

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED PERSEUS-HYDRA 765kV TRANSMISSION POWER LINE

PLAN OF STUDY FOR SCOPING

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Figure 1 Site Locality Plan with Alternatives Layout

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Appendix 1 EIA Application Forms
Appendix 2 Agenda and Presentation Delivered at the Pre-Application Meetings

ABBREVIATIONS

ACER	ACER Africa Environmental Management Consultants
ARCUS GIBB	ARCUS GIBB (Pty) Ltd
BID	Background Information Document
DEAT	Department of Environmental Affairs and Tourism
DSR	Draft Scoping Report
ECA	Environment Conservation Act
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
ESKOM	Eskom Holdings Limited
FS DTEEA	Free State Department of Tourism, Environmental and Economic Affairs
FSR	Final Scoping Report
I&APs	Interested and Affected Parties
Km	Kilometre
NCP DTEC	Northern Cape Province Department of Tourism, Environment and Conservation
PIP	Public Involvement Process
PoS	Plan of Study
RoD	Record of Decision

1 INTRODUCTION

1.1 Details of Applicant

Name of Applicant: ESKOM Holdings Limited (ESKOM) – Transmission Division
Contact person: Ms. Carol Streaton – Public Involvement Advisor
Address: Megawatt Park
Maxwell Drive
Sunninghill
Sandton
2157

P.O. Box 1091
Johannesburg
2000
Tel: +27 (0) 11 800 5411
Fax: +27 (0) 11 800 3917
E-mail: Carol.streaton@eskom.co.za
Cell: 083 6331545

1.2 Details of Consultant

Name of Consultant: ARCUS GIBB (Pty) Ltd – Environmental Services
Contact person: Ms. Jaana Maria Ball – Project Manager
Address: GIBB House
359 Rivonia Boulevard
Rivonia
2128

P.O. Box 2700
Rivonia
2128
Tel: +27 (0) 11 519 4600/ 13
Fax: +27 (0) 11 807 5670
E-mail: jball@gibb.co.za
Cell: 083 650 5489

1.3 Details of Environmental Authorities

Name: Department of Environmental Affairs and Tourism
Contact person: Vincent Matabane / Peter Ngoasheng
Address: Private Bag X447
PRETORIA
0001
Tel: +27 (0) 12 310 3624
Fax: +27 (0) 12 310 3688
E-mail: +27 (0) 84 377 8615/ 072 637 5381
Cell: vmatabane@deat.gov.za/ pngoasheng@deat.gov.za

Department name: Free State Department of Tourism, Environment and Economic Affairs
Contact person: Realeboha Khadi/ Danie Krynauw
Address: Private Bag X20801
Westdene
Bloemfontein
9300
Tel: +27 (0) 51 400 4819 / 4
Fax: +27 (0) 51 400 4811
E-mail: khadir@dteea.fs.gov.za / krynauwd@dteea.fs.gov.za
Cell: 073 311 4455 / 082 435 2108

Department name: Northern Cape Province Department of Environmental Affairs Economy and Conservation
Contact person: Edwin Segole / Patience Mokhali
Address: Private Bag X6012
Kimberley
8300
Tel: +27 (0) 53 807 4818 / 00
Fax: +27 (0) 53 831 3530
E-mail: esegole@half.ncape.gov.za
Cell: 082 470 3603

1.4 Proposed development

Eskom Holdings Limited (Eskom) Transmission proposes to construct a 765 kV transmission power line between Secunda and Port Elizabeth. The power line will provide the Coega Industrial Development Zone (IDZ) with electricity. The total length of the proposed power line is 1 300 km.

An Environmental Impact Assessment (EIA) and authorisation thereof, in the form of a Record of Decision (RoD) is a legal requirement before the proposed development can proceed. In order to facilitate the EIA process the proposed power line has been divided into three sections, with three separate EIAs being submitted to the relevant environmental authorities, each requiring a separated RoD. The first section of the power line runs from Secunda to Bloemfontein, the next from Bloemfontein to De Aar, and the third from De Aar to Port Elizabeth.

