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SOCIAL IMPACT ASSESSMENT EIA SPECIALIST REPORT FOR THE PROPOSED CONSTRUCTION OF 400KV POWERLINE FROM FOSKOR SUBSTATION (PHALABORWA) SUBSTATION TO SPENCER SUBSTATION (NEAR GIYANI) AND SPENCER MTS UPGRADING LOCATED WITHIN THE JURISDICTION OF GREATER LETABA, MARULENG, GREATER TZANEEN, AND BA-PHALABORWA LOCAL MUNICIPALITY MOPANI DISTRICT MUNICIPALITY OF LIMPOPO.

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EXECUTIVE SUMMARY

Afro Conserva Integration has been appointed by DIGES Group CC to undertake the Social Impact Assessment process for the proposed construction of a 400kV powerline between Foskor Substation (Phalaborwa) to Spencer Substation (near Giyani) and Spencer MTS Upgrading, Limpopo Province. The Project aims to reduce the network constraints as well as to improve the quality of supply in these areas in the Mopani District Municipality. It is envisaged that the proposed line will reinforce the supply and improve supply reliability to all existing and future customers in the area.

The proposed transmission power lines forms part of a broader project to strengthen the existing electricity network between Limpopo, and in particular Mopani District Municipality. Eskom intends to strengthen the Mopani electrical network as load forecast conducted in 2015 showed that Spencer Main Transmission Substation (MTS) will be having a peak demand of 310MV by year 2018. The substation falls under Nzhelele/ Thohoyandou zone which services an area experiencing growth due to Electrification, Agriculture, Industrial, Diamond and Coal Mining. To ensure the reliability of electricity supply to customers Eskom Transmission has embarked on a drive to address the transmission constraints at Spencer MTS as well as the 275kV transmission network constraints on the network supplying the substation.

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1. INTRODUCTION

Eskom intends to strengthen the Mopani electrical network as load forecast conducted in 2015 showed that Spencer Main Transmission Substation (MTS) will be having a peak demand of 310MV by year 2018. The substation falls under Nzhelele/ Thohoyandou zone which services an area experiencing growth due to Electrification, Agriculture, Industrial, Diamond and Coal Mining. To ensure the reliability of electricity supply to customers Eskom Transmission has embarked on a drive to address the transmission constraints at Spencer MTS as well as the 275kV transmission network constraints on the network supplying the substation. The current situation at Spencer MTS is:

- Spencer MTS equipped with 2x250MVA, 275/132kV transformers;
- Spencer MTS is currently fed from Tabor MTS (86km) and Witkop MTS (138km).

The National Environmental Management Act (NEMA) (Act 107 of 1998) and the EIA Regulations (2014) require Environmental Impact Assessments (EIAs) to be undertaken, to enable the competent authorities to consider authorisation for the developments to take place. Afro Conserva Intergration was appointed by DIGES Group Cc to conduct Social Impact Assessment (SIA) study for the proposed construction of a 400 kV Transmission powerline from Foskor Substation (Phalaborwa) to Spencer Substation (near Giyani) and Spencer MTS upgrading within Mopani District Municipality, Limpopo Province. The aim of the study was to identify and manage the social issues of project development including the effective engagement of affected communities in participatory processes of identification, assessment and management of social impacts. This study therefore forms part of the application to be submitted for an Environmental Authorisation to the National Department of Environmental Affairs (DEA).

1.1 Project Description

The proposed 400Kv Powerline is located in Mopani District Municipality which is Category C municipality and is found in the north-eastern quadrant of the province of Limpopo. Mopani District Municipality comprises five local municipalities; Greater Tzaneen, Greater Letaba, Greater Giyani, Maruleng and Ba-Phalaborwa. Mopani District municipality is renowned area for its abundance of wildlife (including the big five) craggy mountains, huge man-made and indigenous forests, trout streams and cascading waterfalls. It provides easy access to the northern section of Kruger Park. The proposed 400Kv Powerline stretches for approximately 110km from Foskor MTS and it crossways agricultural and rural landscape until it reaches its

destination at Spencer Substation. In short, this power line will traverse over a range of landscapes, including mountainous, flat and open plains, old and new agricultural fields and mixed bushveld. It also transverse over major river, wetland features as well as intermittent streams. It is important to note that it will mostly transverse parallel other existing power lines. Most of these activities highlighted have impacted negatively on the area, and subsequently destroyed or disturbed archaeological and historical sites that might have existed in the past. The scope of the project entails:

- The construction of a new 400kV power line from Foskor MTS to Spencer MTS
- The upgrading of Spencer MTS

The technical details of the 400kV power line are:

- Length of Power lines: ± 110 km
- Servitude: 55m (Cross rope suspension requires 75m width at tower location)
- Tower to Tower span: 300m – 400m
- Height of Tower: between 30m-45m
- Minimum conductor ground clearance: 8.1m

The technical details of the substation are:

- The expansion of the substation footprint/yard to accommodate new equipment
- The installation of 1x500MVA, 400/132kV transformer at Spencer MTS

1.2 Project Activities

The construction phase of the project is expected to take up to 24 months with a project lifespan of 40 years or more. The main works for the construction of the 400kV power lines and substation include the following:

1.2.1 Pre-construction

□ *Right of Way Surveying*

Prior to construction of the overhead line a precise ground survey is carried out to determine the ground profile along the centre of the line route and for 27.5m on either side where the ground profile slopes across the line route. This is to ensure that the location selected for poles and stays and their relationship with each other comply with the technical limits laid down for maximum span lengths, maximum sums of adjacent spans and safe clearance to live conductors in the final siting of pole. Further consideration is given to detailed environmental effects.

Where the route of the line passes over or in close proximity to trees that could infringe safe clearances to ‘live’ conductors, the trees must be felled or pruned prior to the construction of the line.

- *Soil sampling*

Geotechnical investigations will be carried out at tower positions to determine the type of foundation. The holes will be filled in after soil sampling is completed.

- *Structure Stacking*

A survey crew will peg the substation location and the power line corridor.

- *Clearing*

The Right Of Way must be cleared to allow for construction and operation activities of substation and power line. The land-owner and the local community will be notified prior to construction clearing.

- *Access Road Construction*

Where there is no existing Services Access available or where ground conditions prevent normal Services Access, temporary Services Access routes may have to be constructed. If temporary Services Access roads need to be installed then either a trackway system or temporary stoned Services Access roads are technically acceptable.

1.2.2 Construction Phase

Overhead power line construction follows a standard sequence of activities mentioned below:

- *Construction Camp*

The Right Of Way corridor may be used as an area for temporary storage and handling for equipment and materials related to construction. Steel components of structures may be delivered and placed on the ground near foundation sites.

- *Foundation Installation*

A work crew will excavate the foundations for the towers. The foundation is influenced by the terrain encountered as well as the underlying geotechnical condition. The actual size and type of foundation to be installed will depend on the soil bearing capacity and can be excavated manually or by using machines. The foundations will be back filled, stabilized through compaction and capped with concrete.

- *Erecting structures and stringing Conductors*

Once foundations are in place, the following work will be carried out:

- i. Erection of the structures within the Right Of Way;
- ii. The steel components of the tower will be assembled using a crane and then lifted onto the foundations;

- iii. Insulators and attachment hardware will be installed and stringing sheaves attached to the insulators; and
- iv. The conductors will be strung by attaching the conductor to a steel line and pulled through each structure's stringing sheaves under tension to keep the conductors well off the ground.

