For Additional Transmission Capacity In The Corridor Supplying The Cape Area

The Cape 400kV Transmission System, in the Northern Cape area supports customer loads in the Southern Cape, West Coast, Peninsula and Namaqualand load centres. These four load centres had a combined 2004 peak load demand of 3540 MW. This peak load does not include the supply to Namibia, which can amount to 250 MW.

The forecasted average load growth, based on historical data, is around 2.5% per annum. The steady growth in electricity demand is expected to continue, as a result of electrification, increased housing densities, railway transport (possibly on the Sishen-Saldanha line) and commercial development.

The existing transmission power lines are becoming heavily loaded and are predicted to reach their full capacity around 2009/2010. These transmission power lines cannot supply the increased normal load demand in the long-term. New transmission power line extensions and substations upgrades are currently under consideration and will be constructed in the near future.

Studies have shown a steady 2.5% per annum average load growth for the area. It is a sign of good economic growth in this area. The load forecasters predict that this load growth will continue - which will result in the need for additional power lines around the year 2008/9.

A definite need has been identified, viz.: need for additional capacity towards the Cape area.

By increasing the supply into the Cape area, the foreseen load growth can be addressed in a suitable and economical way. Optimisation of the current system is currently underway (Cape Strengthening Western Grid project), and would alleviate some problems in the system. The short to medium term needs will be addressed by the increased supply due to the new transmission power lines.

2 DESCRIPTION OF THE ACTIVITY

The proposed 400kV Transmission power line will be constructed between the existing Garona (28°44'20.0"S; 21°59'44.998"E) and Aries (29°29'38.68"S; 20°47'40.59"E) substations in the Northern Cape province. No final route has yet been determined. Thus, to ensure that the final route results in the least negative influences on the biophysical and socio-economic environment in the region, a study area has been delineated to provide a range of possible routes. The study area consists of a 15km buffer zone at the perpendicular bisector of the direct line between the two substations and tapering off as it nears the substations (refer to Figure 2 below).

For the purposes of the EIA for the Aries to Garona Transmission Powerline the existing Garona sub-station terrace will require extension by an estimated 182m towards the North East and 88m

to the North West, from the eastern corner of the existing site (refer to attached diagrams). Eskom Transmission intends to purchase 5 hectares of land adjacent to the substation in order to accommodate the extension as well as any future developments.

