



Eskom Holdings Limited

**HYDRA-PERSEUS AND BETA-PERSEUS
765KV TRANSMISSION POWER LINES
ENVIRONMENTAL IMPACT ASSESSEMENT**

SOCIO-ECONOMIC REPORT

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EXECUTIVE SUMMARY

This report presents the findings of the socio-economic impact assessment of the proposed Perseus-Hydra transmission power lines. It assessed the social and economic characteristics of the area with a view of establishing the potential impacts and how these could be mitigated. There are standard impacts related to linear projects such as electricity transmission. This socio-economic study highlights the socio-economic related impacts and, ascertains the extent to which each of these project related impacts and/or issues are likely to have in the proposed area.

The standard (social and economic) impacts and issues, amongst others, related to the proposed project are:

- Decrease in agricultural production potential;
- Resettlement of farm labourers or any other affected communities;
- Possible displacement of the graves;
- Disruption of current and existing land use and farming practices;
- Disruption of social relations as a result of temporary work camps;
- Spread of HIV/AIDS and other infectious diseases; and
- Employment of local labour.

Only two impacts, i.e. disruption of land use and the maintenance of the servitude are permanent and direct causes of the project. The other risks are temporary and can be mitigated well in advance. The study has recommended that the transmission line would cause the least economic impact if it is located on the western side of the study area. This is also in view of the fact that the major nature reserves, some of which are protected areas, lie on the eastern side.

LIST OF ABBREVIATIONS

| | |
|--------------|-------------------------------------|
| DBSA: | Development Bank of Southern Africa |
| DORA: | Division of Revenue Act |
| LM: | Local Municipality |

GLOSSARY OF TERMS

| | |
|--|---|
| Study area: | Refers to the entire study area encompassing all the alternative alignments as indicated on the study area map. |
| Corridor: | Refers to a specific alignment as indicated on the study area map |
| Alternative alignment (corridor): | Refers to a specific alignment with one of the variations |
| Transmission line: | Towers and cables supporting the 765kV transmission line. |

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1 INTRODUCTION

The proposed 765Kv transmission power line covers an area of about 450 km from Dealesville to De Aar, crossing over two provinces, namely the Free State and the Northern Cape. The project area is located in six local municipalities (See Table 1).

The study area has various agricultural activities, as well as, tourist attraction areas. This socio-economic report therefore, gives an overview of the social and economic characteristics of the study area and the anticipated issues and impacts, as a result of the proposed project.

1.1 Background

The general population in the affected areas consists mainly of small sparsely populated areas, the majority of whom live in formal types of dwelling. There are a few surrounding towns within the study area, namely: Dealesville, Petrusburg, Koffiefontein, Fauresmith, Oppermans, Luckhoff, Pertusville, Phillipstown and De Aar. These serve as trading centres for the predominantly rural areas. The proposed transmission line is expected to run in one of the proposed alternative alignments. The proposed route on the Eastern side of the study area will run from Dealesville passing through Jagersfontein, Fauresmith and to the east of the Rolfontein (Petrusville) and Kalkfontein Nature Reserves. On the Western side of the study area, the proposed transmission line will run through the towns of Opermans and Orania. This report aims to evaluate and identify which of the proposed alternative alignment would have the least impacts with respect to social and economic characteristics of the project area, as well as on the current and existing agricultural and other land uses, including tourism, within the study area.

1.2 Study Approach

The information contained in this report is based on:

- A review of existing literature and maps of the study area
- Review of the Integrated Development Plans and Local Economic Development Plans of the municipalities
- A two day site inspection

- Interviews with municipal authorities and staff of the nature reserves that could be affected
- Telephonic interviews with relevant authorities in the project area.

Internet searches also provided information on the tourist attractions in the study area. The following web sites were of use:

- Free State Department of Tourism, Environmental and Economic Affairs (www.freestatetourism.gov.za)
- South African Embassy (www.southafrica.gr/index.cfm?get=attractions#a9)

During the two day site inspection, the following areas were visited: Tokologo, Letsemeng, Kopanong, Renosterburg Municipalities; Soetdoring, Kalkfontein and Rolfontein Nature Reserves and Koffiefontein

The people who would most likely be affected would be farm owners and the labourers in view of the fact that most of the study area comprises farm land. Therefore, it would have been ideal if these would have been engaged with at length, however, time constraints did not permit this. The study has therefore relied on experiences from similar studies while taking into account the peculiarities of the project area.