1.2.3 Substation Construction

To cater for the proposed 400kV power line, Spencer substation needs to be extended/ upgraded to establish the 400/132kV transformation yard and the 1x500MVA, 400/132kV transformer. In addition, a transformer oil holding dam with a capacity of 120m³ will also be constructed. The area required for this extension is approximately ±9 hectares. The proposed upgrade/ extension works will entail the following activities:

- Cut and fill grading;
- Placement and compaction of structure fill to serve as a foundation for equipment;
- Grading to maintain drainage patterns;
- Installation of equipment and structure foundations;
- Construction of bund walls, oil drainage pipes and oil holding dam;
- Construction of formal drainage and storm-water control measures;
- Installation of structures and equipment;
- Connection of the new infrastructure to the existing network; and
- Erect a fence around the perimeter of the substation.

1.2.4 Operation and Maintenance

During the operation phase, ESKOM shall perform the following activities;

- i. Vegetation maintenance within the ROW and access roads. This will ensure that vegetation does not interfere with human safety, transmission line conductors, towers and impede access to the transmission line for maintenance crews. Vegetation clearance shall be performed using a variety of methods such as manual, mechanical and herbicidal applications;
- ii. Access road maintenance to ensure that the roads are in good condition for all weather access by maintenance crews; and
- iii. Transmission line maintenance which will include routine checks and system upgrade and repairs.

1.2.5 Decommissioning

During the decommissioning phase, the removal of the line will be the reversal of the construction phase and rehabilitation of the ROW. The process of dismantling and removal of the line includes:

- Lowering the overhead conductors and earth wires to the ground and removing them from the site and selling them as scrap;
- Removing insulators and line hardware from structures at the site and disposing them at a registered local authority waste facility;
- Dismantling the towers and cutting them into pieces small enough to be handled and transported from the site;
- Demolition of foundations and disposing the concrete at a registered landfill site; and
- Backfilling and compaction of the excavation with suitable material.

1.3 Powerline Alternatives

‘Excerpt from the Scoping Report’

In terms of the NEMA EIA Regulations GNR982, as amended, one of the criteria to be considered by the Competent Authority when considering an application is “*any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment*”. Alternatives are defined in the Regulations as “*different means of meeting the general purpose and requirements of the activity*”. It is therefore necessary to provide a description of the need and desirability of the proposed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community, that may be affected by the activity. Two alternative corridors and two deviations from these corridors have been identified and will be assessed. The corridors

traverse across nature and game reserves, agricultural land, residential and mining areas.

Reference is made to Figure 1 below:

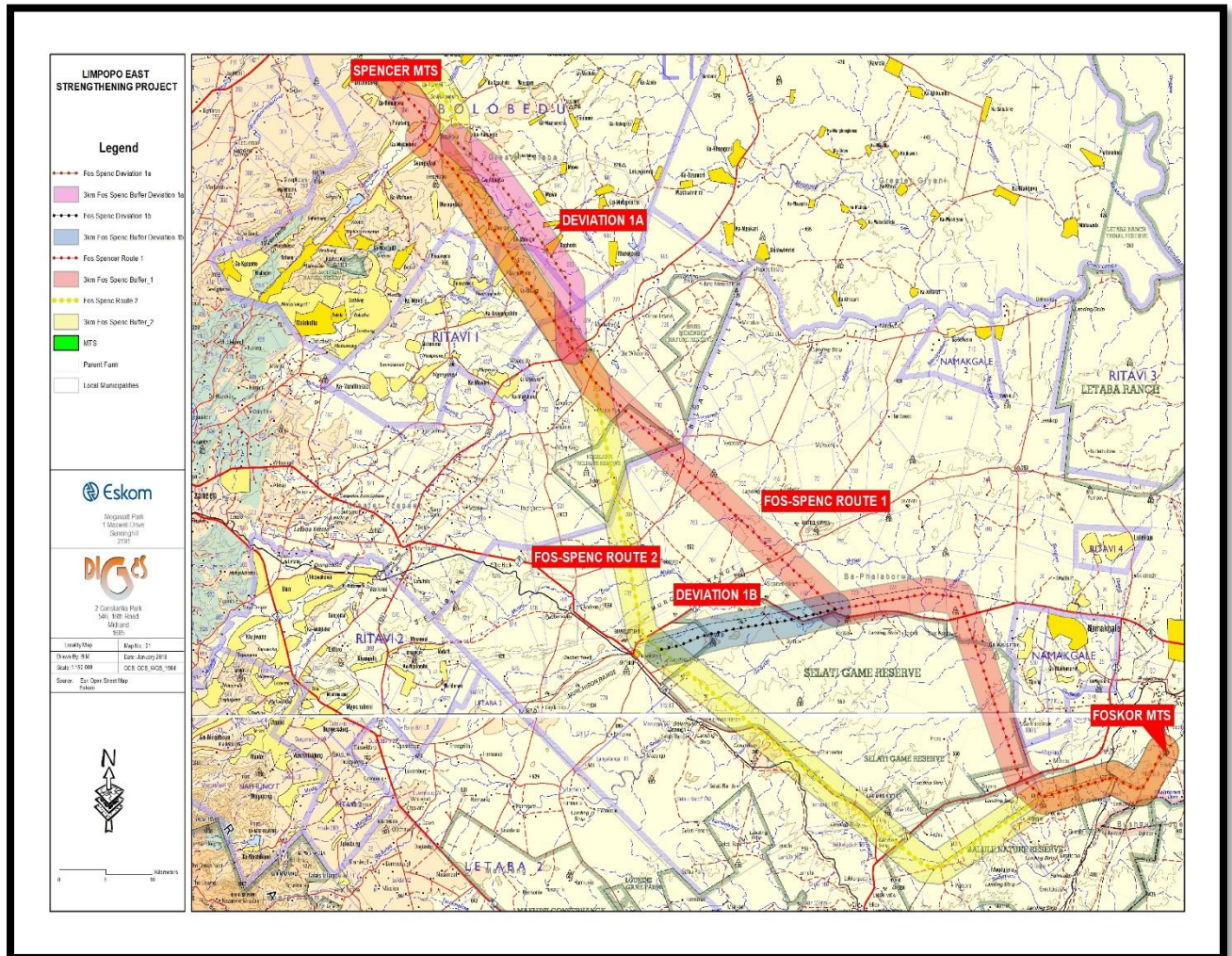


FIGURE 1: LOCALITY MAP

2. SCOPE OF WORK

The aim of the study was to identify and manage the social issues of project development including the effective engagement of affected communities in participatory processes of identification, assessment and management of social impacts. The study was conducted as part of the application to be submitted for an Environmental Authorisation to the National Department of Environmental Affairs (DEA). Eskom is planning to build a ± 110 km 400kV transmission line from Foskor substation in Phalaborwa, to the Spencer substation near Giyani. The Spencer substation will also be upgraded. The proposed power line and its alternatives pass through the Ba-Phalaborwa, Maruleng, Greater Letaba, Greater Tzaneen Local municipalities within the jurisdiction of Mopani District Municipality, Limpopo Province.