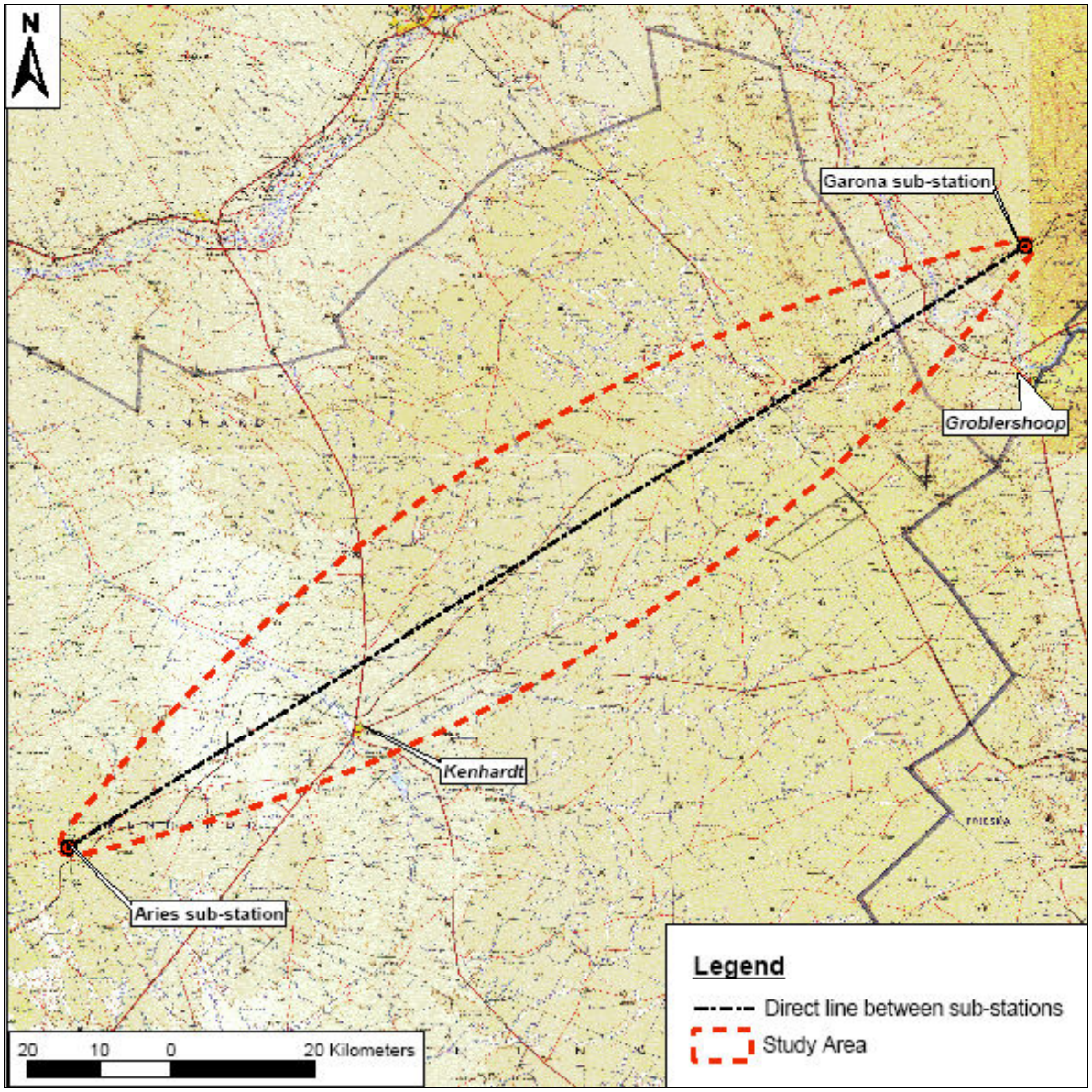

Figure 2. Contextual setting of the study area for the Aries-Garona Transmission power line.

A team of suitably qualified specialists (refer to Section 5) has been assembled and have undertaken detailed investigations of the entire study area to provide input on the most suitable location for the line. The findings of each specialist were synthesised during the preparation of the Scoping report to provide alternatives (rated according to potential impacts).

Site visits have been undertaken by the entire project team in order to undertake the relevant studies of each. Draft Scoping Reports have been received from all the specialists and will be amended and finalised upon commencement of the EIA phase.

The physical environment within the study area consists mostly of arid farmland. Near the town of Groblershoop, the line will need to cross the Oranje River and all possible options were explored to

ensure the least negative issues are encountered. Numerous vineyards span the banks of the river. Eskom will negotiate the necessary servitude upon elucidation of the preferred route.

During the Scoping phase, input was gathered from all relevant specialists and stakeholders and a preferred route proposed as well as alternatives around sensitive features (refer to map in Appendix 2). A full EIA process must be undertaken in order to ensure that the study is comprehensive and addresses all potential issues.

Eskom envisages construction to commence in January 2008 and be completed in January 2009.

3 Scoping Phase

3.1 Environmental Scoping Study Undertaken

An issues-based Environmental Scoping Study (ESS) has been undertaken for the proposed project. Information obtained from desktop studies, specialists, the authorities and during the course of the public participation process was used to identify and evaluate potential environmental impacts arising out of the proposed development. No environmental fatal flaws associated with the proposed development were identified, although a number of potentially significant environmental impacts were identified as requiring further in-depth study. Therefore, a full EIA is required to be undertaken in order to provide a comprehensive assessment of these potential impacts and to make recommendations to identify measures to be adopted for the mitigation of identified impacts.

3.1.1 *Public Participation*

The draft Environmental Scoping Report was made available for public review from Thursday, 23 March 2006 to Friday, 5 May 2006 at the following venues:

- Groblershoop Police Station (210 Hoofstraat, Groblershoop)
- Wegdraai Betaalkantoor (Jeugstraat, Groblershoop)
- Kenhardt Public Library (Park Street, Kenhardt)
- Kleinbegin Farmers Union (c/o Mr. Louis Kotze)
- Kenhardt Farmers Union (c/o Mr. Michael van Niekerk)

Electronic and hard copies of the report were also provided to a number of key stakeholders (e.g. ward councillors, landowners, etc.). The entire report was made available at www.eskom.co.za/eia. A final Environmental Scoping Report, which included the comments received during the public review period, was submitted on the 15th of May 2006 to DEAT and the Northern Cape Department of Tourism, Environment and Conservation for review and consideration.