2. DESCRIPTION OF AFFECTED ENVIRONMENT

2.1 Socio-Economic Assessment

The main forms of income are generated from farming (crop and stock) and some limited employment in the few mines that exist in such areas as Koffiefontein and Soutpan. The housing settlements are predominantly basic scattered mud huts in the more remote areas, as well as RDP homes in some areas. Many more families live in the nearby farms where they are labourers. It has been estimated that the number of people in the households on the farms range from 50 to 100 depending on the nature of farming. The general profile of the population is predominantly Setswana and Sesotho speaking Africans, some Coloureds and Whites.

The general standard of living is low. Kopanong and Tokologo municipalities are listed as having a below average position regarding the degree of depravation both in the province and nationally.¹ Kopanong also recorded dramatic increases in the percentage of households with an income below the poverty of 5.4 % between the 1996 and 2001 census. Generally, it can be argued that although the standard of living with regard to access to basic services has improved for many of the areas, some have not. These municipalities are generally constrained in providing basic services because of many issues, such as capacity and financial resources. For example, on average, the three Free State municipalities received R10 million of allocations from National Departments as per the Division of Revenue Act (DORA) while those in the Northern Cape received an average of R5 million.²



Figure 1: Housing Settlements

¹ DBSA 2005 Quantification of Poverty in South Africa: An Inter-regional Profile

² Department of Provincial and Local Government Annual Report 2003/2004.

Table 1: Municipalities in the project area by Province:

| Name of province | Municipalities | Total Number of households | % of Household with Income below R 8, 300 ³ |
|------------------|-----------------|----------------------------|--|
| Free State | Kopanong LM | 17, 611 | 58.9% |
| | Letsemeng LM | 12, 077 | 51.2% |
| | Tokologo LM | 8, 964 | 58.4% |
| Northern Cape | Emthanjeni LM | 8, 805 | 39.3% |
| | Renosterberg LM | 2, 464 | 35.8% |
| | Thembelihle LM | 3, 479 | 49.9% |

Table 2: Types of dwelling:

| Name of province | Municipalities | Type of dwelling | |
|------------------|-----------------|------------------|----------|
| | | Formal | Informal |
| Free State | Kopanong LM | 86.0% | 14% |
| | Letsemeng LM | 74.8% | 25.2% |
| | Tokologo LM | 78.2% | 21.8% |
| Northern Cape | Emthanjeni LM | 91.0% | 9% |
| | Renosterberg LM | 90.9% | 9.1% |
| | Thembelihle LM | 77.9% | 22.1% |

2.1.1 Access to Basic Services

The tables below describe the level of access to basic services such as water, housing and sanitation. A separate table has been provided for electricity because it is a service which the project mandate provides and therefore, warrants more detailed discussion.

³ Table adapted from DBSA's 2004 Municipal Statistical Infrastructure Review 1996 and 2001

Table 3: Percentage of households without access to basic services:

| Province | Municipality | % without access to basic services ⁴ | | | |
|---------------|--------------|---|-------|---------|-------------|
| | | Sanitation | Water | Housing | Electricity |
| Free State | Kopanong | 18.3 | 2.5 | 14.0 | 18.0 |
| | Letsemeng | 25.7 | 5.1 | 25.2 | 27.7 |
| | Tokologo | 67.9 | 4.7 | 21.8 | 26.4 |
| Northern Cape | Emthanjeni | 30.6 | 0.8 | 9.0 | 16.1 |
| | Renosterberg | 45.3 | 0.9 | 9.1 | 27.7 |
| | Thembelihle | 37.6 | 1.4 | 22.1 | 31.8 |

The study has particularly singled out electricity as a service because of the nature of the project under study. There are bound to be some expectations from the affected areas that those who do not have access to electricity will benefit. Such expectations will have to be well managed during the public participation process in order to allay any forms of hostility to the project. It must also be noted that although electrical reticulation remains the function of the municipality, for many communities this is not understood and it is perceived to be the responsibility of the supplier, i.e. Eskom.