2.1 Study Objective

The overall business objective of the SIA is to identify and assess the social impacts that are likely to occur in the human environment due to the construction and operation of the 400kV transmission power line between the Foskor (Phalaborwa) and Spencer (near Giyani) substations, respectively. The analysis includes a baseline study describing the social characteristics of the affected population, as well as the cultural and socio-political dynamics in the broader project area. This SIA Report will inform the EIA Report with regards to the impacts that may be anticipated and how the positive impacts can be promoted.

In support of the overall business objective, a number of secondary objectives were identified, namely:

- Undertake the detailed studies that were identified during the Scoping Phase, thereby refining the assessment of the probable impacts of the project on the social environment;
- Identify relevant legislation, standards and policies;
- Define and describe the receiving environment (footprint, local and regional) from a social perspective, identify, analyze and in detail assess the opportunities and constraints arising from or potentially limiting the proposed infrastructure;
- Investigate the potential social benefits of the proposed infrastructure in order to ensure maximum benefit to the local community and associated structures;
- Assess the development impact of the proposed infrastructure on the economy of the local area (from a social point of view), which will form an important component for

establishing the overall feasibility of the project; and

- Form conclusions based on the result of the detailed assessments, and based on these; make specific recommendations on the way forward given the social impacts associated with the various phases of the project and the project itself.

2.2 Assumptions and Limitations

It is essential that the SIA are based on current and accurate project information. Similarly, the geographic extent of the SIA is influenced by project design and overall planning processes. The SIA report is based on current information received while compiling the SIA and the report therefore takes into consideration project information relating to planning and design, implementation and infrastructure placement.

- This study was carried out with the information available to the specialist at the time of executing the study, within the available timeframe and budget. The sources consulted are not exhaustive and additional information, which might strengthen arguments or contradict information in this report might exist;
- The specialists did endeavour to take an evidence-based approach in the compilation of this report and did not intentionally exclude scientific information relevant to the assessment;
- It was assumed that the motivation for, and the ensuing planning and feasibility studies of the project were done with integrity, and that the information provided to date by the project proponent, the independent environmental assessment practitioner and the public participation consultant was accurate;
- The information contained in this report has been compiled with the utmost care and accuracy within the parameters specified in this document. Any decision based on the contents of this report is, however, the sole responsibility of the decision maker.

2.3 Legislative and Regulatory Review

The social impact assessment will be prepared taking into consideration environmental rights in South Africa's Bill of Rights, as well the requirements as set out in the National Environmental Management Act.

2.3.1 The Constitution of South Africa (Act 108 of 1996)

Section 24 of the Constitution of South Africa (Act 108 of 1996) (the Constitution) in its Bill of Rights confers environmental rights to people in South Africa, that is:

- a) *to an environment that is not harmful to their health or well-being; and*
- b) *to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-*
 - i. *prevent pollution and ecological degradation;*
 - ii. *promote conservation; and*
 - iii. *Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

2.3.2 The National Environmental Management Act (No. 107 of 1998)

National Environmental Management Act (No. 107 of 1998) (NEMA) requires that sustainable development serve as the general framework for environmental management and implementation plans to be formulated. The act defines “Sustainable development” as “the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations”. To ensure sustainability, Environmental Impact Assessments that emanate from Section 24(5) of the act have to be carried out for activities deemed to have significant impacts on the environment. The proposed construction of 400kV power line and upgrade of Spencer substation are such activities that have been listed in Listing 1 (R983), Listing 2 (R984) and Listing 3 (R985) as having a significant impacts. Table 1 below gives a full description of the listings and their applicability to the project:

Table 1: Listed activities in terms of listing 1, 2 and 3

GOVERNMENT LISTING	ACTIVITY
<i>GNR.983 Item 27: The clearance of an area of 1 hectares or more, but less than 20hectares of indigenous vegetation.</i>	The expansion of the transformation yard requires ±1 ha.
<i>GNR.984 Item 9: The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.</i>	Construction of ±110km, 400kV power line

GOVERNMENT LISTING	ACTIVITY
<i>GNR 985 Item 12 (e)ii: The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan in Limpopo within critical biodiversity areas identified in bioregional plans</i>	Clearing of indigenous vegetation at towers within CBA areas during construction

As such, the social baseline and impact assessment forms part of the EIA process currently being applied for the authorisation of the above-mention activities. This study is undertaken in compliance with Appendix 6 of the EIA Regulations of 2014 as amended..

2.3.3 The Occupational Health and Safety Act (Act No. 85 of 1993)

The Occupational Health and Safety Act outlines the clear responsibilities of employers and employees alike in ensuring that a safe work environment is created and maintained at all times. The creation of a safe work environment also applies to any and all work equipment that is required in carrying out assigned duties.

Noteworthy to consider is the fact that this act stipulates that a health and safety representative has to be appointed where a workforce consists of 20 or more people. A health and safety representative has to be a fulltime employee and there should be at least one such a representative per every 50 employees or part thereof, either per workplace or per section of the workplace. Where a workplace has more than one health and safety representative, a health and safety committee should be formed that meets at least once every 3 months. Health and safety representatives should carry out the following functions in terms of this act:

- Review the effectiveness of health and safety measures;
- Identify potential hazards at the workplace that could lead to potential major incidents;
- Examine the causes of incidents at the workplace, in collaboration with the employer;
- Investigate any complaints made by employees in terms of health and safety aspects at the workplace;
- Provide feedback to the health and safety committee on the aspects mentioned above;

- Provide feedback to the employer on matters relating to the health and safety of employees at the workplace; and
- Inspect all aspects relating to the safety of the workplace, including the workplace itself, any plants, machinery, articles, health and safety equipment, etc. at intervals agreed upon with the employer.

2.3.4 Other legislations

In addition to the above, the following key legislation and guidelines are also relevant to the process:

- Environment Conservation Act (ECA) (Act 73 of 1989);
- Environment Conservation Amendment Act (Act 50 of 2003);
- National Building Regulations and Standards Act No. 103 of 1997;
- National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);
- National Heritage Resources Act, 1999 (Act No. 25 of 1999);
- National Water Act (Act 36 of 1998 as amended);
- National Environmental Management: Air Quality Act (Act 39 of 2004);
- Promotion of Access to Information Act (Act No. 2 of 2000);
- Promotion of Administrative Justice Act (Act No.3 Of 2000);
- Nature Conservation Ordinance 12 of 1983;
- Department of Environment and Tourism (DEAT1) Guideline 3: General Guideline to the EIA Regulations (2006);
- DEAT Guideline 4: Public Participation (2009); and
- DEAT Guideline 5: Assessment of Alternatives and Impacts (2009).

3. DESCRIPTION OF THE SIA METHODOLOGY

The broad steps followed as part of the Social Impact Assessment are discussed below.

3.1 Introduction to Social Impact Assessment

An SIA examines how a proposed development will change the lives of current and future residents of a community. Quantitative measurement of such factors is an important component of the SIA and at the same time, the perceptions of community members of how the proposed project will affect their lives are a critical part of the assessment and should contribute to any decision to move ahead with a project. One of the most important steps in the process is in fact

to gain an understanding of community values and concerns. The social impacts of a proposed development on a community may actually begin the day the project is proposed resulting in changes in social structure and interactions among community members. Community members start organising themselves, they start interacting in ways that are different to the norm.