4 Environmental Impact Assessment (EIA) Phase

All potentially significant environmental impacts arising out of the construction and operation of the transmission power line, as identified throughout the course of the scoping study, will be further investigated and assessed within the EIA through more in-depth specialist studies. The final route will be nominated. In addition, recommendations will be made regarding mitigation and/or management measures to address the unavoidable impacts identified.

The objective of the EIA phase is to adequately address all environmental issues in order to provide the environmental authorities with sufficient information to make an informed decision with respect to the authorisation of the proposed 400kV transmission power line.

The following approach will be adopted in the EIA phase:

1. Prepare a Plan of Study for the EIA, to be approved by DEAT and the Northern Cape Department of Tourism, Environment and Conservation;
2. Source specialist input to address the issues raised during scoping and investigate the relevant alternatives;
3. Assess impacts and their significance for each of the alternative routes in order to select the final route with the least significant impacts (see method for assessing significance at 4.3 below);
4. Suggest mitigation measures;
5. Compile the Environmental Impact Report (EIR); and
6. Public / authority participation throughout.

5 TASKS TO BE PERFORMED

A Plan of Study for EIA is hereby prepared and includes a description of the scope of work proposed for the EIA report. The authorities will issue any additional requirements after the evaluation of this Plan of Study for EIA. These requirements will be included in the EIA process.

5.1 Environmental Issues & Potential Impacts Identified during the Scoping Process

The purpose of the Scoping phase was to identify issues pertaining to the proposed transmission power line during the pre-construction, construction and operational phase that may require further investigation. It is not foreseen that the transmission power line will be decommissioned in the near to distant future and hence this issue is void.

This then initiates the EIA phase where specialist studies are expanded where necessary in order to increase the information used in the evaluation of potential impacts and thereby provide for

informed decision making, as to whether the proposed activity could have a significant detrimental effect on the environment.

5.1.1 Issues Not Requiring Further Assessment

The Environmental Scoping Study (ESS) revealed potential issues that the proposed transmission power line will have on the biophysical and socio-economic environment. During the EIA phase, all specialists will be provided with a list of the potential impacts that are common to all four alternative routes as well as those impacts which are specific to a particular alternative route in order to rate the significance of these impacts (with and without mitigation measures). In so doing, the alternative route with the least significant impact will be put forward as the chosen alternative alignment.

Hence, no issues identified during Scoping can be discarded at this stage as a more detailed investigation into their significance is required.

5.1.2 Issues Requiring Further Assessment in the EIA

The issues that will be addressed in the EIA study are those that have been identified during the scoping study to be potentially significant, without having been resolved or that require additional information. The issues on which sufficient information was available through the project team or literature were screened out during the scoping study.

Based on the findings of the scoping process, the following specialist studies are required to provide more detailed information (significance ratings) on the issues identified and listed herein:

- Agriculture

An Agricultural study was undertaken by the Agricultural Research Council to determine the general soils and agricultural potential within the study area. In general, most of the area has red, shallow to very shallow, often calcareous soils on rock. There are small areas of deeper red and yellow soils in the south-west as well as a larger area of deeper red soils (some with dunes) in the north-east. The main farming practice within the study area consists of sheep farming due to the low agricultural potential of the soils. The proposed transmission power line will not impact negatively on this farming practice. Along the Orange River, the line will traverse vineyards however no major concerns have been raised in this regard. Eskom Transmission will negotiate the acquisition of a servitude from the affected landowners.

A table of the potential impacts that the proposed transmission power line will have on the agricultural potential/activities within the study area as well as for each of the four alternative route alignments will be forwarded to the specialists in order to undertake significance ratings (with and without mitigation measures in place).

List of agricultural issues requiring further assessment:

- Loss of agricultural land
- Disruption of agricultural practices

- Avifaunal Impacts

The most significant anticipated impact of the proposed power line on birds is that of collision with the earth wire. The most sensitive areas in this respect are the Hartbeesrivier crossing, the "wetland" or pan areas, the arable land adjacent to the Orange River, and the Orange River crossing itself. Fortunately the proposed alignment currently crosses the rivers and arable lands at relatively good, narrow points. These sections of line will most likely be recommended to be marked with a suitable marking device on the earth wire in order to further reduce collisions.