ARCUS GIBB (Pty) Ltd (ARCUS GIBB) has been appointed as the environmental consultant for the EIA for the Perseus (near Bloemfontein, Free State Province) to Hydra (near De Aar, Northern Cape Province) section of the power line. This section is approximately 260 km in length and traverses both the Free State and Northern Cape Provinces. The towns of De Aar, Phillipstown, Koffiefontein and Petrusberg are located within the study area. Refer to **Figure 1**.

Between the Perseus Sub-Station and the Hydra Sub-Station there are four existing power lines each with their own power line servitude (of approximately 80 m width).

The existing power line servitudes are being investigated as possible alternative power line routes for the power line, together with new routes (see **Section 3.3.1**). The average tower height will be 48 m and tower separation 400 m.

1.5 Scope of Work

The Scope of Work entails a fully detailed EIA for the proposed Perseus to Hydra 765kV transmission power line. The EIA shall include the evaluation of possible alternative line routes.

The project is also required to ensure:

- Compliance with the Environment Conservation Act (Act 73 of 1989);
 - That the process complies with the Guidelines that pertain to the Environmental Impact Management Process (i.e. Department of Environmental Affairs and Tourism Guideline Document: EIA Regulations, April 1998); and
 - That the process adheres to the principles of the National Environmental Management Act, 1998 (Act 107 of 1998). In this regard, the environmental assessment must address both the biophysical and socio-economic issues related to the proposed project and suggest practical mitigation or enhancement measures.
-

1.6 Transmission Power Line Development

The EIA for the proposed transmission power line development will be undertaken in three phases, namely an:

- Initial Phase;
- Scoping Phase; and
- EIA process.

Public Involvement Process will be undertaken during all of the phases.

1.6.1 Initial Phase

The Initial Phase of the EIA will involve the initiation of the project, a start-up meeting with the EIA team and ESKOM, and a Pre-Application meeting with ESKOM, the consultant and the authorities on 22 August 2005 at DEAT National offices in Pretoria. The project start-up meeting was held on the 14th of July 2005 at Megawatt Park.

1.6.2 Scoping Phase

The Scoping Phase of the proposed project will comprise drafting of the PoS for Scoping, submission of EIA application forms, a Specialist Workshop held on 15 August 2005 at ARCUS GIBB offices, site visit scheduled for 24-26 August 2005 (3 days) and compilation of the Scoping Report (including specialist studies).

1.6.3 Environmental Impact Assessment process

The EIA phase forms the third phase of the proposed project. This includes a detailed environmental assessment process which will incorporate drafting the PoS for EIA, compiling the Environmental Impact Report (EIR), conducting further specialists' studies (if required), authority consultation and the assessment of identified impacts.

1.6.4 Public Involvement Process

The PIP phase will run concurrently with Phase 1 to 3 and will involve:

- Identification of stakeholders (I&APs);
- Project announcement through adverts, personalised letters, Background Information Document (BID), public notices, website, etc.;
- Identification of issues through key stakeholder workshop, public open days, comment sheets, etc.;
- Verification of Issues
- Feedback to I&APs by notification of the EIA phase and R oD; and
- Record keeping such as public documents, correspondence, records of meetings and all other interactions.

2 APPROACH TO INITIAL PHASE

2.1 Introduction

The following section describes the tasks that will be carried out during the Initial Phase of the project.

The objective of the Initial Phase is to introduce the client (Eskom), the consultant (ARCUS GIBB), authorities and to define the scope of the EIA process.

The Initial Phase will comprise the following tasks:

- Pre-application meeting with environmental authorities:
 - ✓ Department of Environmental Affairs and Tourism (DEAT),
 - ✓ Free State Department of Tourism, Environmental and Economic Affairs (FS DTEEA), and
 - ✓ Northern Cape Province Department of Tourism Environment and Conservation (NCP DTEC); and the
 - Submission of EIA application forms (registration of EIA) and Plan of Study (PoS) for Scoping (**Appendix 1**).
-

2.2 Pre-application meeting and site visit with environmental authorities

ARCUS GIBB proposes has held a Pre-Application meeting with officials from the National Department of Environmental Affairs and Tourism (DEAT) on 22 August 2005. A similar meeting was held with the Free State Department of Tourism, Environmental and Economic Affairs (FS DTEEA) on 30 August 2005. The Northern Cape Province Department of Tourism Environment and Conservation (NCP DTEC) was invited to attend both meetings but representatives could not attend.