3.2 Approach and Methodology

The SIA was undertaken by:

- Using desktop sources including Census 2011 to describe the social *status quo* of the potentially impacted communities. Site visits were also be undertaken to ascertain possible impacts to the potentially impacted communities.
- Using information from the project description and *status quo* baseline to identify potential social impacts during pre-construction, construction and operations of the project. Measures were also identified for promoting potential positive impacts and avoiding or mitigating possible negative impacts assessed to be significant; and
- The social baseline study made use of existing data, further, the information in this report was acquired via comments received during the public participation process, published reports, including Integrated Development Plans (IDP), statistical data obtained from Statistics South Africa and information obtained from SIA literature.

The SIA is conducted for the following phases:

a) Pre-construction phase

- The site as it currently stands before the development of the project. The period from when the construction of the infrastructure was first mentioned to the public, until the start of the construction phase.

b) Construction phase

- All the construction and construction related activities on site, until the contractor leaves the site. This phase is expected to commence once the Environmental Authorisation has been received and is estimated to be completed over 24 months.

c) Operational phase

- All activities, including the operation and maintenance of the proposed development are included in this phase. The activities arising from each of the relevant phases have been included in the tables. The assessment endeavours to

identify activities, which require certain environmental management actions to mitigate the impacts arising from them.

3.2.1 Summary of Public Participation

Public Participation Process (PPP) was done according to Regulation 39-44 of the Government Notice R.982 as amended in terms of the Environmental Impact assessment Regulation, December 2014 that sets out the need and the processes that have to be followed when doing public participation. The PPP is viewed as a process of empowering communities in their efforts to safeguard the resource-base in more efficient ways and to use the resources sustainably. It also enables people to play lead roles in identifying, designing, directing and implementing any development activity which has an impact on their immediate environment, and therefore on their way of life. The PPP started in January 2017 and the following concerns and comments given in the Table below have been raised to date:

Table 2: Public Participation Comments

ISSUE	COMMENTS/ CONCERNS
Job creation and Local opportunities	<ul style="list-style-type: none"> - Eskom to first consider the local people for employment and any other economic benefits that might come from the project.
Safety and well-being	<ul style="list-style-type: none"> - What is the health implication of the presence of a power line close to a residential area in terms of the electromagnetic effect of power lines? - Who is going to control contractors during the construction period? Their concern about safety, environment, and potential crime and poaching.
Land Issues and Compensation	<ul style="list-style-type: none"> - What activities can be carried out within the servitude? - What happens to existing infrastructure? - Reduction in property value. - Compensation process

ISSUE	COMMENTS/ CONCERNS
Technical and line routing	<ul style="list-style-type: none"> - The army uses three farms within Alternative 1 where training is currently being undertaken. - What are Eskom's obligations and entitlements, what are the affected landowners' obligations and entitlements? - Why does the power line not come from Medupi Power Station instead of Foskor Substation? - How will the proposed power line strengthen Spencer MTS.? - Addition of Deviation 1b to avoid moderate-high visual impacts on Selati and neighbouring reserves.
Project lifespan and Time-frames	<ul style="list-style-type: none"> - Construction timeframe to take into account the hunting season.
Land-use	<ul style="list-style-type: none"> - Negative impact on tourism and nature reserves (conservation). - Negative visual impact. - Loss of agricultural land - Loss of sense of place.
Biodiversity	<ul style="list-style-type: none"> - Loss of fauna and flora.

4. SOCIAL BASELINE

Social and economic characteristics of the potentially impacted communities are described in this section to understand the current baseline in the primary and secondary zones of influence. Baseline characteristics will have to be considered with the corresponding social aspects of the project, to understand:

- Social baseline characteristics of the potential project beneficiaries and receptors; and
- How the project social characteristics will potentially change the current social aspects.

The social baseline focuses on describing the *status quo* on the site and in the four municipalities, and includes regional contexts where relevant. Statistics South Africa Census 2011 and the district municipality's IDP for 2016/ 2017 were the main sources of data used for preparing the social baseline.

4.1 Geographical location of the project

The project, including its alternatives, is located within the Limpopo Province. Transmission lines are proposed to pass through the four local municipalities which are Greater Letaba (GLM), Greater Tzaneen (GTM), Maruleng (MLM) and Ba-Phalaborwa (BPM) within in the Mopani District Municipality geographical area. Reference is made to Figure 2:

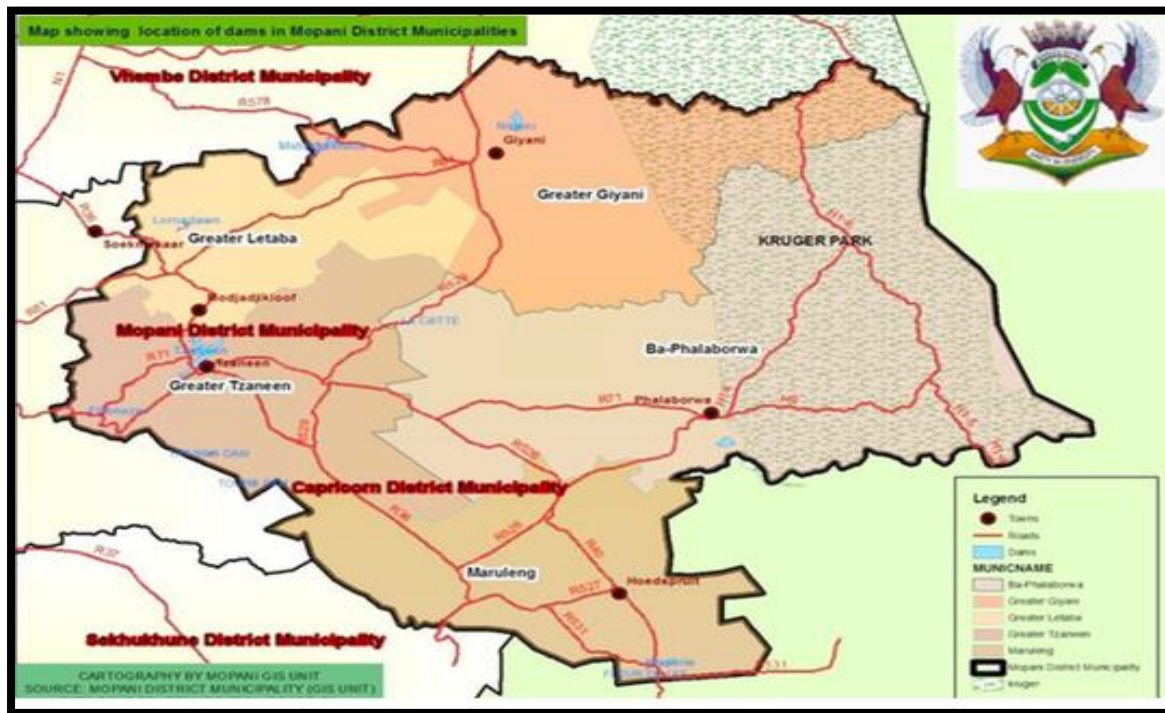


Figure 2: The location of the Ba-Phalaborwa, Maruleng, Greater Letaba, Greater Tzaneen and Greater Giyani Local Municipalities, within the Mopani District Municipality in the Limpopo Province (Adapted from Mopani IDP 2016/2017).