A table of the potential avifaunal impacts of the proposed transmission power line for the general study area as well as for each of the four alternative route alignments will be forwarded to the consultant in order to undertake significance ratings (with and without mitigation measures in place). Impacts on individual Red Data species will be further described and assessed. A "walk through" assessment of the final route will be required in order to determine which spans of line will need to be marked with a suitable marking device.

List of agricultural issues requiring further assessment:

- Hartbeesrivier crossing (sensitive Avifaunal site)
- "wetland" or pan areas (sensitive avifaunal sites)
- Arable lands adjacent to the Orange River (sensitive avifaunal sites)
- Orange River crossing itself (sensitive avifaunal sites)
- Electrocutions
- Collisions
- Habitat destruction
- Disturbance
- Impact of birds on the quality of electrical supply

- <u>Ecological Impacts</u>

A detailed ecological investigation of the habitats as well as fauna and flora in the study area has been undertaken. The report concludes that a variety of plant and animal species of special concern occur in the study area, as well as some potentially sensitive habitats. Sensitive habitats include the Lower Gariep Alluvial Vegetation, Lower Gariep Broken Veld, Gordonia Duneveld and Bushmanland Basin Shrubland. The proposed powerline may, therefore, have a negative impact on the conservation status of threatened plant or animal species or vegetation communities unless these are avoided. Mitigation can reduce many of these impacts. The impact of gravest concern is the high incidence of mortality associated with electrocution or impacts with powerlines by certain threatened bird species. During the EIA phase, the avifaunal specialist will investigate this impact in detail.

A table of the potential ecological impacts of the proposed transmission power line for the general study area as well as for each of the four alternative route alignments will be forwarded to the consultant in order to undertake significance ratings (with and without mitigation measures in place). Further input with regards to the ecological specialist will include an assessment of the impacts on the ecology for each tower position. A "walk through" of the final route will be required in order to accomplish this task.

List of agricultural issues requiring further assessment:

- Construction impacts
  - Increased noise pollution

  - Increased dust pollution
  - Increased risk of veld fires
- Operational and long term impacts
  - Loss and fragmentation of habitats
  - Spread of alien species
  - Disturbance to sensitive ecosystems
  - Impacts on populations of endemic and red data species
  - Impacts on the movements and migrations of bird and animal species

- Heritage Impact Assessment

The heritage impact assessment undertaken during the Scoping phase of the project consisted of essentially a desktop survey of sites and resources of heritage significance based on observations at the regional level with limited field observations during a drive through of the area. No major issues were identified with regards to the proposed transmission power line and known archaeological sites in the area.

A table of the potential heritage impacts of the proposed transmission power line for the general study area as well as for each of the four alternative route alignments will be forwarded to the consultant in order to undertake significance ratings (with and without mitigation measures in place). Once the final route is decided and tower positions known, a selection of the latter that are deemed to be in more sensitive locales will be inspected more closely.

List of agricultural issues requiring further assessment:

- Loss of cultural/heritage resources

- Social Impact Assessment

The Social Impact Assessment (SIA) revealed that the general perception of the community is that this development is necessary, and although no one would want a power line to cut across their property, they do understand the need. Numerous recommendations were made in the SIA report that aim to mitigate any negative impacts from a social point of view. No further detailed SIA studies will be required in this regard, however the ongoing process of keeping the community informed during the EIA phase will be maintained.

A table of the potential social impacts of the proposed transmission power line for the general study area as well as for each of the four alternative route alignments will be forwarded to the consultant in order to undertake significance ratings (with and without mitigation measures in place).