2.2 Major Economic Activities

2.2.1 Land-use and Agriculture

The study area consists of major agricultural areas and has a dry, bracing, healthy climate. The study area comprises wide-open spaces and flat prairie lands, stretching from horizon to horizon.

On the Western side of the feasibility corridor in areas such as Luckhoff sheep farming and irrigation farming using centre pivots is the more common economic activity, whereas in Phillipstown the terrain is mostly mountainous and is therefore used for game farming. Irrigation farming is mostly practiced near the Vanderkloof dam. There is also some cattle, sheep, ostrich and goat farming. There are approximately 200 households in the area, most of which have access to electricity.

⁴ Adapted from the DBSA's 2005 Quantification of Poverty in South Africa An Inter-Regional Profile

The land uses within the Eastern side of the study area are similar to those of the western side of the study area, i.e. crop farming/cultivated lands, cattle, sheep, ostrich and game farming. However, the difference between the two proposed corridors is that the eastern side also consists of Nature Reserves, namely: the Kalkfontein Dam Nature Reserve and the Rolfontein Nature Reserve. The Doornkloof Nature Reserve is situated outside the study area, east of the Rolfontein Nature Reserve. The Vanderkloof Dam is also within the study area, next to the Rolfontein Nature Reserve.



Figure 2: Cattle farming



Figure 3: Cultivated Lands

2.2.2 Tourism

The Free State Province disposes of an extensive system of parks and reserves, including one national park (Golden Gate) and more than 80 provincial, municipal, and privately owned nature parks, nature reserves, game reserves, and game farms. Activities include bird and game viewing, trophy and game hunting, hiking, horseback riding, biking, 4X4 off-road driving, camping and climbing.

The study area however consists of two nature reserves, namely, the Kalkfontein and the Rolfontein, both of which lie towards the Eastern side of the proposed study corridor, as well as the Vanderkloof Dam, are the main tourist attraction areas within the study area. Rolfontein is the more productive of the two nature reserves, boasting at least 20, 000 visitors per annum, while Kalkfontein only has approximately 2,000. There are plans to merge Rolfontein Nature Reserve with the nearby Doornkloof Nature Reserve which lie further east of the corridor. The merger will result in a 11, 000 ha nature reserve. The reserves have created employment for locals as staff but more from related economic activities such as bed and breakfast businesses and convenience stores for the tourists.

The western part of the study area does not have any significant tourist attraction areas.

3. IDENTIFICATION OF RISK SOURCES

The most important factors related to the proposed project that will have socio-economic impact are discussed below.

3.1 Disruption of farming practices

Farming is the major form of land use on both proposed sides of the planned transmission line. For those who are involved in game farming, the concern is around loss of game through open gates during construction and maintenance.

3.2 Tourism

The Eastern part of the study area is rich in tourist attraction areas specifically, the nature reserves and dams, therefore socio-economic related negative impacts and issues will be more should the proposed 765kV transmission power line traverse through the eastern corridor of the study area.

The proposed alternative power line alignments, i.e. (the Eastern Route Alignment, the Centre Route Alignment, the Western Route Alignment and the Existing 765kV Route Alignment) will have no tourism related impacts, as there are no tourist attraction areas within the western part of the study area.

3.3 Relocation of households and graves

Although this might be anticipated especially in western side where most of the farming takes place, those who are likely to be displaced will be farm labourers. However, it was said in many instances if this had to happen, the households are all moved as a community therefore this would minimize the degree of disruption of social and cultural practices.

3.4 Disruption of social relations during the construction phase

The location of Eskom camps in nearby villages and communities albeit for a short period could have a potential of disrupting existing social relations. In practice whenever large groups of temporary migrants move into an area it takes some time for the host communities to adjust to them. Illicit relations among the campers and locals are likely to occur and this could bring a bigger threat of the spread of HIV and AIDS and other sexually transmitted infections.