4.2 Economy and Livelihoods

This section provides an overview of some key economic factors in the Limpopo Province. The provincial priorities for economic development are also described. The economic activities in each of the four municipalities in the study area are also discussed.

4.2.1 Limpopo Province

Limpopo's growth since 2003 has been dominated by the mining sector, especially platinum, and by national construction projects. As a result, the provincial economy grew rapidly during the mining boom from 2003 to 2011, but has since slowed to below the national rate. The Province also has by far the largest share of residents in former so called "homeland" areas in

the country, which poses challenges because they continue to face a lack of employment opportunities, poor incomes, weak infrastructure and low educational levels. The result has been high out-migration both to Limpopo's urban areas – now among the fastest growing in the country – and to other provinces. While Limpopo, with 5.7 million residents, accounted for 10% of South Africa's population in 2014/2015, it contributed just 7% of the GDP. In 2014 – the latest available data – the real economy (represented by agriculture, mining, manufacturing and construction) made up 33% of Limpopo's output.

4.2.2 Economies of Local Municipalities in the Study Area

Mining has been the dominant sector in Mopani since 1996, and in 2006 accounted for 31% of the gross value added. The other large sectors (in descending order) are community service (government employment), trade (which includes tourism) and finance. Mopani has almost no manufacturing sector (just 2%). The second major industry is agriculture. There are a number of producers but ZZ2 dominates in terms of output and the major focus is on sub-tropical fruit (tomatoes, bananas, mangoes, oranges and pineapples). The main focus of both these industries is to produce for exportation. (Mopani District Municipality, 2017).

4.3 Population Characteristics

The reconciled total population of the Mopani District Municipality has increased from 1 061 107 (Census 2001) to 1 068 569 (Community Survey 2007) to 1 092 507 (Census 2011). The population for each municipality within Mopani District is presented in **Table 6**. Out of the entire district population, 81% reside in rural areas, 14% in urban areas and 5% stay on farms. The population densities vary from municipality to another, but the average is 23 people/ ha. It shows that people are sparsely populated with sufficient land around them. The problem of land shortage for economic development is perpetrated by the vast land occupied for dwelling purposes, leaving much little for economic growth. A move towards reduction of stands sizes may need due consideration. Portion of Kruger National park is mainly occupied by animals with very few people employed.

Table 3: Population Growth Trends: Census 1996 - 2001 – 2011

Local and district municipalities	CENSUS 1996			CENSUS 2001			CENSUS 2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Greater Letaba	89918	113623	203541	97584	121290	218874	95305	117396	212701
Greater Tzaneen	157041	185510	342551	171123	204463	375586	181558	208536	390095
Ba-Phalaborwa	55602	54140	109742	64357	67180	131537	73017	77620	150637
Maruleng	41048	46823	87871	43533	50849	94382	43577	51280	94857
Mopani	441342	521115	962457	483202	577905	1061107	501581	590926	1092507

Table 4: Population and Household's growth/ trend: Census 2001 and Census 2011 data

Estimated Population STATSSA Census 2001 & 2011													
Municipality	Area/ Extent	Population			Households			Pop. Density per km ²	H/H Size		Rural population	Urban population	Farming population
		2001	2011	Growth	2001	2011	Growth		2011	2001			
Greater Letaba	1890,9 km ²	220103	212 701	-3,4%	53747	58261	+8,4%	113	5	4	94,3%	5,7%	0
Greater Tzaneen	3242,6 km ²	375586	390 098	+3,9%	97425	108926	+11,8%	121	4	4	82%	10,4%	7,6%
Ba-Phalaborwa	7461,6 km ²	131088	150 635	+14,9%	33572	41115	+22,5%	21	4	4	36,2%	51,0%	12,8%
Maruleng	3244,3 km ²	94382	94 855	+0,5%	23050	24470	+6,2%	30	5	4	88,7%	2,3%	9,0%

4.4 Unemployment

People in the Mopani district are employed in the following sectors: Farming, Industry, Mining, Trade, Government, Transport, Tourism, Manufacturing, Construction and Energy. The Government Sector is the largest employer in the district e.g. 39% of the employed in Greater

Giyani work for government. The second largest employer in Mopani district is the farming sector with 25, 9% of the employed people. This is however, not the case when considering the municipalities separately with the mining sector employing the second largest portion of the Ba-Phalaborwa population (19, 5%). The number of people unemployed as a percentage of the total employable population of the District (287 405) is **39%**. It is however important to note that of the unemployed people in the district, about 60% are women.

4.5 Education

The literacy levels in the Mopani District are very low. Only 12.7% of the adult population in the district has completed their matric and 6.5% any form of higher education. Existence of the ABET programme in the district made substantial impact since the illiteracy rate from 37.8% to 27.1%.

4.6 Housing

While housing provisioning has improved to 84.4% of the households in the District in housing that meet minimum standards, there is still significant number that still live and sleep in risk housing. About 15,13% of the Mopani District population reside mainly in “Traditional residential” dwellings.

4.7 Energy Use

In Mopani, local municipalities that are providing electricity are BPM and GTM. The GGM, MLM & GLM are still provided for by Eskom. Most rural and amongst low income households obtain most of their energy requirements from firewood to meet their needs, irrespective of whether their houses are electrified or not.

4.8 Roads and Transport

According to the latest assessment in 2007 b Department of Roads and Transport (DORT), the average visual conditions of roads in Mopani yielded “fair”. The state of roads in the district have an impact on the economic development of the area as it is clear that most roads, leading to where the majority of the district population is, are not tarred/paved, and, as such, hinder the proper transportation of people, goods and services. Some of the key concerns regarding roads and transport in the Mopani District include:

- Conditions of road infrastructure, especially in rural areas and the accessibility and cost of public transport for rural communities;
- Worsening conditions of roads in both rural and urban areas, especially in townships;
- Lack of maintenance for road infrastructure; and

- Concerns about road safety and insufficient law enforcement to ensure safe and reliable transport.

4.9 Health and Social Development

The provision of health facilities to all settlements in the district is a problem because of the large number of settlements (varying in size), with the majority of them being relatively small and scattered throughout the district. The hospitals provide services to across municipal boundaries and international refugees. Prevalent Diseases in Mopani District include diarrhoea; Pneumonia; Tuberculosis; HIV and AIDS; Malaria; and Sexually Transmitted Infections (STI).

4.10 Safety and Security

The Mopani District is daunted with high rate of crimes, such as, murder, attempted murder, and rape, robbery with aggravated circumstances, assaults and so forth. There are also emerging crime types such as theft out of motor vehicle, Carjacking and house breaking particularly in urban centres in the District, e.g. Tzaneen and Giyani.

5. SOCIAL-ECONOMIC IMPACT CATEGORIES

Economic processes affect economic activity in the region, including the way in which people make a living as well as macroeconomic factors that affect society as a whole. Economic impacts can also be viewed from a social point of view, as employment creation or increased government income, can for example, lead to social development and the reduction of poverty.