List of social issues requiring further assessment:

- Health and social well being
  - Actual health and fertility
  - Aspirations for the future
  - Feelings in relation to the project
  -
- Quality of the living environment
  - Quality of the physical environment

  - Aesthetic quality
  - Adequacy of physical infrastructure
  - Personal safety and risk exposure
  - Crime and violence
- Economic impacts and material well being
  - Property value
  - Employment
  - Replacement cost of environmental functions
- Cultural Impacts
  - Loss of natural and cultural heritage
- Family and community impacts
  - Social networks
  - Community connection
- Institutional, legal, political and equity impacts
  - Impact equity
- Gender relations
  - Gender division of labour
- Sense of place

- Tourism

A specialist review of the Tourism in the area and possible impacts that the proposed transmission power line would have on this industry has been carried out. The main impacts identified include visual impacts and potential disruption from construction activities. These impacts can be suitably mitigated by ensuring that the final route results in minimal visual disturbance particularly in areas of high tourism value as well as the implementation of a construction Environmental Management Plan which will be implemented during construction in order to minimize potential disruption to the surrounding areas.

A table of the potential tourism impacts of the proposed transmission power line for the general study area as well as for each of the four alternative route alignments will be forwarded to the consultant in order to undertake significance ratings (with and without mitigation measures in place).

List of agricultural issues requiring further assessment:

- Tourist visual impact
- Disruption from construction activities
- Power supply to cape region (positive impact)

- Visual Assessment

A detailed Visual Assessment has been undertaken and the primary visual concern is of the potential impact from the physical presence of the transmission power line and associated impacts on views to residents, tourists, and people passing through the study area. Views from residences and tourist facilities are typically more sensitive of the transmission power line, since views from a residence or a tourist facility are considered to be frequent and of long duration. Residences, farmsteads and tourist facilities, including the Orange River, are regarded as high sensitivity viewpoints. The N10 is regarded as a scenic travel route and is therefore also considered a high

sensitivity viewpoint. The hills on which the Quiver Tree forest grows is also considered as a high sensitive viewpoints.

A table of the potential visual impacts of the proposed transmission power line for the general study area as well as for each of the four alternative route alignments will be forwarded to the consultant in order to undertake significance ratings (with and without mitigation measures in place).

List of agricultural issues requiring further assessment:

- Views to residents / farmsteads
- Views to tourists / facilities
- Views to people passing through the study area
- Views at the Orange River
- Views from the N10 (scenic route)
- View from the hills of the Quiver Tree Forest

5.1.3 General Conclusion on Specialist Input

The findings of these studies will be incorporated into the Environmental Impact Report (EIR).

The following general terms of reference are applicable to the specialist studies:

- Carry out further investigation on their area of expertise as and where necessary. This will entail fieldwork (sampling, measuring, observation) and desktop study.

- Assess, using the criteria provided, the environmental impact of each of the proposed development alternatives (both the negative and the positive impacts).

- Suggest avoidance or otherwise relevant, effective and affordable mitigation and monitoring measures. Management actions to enhance the positive impacts must also be included.

Feasible Alternatives

The Final Scoping Report presents all the alternatives raised during the Scoping Study and briefly considers each. Due to the urgent need for additional electricity supply to the Cape region, only one type of alternative has been deemed feasible for further assessment in the EIA phase:

- Alternative locations: There are currently 4 alternative route alignments under consideration. These will be investigated in more detail in the EIA phase of the project in order to make an informed decision.