The aim of these meetings were to establish a record of understanding with respect to the EIA process, authority involvement, as well as target dates for deliverables and their review. The agenda for the meetings and copy of the presentation delivered are attached (**Appendix 2**).

2.3 Submission of EIA application forms and Plan of Study for Scoping

The appropriate EIA application forms (for each Department/Province) have been completed and submitted to the Regional DEAT officials as required by the EIA regulations. This PoS for Scoping will also be completed and submitted to the authorities.

3 APPROACH TO THE SCOPING STUDY

3.1 Introduction

This section describes the tasks that will be carried out during the Scoping Study for this project.

The objective of the Scoping Study will be to identify potential environmental (socio-economic and biophysical) impacts, consider various options for alternative line routes and identify and address issues of concern for stakeholders.

The Scoping Study will comprise the following tasks:

- Identification of stakeholders;
 - Obtain written authorisation from Authorities on PoS;
 - Compilation of an electronic stakeholder database;
 - Advertising the Scoping Study in local media;
 - Compilation of a Background Information Document (BID);
 - Sending out personalised letters to key stakeholders advising them of the Scoping Study;
 - Key stakeholder briefing sessions and workshop;
 - Compilation of a stakeholder issues report for inclusion in the Scoping Report;
 - Technical assessment of alternatives;
 - Compilation of a Draft Scoping Report (DSR);
 - Advertising the availability of the DSR;
 - Distribution of the DSR to public places;
 - Hold public meeting to obtain stakeholder feedback on the DSR;
 - Compilation of the Final Scoping Report (FSR) and submission to authorities;
 - PIP Report as an addendum to the FSR;
 - Distribution of the FSR to key stakeholders; and
 - Sending out progress feedback letters to stakeholders.
-

3.2 Stakeholder engagement in the Plan of Study phase

EIA announcements will be placed in various national and regional newspapers, as required by the EIA Regulations. In addition to this, a BID will be prepared for distribution, personalised letters will also be sent out to key stakeholders such as authorities and on-site notices will be placed in public places.

Stakeholder briefing sessions will be held with key stakeholders. This will be followed by a press release in the broadcast media, and the compilation of an electronic stakeholder database.

3.3 Technical assessment of alternative line routes

3.3.1 Proposed line alternatives

Alternative power line alignments as determined by the EIA and specialist team during the site visit are as follows (described from existing 765 kV transmission line westwards):

- **Alternative 1: Existing 765kV route** – 200 metres from the existing 765 kV transmission line chosen as to contain the routes in one large corridor.
- **Alternative 2: Eastern Route Alignment** – 2 km from the 765 kV transmission line - chosen as a result of the need to avoid the saline soils and pans as these are visually sensitive relative.
- **Alternative 3: Centre Route Alignment** - Approximately 5 km from the 765 kV transmission line – as above but additionally the higher lying landform and plains interrupted by dolerite remnant landforms of plateau and koppies. These will provide occasional screens and backdrops to the line.
- **Western Route Alignment** - Approximately 10 km from the 765 kV transmission line – chosen to be visually disassociated with the existing lines and to be on the higher ground – yet able to be visually screened along portions of its length by ridges, plateaux and koppies.
- **Cross-over Route Alignments** – combinations of above alternatives (**see Figure 1**).

The alternative routes are shown in Figure 1. Alternatives are based on site observations that identified the following constraints and requirements:

- Four major transmission line routes exist between the Perseus and Hydra Substations. The new transmission line will have to be either west or east of these.
- The transmission line route should minimise the need to change direction.