The construction phase discussed in this document refers to the planning of the construction process, the transportation of material, initial site preparations and the actual construction activities. Impacts associated with the construction phase are of a short duration and temporary in nature, but could have long term effects on the surrounding environment. Aspects rated high would thus warrant intense mitigation measures. The operational life of power lines and substations is approximately forty (40) years or more and thus viewed as a long term process. The duration of these impacts, however, should not only be the critical issue, but aspects such as the extent, the intensity and significance need to be considered. Hence after every discussion a table was offered to measure such. Reference is made to Section 5.1 for the assessment criteria. Maintenance would entail monitoring, erosion control and removal of alien plant species. The possible impacts identified during the scoping phase and additional impacts identified during EIA phase of the project were investigated in terms of applicability to the project. They are discussed under the Section 5.2-5.18:

5.1 Assessment Criteria

In accordance with Environmental Impact Regulations, 2014, (as amended) each identified potentially significant social impact and risk will be assessed. Each aspect within an impact description was assigned a series of quantitative criteria and such criteria are likely to differ during the different stages of the project's life cycle. In order to establish a defined base upon which it becomes feasible to make an informed decision, it was necessary to weigh and rank all the criteria. Findings will be reported in the Environmental Impact Assessment Report (EIAR), which will include:

- The nature, significance and consequences of the impact and risk;
- The extent and duration of the impact and risk;
- The probability of the impact and risk occurring;
- The degree to which the impact and risk can be reversed;
- The degree to which the impact and risk may cause irreplaceable loss of resources; and
- The degree to which the impact can be avoided, managed or mitigated.

The assessment of the impacts will be conducted according to a synthesis of criteria required by the Integrated Environmental Management procedure. Reference is made to Table 7 below:

Table 5: Criteria used for the Impact Assessment

Criteria	Assessment Rating Scales
Cumulative Impacts	
Low	Environmental resources still have significant capacity to respond to change and withstand additional stress;
Medium	Environmental resources have a reduced capacity respond to change and withstand additional stress; and
High	Environmental resources have no capacity respond to change or withstand additional stress
Nature	Description of what causes the effect <ul style="list-style-type: none"> • Positive; • Neutral; and • Negative

<p>Extent (Physical and spatial size of the impact)</p>	<ul style="list-style-type: none"> • Site - The impact could affect the whole, or a measurable portion of the above-mentioned properties; • Local - The impacted area extends only as far as the activity, e.g. a footprint; and • Regional - The impact could affect the area including the neighbouring farms the transport routes and the adjoining towns.
<p>Intensity</p>	<ul style="list-style-type: none"> • Low (Negligible alteration of natural systems, patterns or processes or social and cultural functions and processes); • Medium - (Notable alteration of natural systems, patterns or processes or social and cultural functions and processes); and • High - (Severe alteration of natural systems, patterns or processes or social and cultural functions and processes).
<p>Duration The lifetime of the impact; this is measured in the context of the lifetime of the proposed base.</p>	<ul style="list-style-type: none"> • Short-term (0 to 5 years); • Medium term (6 to 15 years); and • Long term (16 to 30 years).
<p>Probability This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows</p>	<ul style="list-style-type: none"> • Probable - There is a possibility that the impact will occur to the extent that provisions must be made therefore; • Highly probable - It is most likely that the impacts will occur at some or other stage of the development. Plans must be drawn up before the undertaking of the activity; and • Definite - The impact will take place regardless of any prevention plans, and there can only be relied on mitigatory actions or contingency plans to contain the effect.

Significance

Significance is determined through a synthesis of impact characteristics.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.

- Low - The impact is of little importance, but may require limited mitigation;
- Medium - The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels; and
- High - The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

The impact assessment considers the nature of most impacts as negative. Special note will be made where the nature of impacts are positive. Only the No-Go option will have neutral impacts. The assessment of the impacts will be conducted according to a synthesis of criteria required by the Integrated Environmental Management procedure. Below is the description of the impacts estimated to transpire during the construction and operational phases of the proposed Foskor - Spencer project:

5.2 Waged Labor

The affected municipalities are characterized by high unemployment rates, low levels of income, and poverty. Only about 26% of the population between the ages of 15 to 64 years in the affected municipal areas are employed, approximately 21% is unemployed and the remainder include people who are either students, homemakers, or do not want to work. This situation makes it likely that the prospect of employment opportunities will attract job seekers. This inflow is expected to be primarily from the villages in the affected areas and as word spreads, family members of the inhabitants of the villages living further afield may come to the area in search of work.

Note should be made that the construction will be undertaken by servicer provider appointed by Eskom. These providers usually use their own teams of about 60 peoples who are skilled and trained personnel. This project will thus result in few local employment, and there will thus be limited short-term positive impacts to the communities. These will mostly be of low skill such as clearance of the servitude, stringing of transmission cables and excavation of foundations. Maintenance of the line would be undertaken for the lifespan of the powerline, and is done by Eskom personnel, or accredited sub-consultant who are in the Eskom database. It would thus not create job opportunities for locals.

Table 6: Waged labour/ employment creation and decrease in unemployment

Stage	Construction
Nature	Positive
Extent of impact	Regional
Duration of impact	Short term
Intensity	Low
Probability of occurrence	Highly Probable
Significance before mitigation	Medium
Mitigation measures	Representatives from the various local municipalities could assist in determining local sub-contractors and labourers that should be considered for possible employment. In fact, the tender document should specify the use of local labourers or enterprises (where possible). It should be stipulated in the tender documentation that contractors use local labourers for manual and low skilled activities such as fencing and bush clearing. Where possible, on-site training should be undertaken to ensure long term benefits to the members of the community.
Significance after mitigation	High

5.3 Capacity Building and Skills Transfer

The fast pace of change which is brought about by innovations in science, technology, social and cultural issues necessitates a need for ways and means for knowledge transfer and skills

development. The role of South Africa in driving the development agenda for Africa has increased significantly since 1994. It is predicted that the construction of the proposed project will lead to capacity building in the community, as this project may open opportunities for local residents through training, coaching and skills transfer. It is suggested that all employees be trained in the function of their job and that such training should also incorporate health, safety, security and environmental aspects.

Table 7: Capacity building and skills transfer

Stage	Construction
Nature	Positive
Extent of impact	Regional
Duration of impact	Short term
Intensity	Low
Probability of occurrence	Probable
Significance before mitigation	Low
Mitigation measures	Stakeholders should be mutually accountable for increased opportunities regarding skills and competency development (general education and technical training). This training should be concentrated on skills that can be readily transferred to other employment opportunities in the local area, and only suitable qualified candidates in project management activities should be used.
Significance after mitigation	Medium

5.4 Influx of Workers: Construction phase

The development will transverse mostly on rural area and farmland, as such, the influx of jobseekers is rated as moderate as some local jobseekers might ascend to the area, which could result in conflict between locals and some outsiders looking for employment. Furthermore, if construction workers are not sourced locally, but housed in the hosts' communities, this may further lead to conflict with residents. Conversely the presence of temporary workers could provide a small stimulus to the local economy if accommodation for such workers could be procured locally, this would provide local economy through rentals paid. The influx may also

increase anxiety in the area, especially in villages, as they may be seen as responsible for any criminal activities that take place during the construction phase.