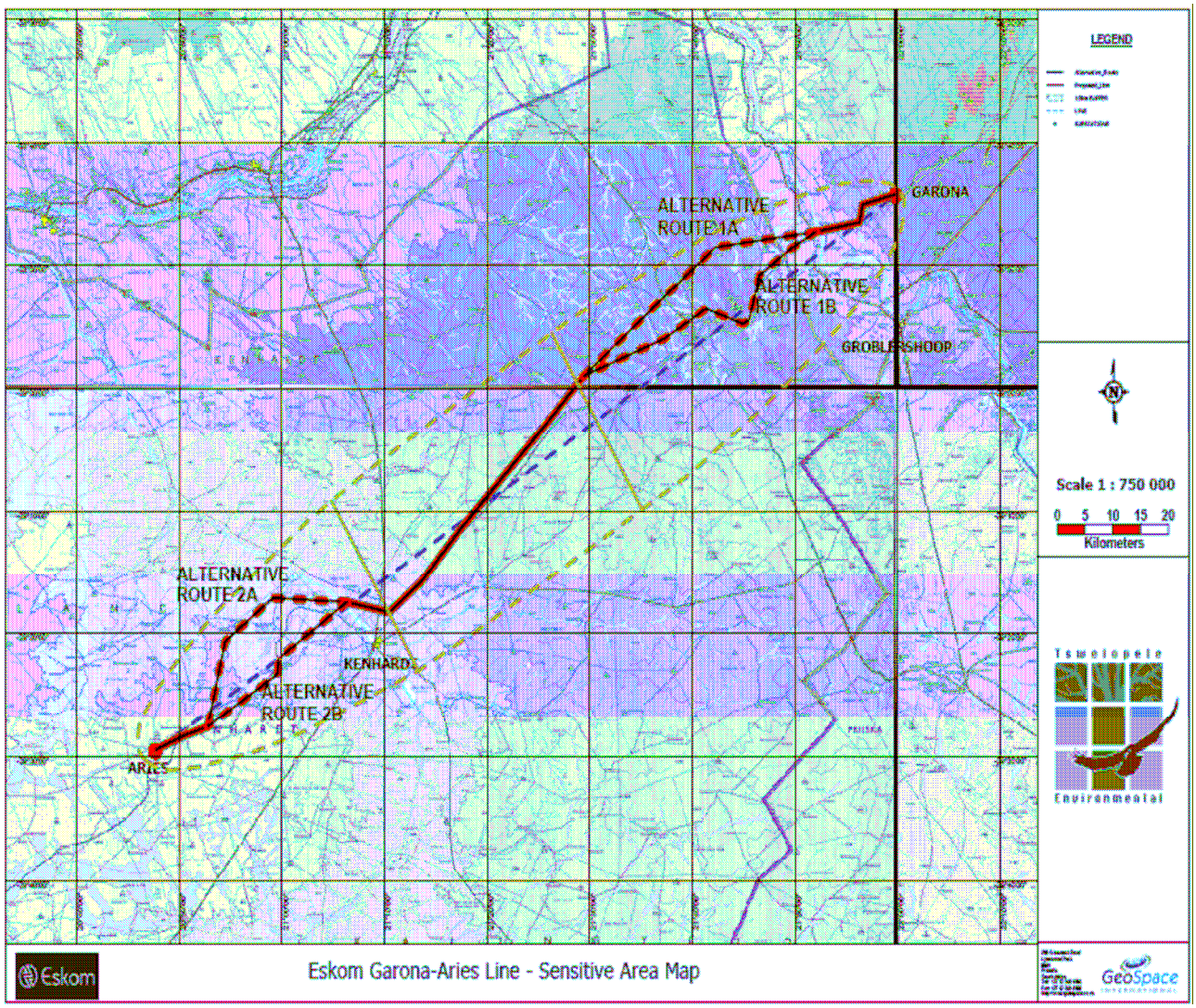

Figure 3. Map showing the proposed alternative routes, which require further investigation during the EIA phase.

5.2 Method of Assessing Significant Impacts

The assessment of impacts will largely be based on DEAT's (1998) Guideline Document: EIA Regulations. The assessment will consider impacts arising from the construction and operation phases of the proposed project both before and after the implementation of appropriate mitigation measures.

It is proposed that the impacts will be assessed according to the criteria outlined below. Each issue is ranked according to extent, duration, magnitude (intensity) and probability. From these criteria, a significance rating is obtained, the method and formula is described below. Where possible, mitigatory recommendations have been made and are presented in tabular form.

Status of Impact

The impacts are to be assessed as either having a:

- negative effect (i.e. at a `cost' to the environment),
- positive effect (i.e. a `benefit' to the environment), or
- neutral effect on the environment.

Extent of the Impact

- (**1**) Site (i.e. within the boundaries of the study area),
- (**2**) Local (i.e. the area within 10 km of the study area),
- (**3**) Municipal
- (**4**) Provincial (i.e. Northern Cape Province),
- (**5**) National (i.e. South Africa), or
- (**6**) International (i.e. Southern Africa and beyond).

Duration of the Impact

The length that the impact will last for is described as either:

- (**1**) immediate (>1 year)
- (**2**) short term (1-5 years),
- (**3**) medium term (6-15 years),
- (**4**) long term (the impact will cease after the operational life span of the project),
- (**5**) permanent (no mitigation measure of natural process will reduce the impact after construction).

Magnitude of the Impact

The intensity or severity of the impacts is indicated as either:

- (**0**) none (where the aspect will have no impact on the environment),
- (**2**) Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected),
- (**4**) Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected),
- (**6**) Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way),
- (**8**) High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease), or
- (**10**) Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease).