3.5 Safety

The safety and security of the labourers around the transmission power lines; the possible loss or endangering of people and livestock as a result of the pits that are dug will also have to be avoided.

3.6 Local Employment

While this is not a threat per se, there are always high expectations for local job creation however small and temporary. These expectations were voiced and in many cases can lead to animosity towards the project if the relations are not well managed. The highly technical nature of the work does not augur well for local job creation. The predominantly male biased employment practices could also be misconstrued as a gender bias. Employment will also be created through the goods and services that local people can provide to the campers. Women tend to be in the majority of those who provide such services as laundry and cooking, however they can also be vulnerable to exploitative business practices and relations with the campers.

4. ENVIRONMENTAL ASSESSMENT

For the purpose of this study, the Eastern part of the study area refers to the Eastern Route Alignment, marked in yellow, up to the boundary of the study area. The four (4) proposed alternative power line alignments are: the Eastern Route, Centre Route, Western Route and the Existing 765kV Route (see Map 1).

For Alternatives 1-4 the following socio-economic impacts and benefits apply universally. The exceptions will be discussed separately for each alternative.

4.1 Benefits

- Temporary employment, through the employment of local labour, as well as sub-contracting of local contractors; and
- Stimulation of the local economy.

4.2 Impacts

- Resettlement of farm labourers or any other affected communities;
- Relocation of the graves;
- Disruption of current and existing land use and farming practices, as well as a decrease in agricultural production potential;
- Loss of cultivated lands, during the construction phase through the digging of trenches;
- Disruption of social relations as a result of temporary work camps being set up;
- Spread of HIV/AIDS and other infectious diseases;
- Disruption of game farming operations during the construction and maintenance operations;
- Security problems associated with the influx of people to the area; and
- Safety of construction and maintenance teams during work occurring upon game farms.

The impacts and benefits on the Eastern Route Alignment Alternative are similar to all other alternative alignments, except that this specific alignment comprises several nature reserves that support activities such as bird and game viewing, trophy and game hunting, hiking, horseback riding, biking, 4X4 off-road driving, camping and climbing. The construction of the proposed transmission power line, will therefore have adverse impacts on eco-tourism.

5. RECOMMENDED MITIGATION MEASURES

- Gender sensitive recruitment criteria will have to be used in selecting local labourers. The most efficient way of doing this is to work with the municipalities and ward councillors in identifying those who have been registered on the local roster for employment.
- Eskom's existing HIV and AIDS management programmes will have to be adhered to, to ensure that the possible spread of the disease is mitigated.
- The transmission power line should be placed as much as possible far from existing communities to avoid necessitating any relocation and the social problems that ensue as a result of such relocation. Negotiations will have to be made with land owners, especially farmers to relocate farm labourers as intact households. If Eskom is to purchase land from farmers, they should ensure that the deal includes farm labourers as this has proven problematic in some cases.
- Trenches should be clearly demarcated and fenced, so as to prevent livestock and game from falling into them.
- Cultivated lands should be avoided, if possible, but should the proposed transmission power line traverse through cultivated land(s), therefore the affected land should be rehabilitated back into its original or better state.
- There should be controlled access into and out of the farms, so as to prevent the loss of game and livestock.
- The intersection of the transmission line alignment with protected areas (Nature Reserves) must be avoided.

6. CONCLUSIONS AND RECOMMENDATIONS

It is inevitable that a transmission line will be constructed in the study area because of the economic need. However, most of the impacts that are discussed above are now standard issues as far as electricity supply is concerned and general mitigation practices are now entrenched. Eskom can do well to keep the standard of mitigation practices high, while also making sure that all the concerns are ironed out and discussed thoroughly with the affected stakeholders during the public participation process and negotiations with the land owners.

Land evaluations should be done during the next stage of the assessment to ensure that a balance between the value of cultivated lands versus game versus stock farming is struck.

Further intensive studies should be conducted prior to decisions made.