Table 8: Influx of Construction Workers Impact Assessment

Stage	Construction
Nature	Negative
Extent of impact	Regional
Duration of impact	Short Term
Intensity	Medium
Probability of occurrence	Highly Probable
Significance before Mitigation	Medium
Mitigation measures	Maximising the use of local labour can make outsiders to realise that employment opportunities might not be readily available and that recruitment is not taking place unsystematically. In addition, employment should be made through local community structures. No jobs will be created during the operational phase of the project, and will thus be no influx of jobseekers.
Significance after mitigation	Low

5.5 Inflow of Workers: Construction phase

The area is characterised by rural residential, farming, mining and nature reserves. As a result, the impact of this size of workforce is anticipated to have only very limited negative impacts on the daily living. However, more intense negative impacts will be experienced by farm owners whose properties would be affected. The inflow of individuals unfamiliar to the resident population is always perceived to increase the criminal activities in the area. Inflow can result in a number of negative impacts such as theft and/or poaching of livestock, game, birds and plant species, littering, trespassing on private properties without prior notice, neglect to close farm gates. It is expected that this impact will occur regardless of which alternative is chosen.

Table 9: Influx of Construction Workers Impact Assessment (Significance of the impact)

Stage	Construction
Nature	Negative
Extent of impact	Local
Duration of impact	Short Term
Intensity	Medium
Probability of occurrence	Probable
Significance before Mitigation	Medium
Mitigation measures	Before construction commences, all stakeholders should be informed of the details of the contractors, size of the workforce and construction schedules. Furthermore, workers should wear uniforms at all times to be easily identifiable, especially while working in the farms. An induction programme should be introduced to every person entering the site and include amongst others general environmental good conduct practices.
Significance after mitigation	High to Medium

5.6 Gendered Division of Labour: Construction phase

The sexual division of labour (SDL) is the delegation of different tasks between males and females. In most societies certain roles, occupations, responsibilities are associated with being male or female. Some of these roles have biological origins, some are socially constructed and entrenched by culture, religion and tradition. During the past, men, women, and children tended to work side-by-side in family-based agricultural production, though doing different chores, they were co-operating in the mutual enterprise of running a farm or family business. After the rise of industrialization, most men entered the paid labour force and worked away from home, while women remain at home. Since the birth of democracy in 1994, South Africa has seen a strong push for gender equality in policy and decision making in both the public and private sectors. In 2015, the JSE introduced listing requirements compelling companies to have a policy for the promotion of gender diversity. The requirements were effective from January

2017. If this project is seen favouring men over women, such will create social conflict. Eskom should therefore ensure that there is defensible representative of gender in this project.

Table 10: Gendered division of labour

Stage	Construction
Nature	Positive
Extent of impact	Local
Duration of impact	Short Term
Intensity	Medium
Probability of occurrence	Probable
Significance before mitigation	Medium
Mitigation measures	<ul style="list-style-type: none"> • Eskom’s own internal policies and procedures should be used to ensure a fair and transparent recruitment process; • Salaries of women should be equal to that of men when undertaking the same work; • Training and skills development should take place for women; and • Institute a well-designed gender equality strategy, if not available.
Significance after mitigation	Low

5.7 Accommodation of Workers

The project will be approximately 110km in length, under normal circumstance, there will be one site camp. There can be two options i.e., either boarding houses are provided by the constructor, or workforces are told to go and look for accommodation in the neighbouring village, mostly close to the site camp. The latter is mostly preferred since it is cheaper and convenient, and it comes with a positive impact since small stimulus to the local economy will be made by rentals paid. There are several negative impact associated with a construction camp, such as mismanagement which could result in noise pollution, littering, alcohol abuse, temporary sexual relationships with local women with possible conflict with inhabitants and

also unwanted pregnancies, as well as spreading of sexually transmitted diseases. No workers would have to be accommodated during the operational phase.

Table 11: Accommodation of Workers

Stage	Construction	
Nature	Negative	Positive (rentals),
Extent of impact	Regional	Regional
Duration of impact	Short Term	Short Term
Intensity	Medium	Low
Probability of occurrence	Probable	Probable
Significance before Mitigation	Medium	Low
Mitigation measures	The construction camp should at all times adhere to EMPr conditions, and be positioned away from the vicinity of residential dwellings.	
Significance after mitigation	Low	Low-Medium

5.8 Local Economic Contribution

Although most of the workers in the project might be external, local economy will benefit during construction phase through temporary employment of local labourers and short term socio-economic spin offs such as increased buying power around the construction sites. The benefits of the temporary employment positions is short lived and of a restricted extent, but should still be regarded as positive.

Table 12: Local Economic Contribution

Stage	Preconstruction and Construction	
Nature	Positive	
Extent of impact	Regional	
Duration of impact	Short term	
Intensity	Medium	
Probability of occurrence	Probable	

Level of significance before mitigation	Low
Mitigation measures	Proudly South African was established in 2001, born out of the 1998 Presidential Job Summit convened by late former president Nelson Mandela. Like all government initiatives, its purpose is to combat the triple challenges of poverty, inequality and, above all, unemployment. Where possible, the constructor should consider buying locally, resources such as sand, etc. Furthermore, other products like beverages should also be sourced locally.
Level of significance after mitigation	Low

5.9 Socio-Cultural Processes

Socio-cultural processes relate to the way in which humans behave, interact, and relate to each other and their environment, as well as the belief and value systems. In turn, socio-cultural change processes looks at the way in which the proposed developments can alter the interactions and relationships within the local community. The expected changes that occur in relation to health and safety aspects can be as a result of the presence of construction workers and/or job seekers during construction, or presence of workers during operation. Dissimilarity in social practices occurs when there are different values, social standards, religious theory brought by the existence of two groups, with different social practices living alongside each other should not in itself be the cause of problems, it is only when the one group attempts to exert power over the other group or where different cultural values are not respected, that conflict situations arise. Such conflict situations can turn violent and often require third party intervention.

Dissimilarity in social practices is more likely to come to the fore if construction workers are housed in a construction camp, and if such a camp is located close to existing formal and informal settlements. Some of the most common problems associated with residential construction camps, include the following:

- An increase in prostitution: Disempowered and desperate local women often view construction workers as financially well-off and therefore as a source of income to the woman who, quite frequently has to support her own family. Apart from the wilful act

of prostitution, other women are willing to enter into sexual relationships with construction workers believing that they will gain financially, which is often not the case. This leads to an increase in pregnancies (also teenage pregnancies) and more often than not, both woman and child is left behind in the community without any financial support when the construction worker moves out of the area;

- An increase in casual sexual relationships has the obvious health implication of an increase in sexually transmitted infections, including HIV. Infection can work both ways either the man infects the woman or vice versa. In any event, human beings are mobile which means that these infections are spread further when they enter a new area and engage in a new casual sexual relationship;
- Infrastructure and services (e.g., water and sanitation) that are not managed and maintained properly within a construction camp can lead to waterborne diseases such as cholera. Within concentrated living conditions, diseases are easily spread within not only the confines of the camp, but also to the surrounding community;
- Construction workers seldom spend their free time in the camp, but would rather venture into town in search of entertainment, which normally results in alcohol abuse leading to an increase in conflict and violence, as well as an increase in casual sexual relationships as outlined above.