Probability of Occurrence

The likelihood of the impact actually occurring is indicated as either:

- (**0**) None (the impact will not occur),
- (**1**) improbable (the possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate corrective actions)
- (**2**) low probability (there is a possibility that the impact will occur),
- (**3**) medium probability (the impact may occur),
- (**4**) high probability (it is most likely that the impact will occur), or
- (**5**) definite / don't know (the impact will occur regardless of the implementation of any prevention or corrective actions, or you don't know what the probability will be based on too little published information).

Significance of the Impact

Based on the information contained in the points above, the potential impacts are assigned a significance weighting (**S**). This weighting is formulated by adding the sum of the numbers assigned to extent (**E**), duration (**D**) and magnitude (**M**) and multiplying this sum by the probability (**P**) of the impact.

S=(E+D+M)P

The significance weightings are given below:

- (**<30**) low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- (**30-60**) medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- (**>60**) high (i.e. where the impact must have an influence on the decision process to develop in the area).

The above significance rating methodology is presented in tabular form overleaf (Table 1):

Table 1: Significance Rating Methodology

Significance Rating

Nature	Magnitude	Duration	Extent	Probability
Positive	10- Very High/ Unsure (environmental functions* permanently ceases)	5- Permanent	5- International	5- Definite/ Don't know
Negative	8- High (environmental functions temporarily ceases)	4- Long term (ceases after operation life of activity)	4- National	4- Highly probable (most likely to occur)
	6- Moderate (environmental functions altered but continue)	3- Medium term (5-15 years)	3- Regional (e.g. provincial)	3- Medium probability (distinct probability that impact will occur)
	4- Low	2- Short term (0-5 years)	2- Local (limited to site boundary and immediate surrounds)	2- Low probability (unlikely to occur)
	2- Minor	1- Immediate	1- Site only	1- Improbable (probability very low due to design or experience)
	0- None			0- None

Combining the consequence (magnitude, duration, and extent) with the probability of occurrence provides an overall significance rating (i.e. (magnitude+duration+extent) multiplied by probability = significance). Based on the overall significance rating the impact is assigned as having a low, medium or high significance. The criteria for the significance categories are as follows: <30 points = low significance; > 30 and <60 points = medium significance; and >60 = high significance.

*Environmental functions include natural, cultural and social functions and processes

The significance ratings applied to each impact will be used to provide a quantitative comparative assessment of the alternatives being considered. In addition, professional expertise and opinion of the specialists and the environmental consultants will be applied to provide a qualitative comparison of the alternatives under consideration. This process will identify the best route alignment for the proposed development.

5.3 Public Involvement Process

A public involvement process (PIP) will follow on from the Scoping phase. The following steps are envisaged:

- Notify all I&AP's registered to date of the Authority response to the Scoping Report and the Plan of Study for EIA;
- Notify all I&AP's informing them of the release of the draft EIR;
- Advertise the availability of the draft EIR for public review[1];
- Release the draft EIR for public review[2]
- Discussions will be carried out with the most active stakeholders (as identified during the Scoping phase) to present specialist findings and discuss the results of the EIR.
- Notify I&AP's of the Record of Decision and Appeals procedure and period;
- Notify I&AP's of the outcome of the Appeals period.

5.4 Preparation of Environmental Impact Report (EIR)

A detailed EIR will be prepared in accordance with the guidelines published by DEAT and the EIA regulations. The EIR will include:

- Description of each feasible alternative (i.e. route alignment);
- Assessment of impacts;
- Determination of significance;
- Mitigation of impacts;
- Comparative analysis of the feasible alternatives;
- Addressing key issues;
- Appendices containing descriptions of the environment concerned; the activity to be undertaken; the public participation process followed, including a list of interested parties and

[1] As done previously, advertisements will be placed in the Volksblad (Afrikaans) and Gemsbok (English and Afrikaans) newspapers.
[2] Copies of the draft Environmental Impact Report will be made available at those venues listed at 3.1.

their comments. Any media coverage given to the proposed activity and any other information included in the accepted plan of study.