3.3.2 Assessment of power line alternatives

The project team will investigate the various alternatives described above and will evaluate these alternatives by taking into account the following:

(i) Environmental factors

- Ecology (flora and fauna including avi-fauna);
- Heritage resources;
- Aesthetic and visual impacts;
- Socio-economic factors;
- Geology and the potential for soil erosion; and
- Issues raised by Interested and Affected Parties (I&APs).

(ii) Logistical and technical factors

- Technical, including geological suitability etc.;
- Distance; and
- Accessibility of transmission line routes.

(iii) Cost factors

- The approximate cost for constructing the transmission lines.

All sensitive areas will be mapped and these will be avoided wherever possible when selecting possible routes. The preferred route will be selected using an objective comparison of all the proposed routes and by ranking them according to their potential impacts.

3.3.3 Identification of potential biophysical and socio-economic impacts

The various specialist studies that will be conducted will include:

- Agricultural assessment;
- Archaeology and heritage;
- Avi-fauna;
- Ecological (fauna, flora and habitat component);

- GIS assessment;
 - Socio-economic and tourism potential; and
 - Topography, terrain, climate, geology and soils;
 - Visual and aesthetics.
-

3.4 Compilation of the Draft Scoping Report (DSR)

Section 3.2.3.1 of the “Guideline Document: EIA Regulations – Implementation of Sections 21, 22 and 26 of the Environmental Conservation Act (April 1998)” issued by the Department of Environmental Affairs and Tourism: Sub-Directorate Environmental Impact Management contains a suggested format for Scoping Reports. The format suggested below is consistent with this approach.

The DSR will include the following components:

- A brief description of the proposed development, the various alternatives and the affected environment;
 - A brief description of how the environment could be affected by the development proposals;
 - A description of the environmental issues identified during the consultation process;
 - A description of the consultation process;
 - A technical assessment of the various road alternatives and of the potential biophysical and socio-economic impacts; and
 - Conclusions and recommendations on the way forward.
-

3.5 Compilation of the Final Scoping Report (FSR)

The DSR will be updated with an Addendum Report, which will include the I&APs written comments received during the Comments Period. Thereafter, the FSR will be submitted to DEAT, the Northern Province and Free State offices for their formal consideration. In addition to this, a progress feedback letter will be sent to all registered stakeholders.

3.6 Stakeholder engagement in the Scoping Phase

Key stakeholder workshop(s) will be held and an issues report will be compiled for inclusion into the Draft Scoping Report (DSR). The DSR will then be made available for public review in public places. In addition to this, the availability of the DSR will be advertised and individual letters will be sent out to registered stakeholders. The DSR will be sent to the authorities for their comment. A public meeting will be held after the public and registered stakeholders have reviewed the DSR in order to obtain their feedback. This feedback will be used to compile the FSR as discussed above.

3.7 Scoping Phase programme

We estimate that the study will take approximately 5 months and envisage the submission of the DSR to the authorities for review in the beginning of October 2005 and the FSR to the authorities by mid December 2005. A decision by the environmental authorities is therefore expected by late January 2006.

3.8 Conclusion

This plan of study is aimed at meeting the requirements of the EIA Regulations as a minimum, and achieving the objectives of the Scoping Phase in identifying potential environmental impact and stakeholder concerns.

We trust that the above will meet with your approval. Should you have any queries please contact either Jaana-Maria Ball (0836505489; jball@gibb.co.za)

Yours sincerely
For ARCUS GIBB (Pty) Ltd

JAANA-MARIA BALL
Director and Head: Environmental Services

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PROJECT : Perseus-Hydra 765kV Transmission Power Line
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	Prepared by	Reviewed by	Approved by
ORIGINAL	NAME S Mzozwane	NAME J-M Ball	NAME J-M Ball
DATE	SIGNATURE	SIGNATURE	SIGNATURE
REVISION	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE
REVISION	NAME	NAME	NAME
DATE	SIGNATURE	SIGNATURE	SIGNATURE
REVISION	NAME	NAME	NAME
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ARCUS GIBB (Pty) Ltd
 PO Box 2700
 Rivonia
 2128
 Tel : +27 11 519 4600
 Fax : +27 11 807 5670
 Email : jball@arcusgibb.co.za
 Website : www.arcusgibb.co.za