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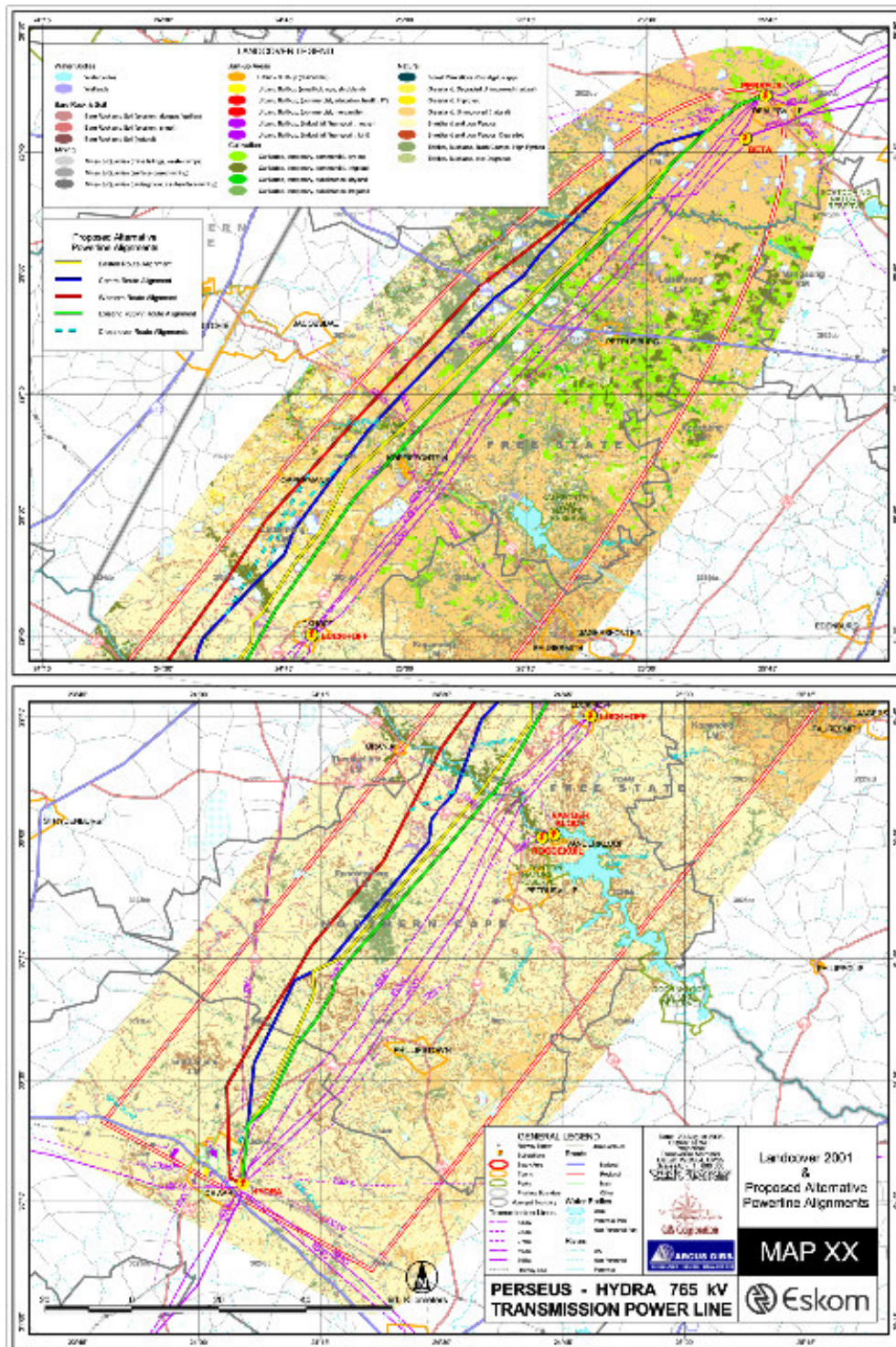
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APPENDIX 1: LANDCOVER MAP



Map 1: Indicating the Proposed Alternative Power line Alignments