5.5 Provision for Amendment to Plan of Study for Environmental Impact Assessment

This Plan of Study for EIA is submitted to DEAT and the Northern Cape Department of Tourism, Environment and Conservation, in terms of Government Notice R1183, for review and approval. The Guidelines for Implementation of Sections 21, 22, & 26 of the ECA (April 1998) were noted in the formulation of this plan.

Information might be obtained during the EIA Study that requires an amendment to the approved Plan of Study of EIA. In this event, the consultant will inform the Authorities and the Applicant. A revised Plan of Study of EIA will be submitted. Approval of this revised document will not need to go through the same evaluation process as the original document and comments are expected within 5 working days.

5.6 Review of EIR

The EIR will be reviewed by DEAT with the assistance of the Northern Cape Department of Tourism, Environment and Conservation and will be made available for review by all I&AP's[3] for a period of 14 days. An Issues and Response Report will be compiled and submitted to the DEAT together with the final EIR.

6 PROJECT TEAM

Outlined below are details of the team undertaking the studies for the EIA:

ORGANISATION	FUNCTION
Tswelopele Environmental (Pty) Ltd	EIA Consultant (general management and coordination) and Public Participation
Agricultural Research Council	Agricultural and Soil Assessment
David Hoare Consulting cc	Ecological Assessment
Newtown Landscape Architects	Visual Impact Assessment
ECO Africa	Tourism Study
SEF Africa	Social impact assessment
Endangered Wildlife Trust	Avifaunal Assessment

[3] Copies will be made available for public review at the same venues as those listed at 3.1.

McGregor Museum	Heritage Impact Assessment
GeoSpace	GIS Specialist

7 SCHEDULE OF TASKS FOR THE EIA PROCESS

The schedule of tasks presented below is based on the premise that approval of the Scoping Report, as submitted to DEAT and the Northern Cape Department of Tourism, Environment and Conservation in May 2006, is received in August 2006, and that the Plan of Study for EIA is approved towards the end of August 2006:

ACTIVITY	DATE (2006)
Submit Plan of Study for EIA & Terms of Reference for Specialists to DEAT & the Northern Cape Department of Tourism, Environment and Conservation	Mid May
Approval of Plan of Study for EIA by DEAT & the Northern Cape Department of Tourism, Environment and Conservation	End June
Notification of authority review of Scoping Report and way forward for EIA phase	Mid July
Receive Specialist Reports	Mid July
Advertise release of draft EIR and comments period	Mid-End August
Public review of draft EIR (14 days)	End August / End September
Final EIR (including Issues & Response Report) to DEAT & the Northern Cape Department of Tourism, Environment and Conservation	Mid October
Notify I&AP's of outcome of Record of Decision (RoD) and Appeals procedure (including end of Appeals period)	End November

The relevant authority is requested to review the forecast schedule and to make comment where relevant. Specific attention should be drawn to the anticipated response periods by the relevant authority.

8 Conclusion

The Plan of Study for EIA presents the proposed way forward for the EIA Study. The main results of the EIA study include detailed investigation and assessment of issues, potential impacts and feasible alternatives. Mitigation measures are also recommended in the Environmental Impact Report (EIR). The ultimate result will be a more specific and detailed Environmental Impact Report.

Authority review of this Plan of Study for EIA must follow the procedure for authority review of the plan of study for EIA as outlined in the guideline document for EIA (DEAT, 1998).

APPENDIX 1:
Terms of Reference for Specialists

The following tables will be forwarded to each of the specialists on the team to complete for the list of issues they have raised during the Scoping phase. These lists will be prepared for situations with and without mitigation measures implemented. The specialists will elaborate on the necessary mitigation measures for each of the perceived impacts.

Table 1. Impacts common to all routes.

Impact	Nature	Magnitude	Duration	Extent	Probability

Table 2. Impacts specific to Alternative Route 1A.

Impact	Nature	Magnitude	Duration	Extent	Probability

Table 3. Impacts specific to Alternative Route 1B.

Impact	Nature	Magnitude	Duration	Extent	Probability

Table 4. Impacts specific to Alternative Route 2A.

Impact	Nature	Magnitude	Duration	Extent	Probability

Table 5. Impacts specific to Alternative Route 2B.

Impact	Nature	Magnitude	Duration	Extent	Probability

APPENDIX 2:

Map of the proposed route showing possible route alternatives and study area sensitivity map