Table 13: Socio-Cultural Processes

Stage	Construction
Nature	Negative
Extent of impact	Regional
Duration of impact	Long term
Intensity	Medium
Probability of occurrence	Definite
Significance before mitigation	High
Mitigation measures	It is almost impossible to control the conduct of adults, however, awareness campaigns for the duration of the construction phase should be offered especially in relation to STD. Also appointing local people could assist in limiting the spread of diseases as it would limit the number of

		outsiders coming to the area. Furthermore, a Health and Safety Officer should be appointed for the duration of the project, from which any health and safety complaints in regards to community can be reported to.
Significance after mitigation	after	Medium

5.10 Social Change Process: Geographic processes

Geographical processes relate to land use patterns and infrastructure in the area, this refers to land use change as a result of the actual or perceived changes in land use, whether it be on temporary or permanent basis. The extension and/or construction and maintenance of the proposed substation, transmission power line, and associated infrastructure might lead to a change in the land use within the local area. The assessment of a land use change process from a social perspective takes into account how the proposed transmission power lines might affect the behavior/lives of land owners and/or land users. The following geographical change processes are expected:

- Change in access to resources that sustain livelihoods; and
- Land acquisition and disposal, including availability of land.

A general assessment of the land uses in the study area indicated the following trends: residential; agricultural and farming holdings; mining; and conservation areas.

Table 14: Compensation for land lost to development (Significance of the impact)

Stage	Construction and Operation
Nature	Negative
Extent of impact	Site
Duration of impact	Long term
Intensity	High
Probability of occurrence	Highly Probable
Significance before mitigation	High
Mitigation measures (EMP requirements)	<ul style="list-style-type: none"> • Full disclosure and consultation with affected households/ landowners;

	<ul style="list-style-type: none"> • Eskom should take into account surrounding land uses and design land use options to support and enhance long-term development options; and • Land owners must manage access to land for grazing and implement measures to reduce the number of cattle/wildlife grazing in the area, or establishing rotational grazing practices.
Level of significance after mitigation	Medium

5.11 Increase in demands for services

Based on the information received from the project proponent (Eskom), it does not seem that the number of people who will be involved in this project, coupled by the duration they will spend in the area, will put local resources such as water or electricity under constrain. It is unlikely that the project will cause a significant increase in demand for any services.

Table 15: Increase in demands for services

Stage	Construction
Nature	Negative
Extent of impact	Local
Duration of impact	Short Term
Intensity	Low
Probability of occurrence	Probable
Significance before mitigation	Low
Mitigation measures	<ul style="list-style-type: none"> • There must be continuous cooperative governance between the Eskom, local government, and relevant municipalities.
Level of significance after mitigation	Low

5.12 Impact on Property Value

An impact on property values would apply to both corridors where the lines are located close (within approximately 75m to 200m depending on visual aspects such as topography) to

residential settlements or nature reserves, or where lines cross small holdings/agricultural properties where value is derived from a natural setting.

Some evidence of the relationship between property values and transmission power lines can be found in the body of international studies on the relationship between the presence of power lines and residential property values specifically. Sims and Dent (2005) studied both qualitative information in terms of a survey of the opinion of chartered surveyors and estate agents in Britain, as well as investigating actual sale values in Scotland.

According to Master Q Research, 2009a, a wide impact range (from 10% to 90%) for residential properties based on a number of considerations. These include:

- General uses of property in the area;
- The land use rights associated with a property;
- The location of the line on the property (i.e. through the middle, along one side or cutting a corner of the property);
- Whether a supporting tower is situated on the property;
- Height of the power line;
- Whether the line is located on a slope, and the line runs higher up or lower down relative to the rest of the property thereby increasing or reducing any visual impact;
- The orientation of the main structures facing away from or onto the power line;
- The location of vegetation or topographic features that may lessen visual impact.

There are also strong indications from previous research conducted by Master Q Research that any property value impacts are cumulative for the construction of multiple lines in servitude, especially where smaller agricultural, smallholdings and residential properties are concerned.

Table 16: Property Value

Stage	Construction and Operation
Nature	Negative
Extent of impact	Local
Duration of impact	Permanent
Intensity	Medium
Probability of occurrence	Definite
Significance before mitigation	High

Mitigation measures	<ul style="list-style-type: none"> • A Land Acquisition Process and Compensation Assessment and Action Plan must be developed; • Negotiations should be approached with the necessary cultural sensitivity; • Sufficient compensation and assistance with the relocation process.
Significance after mitigation	Medium

5.13 Displacement and Relocation of Households

The displacement and relocation of households causes social and psychological disruption to those involved. The need for relocation implies a certain degree of responsibility on the side of the project proponent (Eskom) to ensure that the affected individuals and/or families do not endure the most of a project that will benefit others. This means that the affected individuals should enjoy the same standard of living that they have enjoyed before the project.

National legislation normally only recognises formal, registered title land ownership, but the mere presence of squatters signifies their need for special attention. There are other forms of informal or unregistered title, such as usufruct rights (permanent or temporary), seasonal use rights, and right of access to commons. This means that a lack of legal tenure should not be a criterion for withholding financial compensation or assistance in relocation. It is, however, important to distinguish between households that have settled in the area prior to the project commencing and those who settle in the area simply to benefit from relocation.

The impacts as a result of relocation might be numerous and vary between people. The impacts of relocation on a person depends on the level of attachment to a place, which in turn is informed by variables such as age and number of years spent in that particular area, and personality. Relocation of households might have a negative impact on mental and physical health, on community cohesion, and on livelihood.

Table 17: Displacement and relocation of households

Stage	Construction and Operation
Nature	Negative
Extent of impact	Local

Duration of impact	Permanent
Intensity	High
Probability of occurrence	Definite
Significance before mitigation	High
Mitigation measures	<ul style="list-style-type: none"> • Negotiations should be approached with the necessary cultural sensitivity; • Sufficient compensation and assistance with the relocation process; • A Land Acquisition Process and Compensation Assessment and Action Plan must be developed.
Significance after mitigation	Medium

5.14 Existing Residential Areas

The proposed development will have an impact existing residential components. As aforesaid, the inflow of workers is anticipated in close proximity to residential areas, creating possible safety and security concerns, as well as negative visual impacts. In addition, some community members bury at home, and construction activities may disturb burial pattern since at times burial may materialise at the same time that construction activities' are happening.

Table 18: Existing residential areas

Stage	Preconstruction and Construction
Nature	Negative
Extent of impact	Site
Duration of impact	Short term
Intensity	Medium
Probability of occurrence	Probable
Level of significance before mitigation	Medium
Mitigation measures	Where possible, the proposed line should be placed as far as possible from existing communities. It is very important to

		consult communities prior to the construction phase with regards to schedules and construction of additional access roads. There should also be strict adherence to speed limits, especially when using local roads and when travelling through residential areas. Careful consideration should be given to the tower designs to limit visual impact.
Significance after mitigation	after	Low

5.15 Game farms, Nature reserves and Conservation areas

Game reserves can be described as a large area of land where wild animals live safely, or are hunted in a controlled way for sport or other related activities. However, if hunting is prohibited, a game reserve may be considered a nature reserve. However, a game reserve is specifically for animals, whereas a nature reserve include all aspects of life such as plants and insects.

The proposed development will have a negative impacts on game farms, nature reserves and conservation areas. With the presence of construction teams and the movement of heavy vehicles, game will be negatively affected. During construction, game could be disturbed due to noise vehicle movement, it is possible that some game could even collide with fences when shocked by the above resulting in injury or death of the animals. Safety and security risks especially theft of game, birds and plant species, as well as the increased risk of veld fires are also a serious concern. Furthermore during operational phase, the development can have severe visual and subsequent economic impacts on the affected nature reserves and conservation areas.

Table 19: Game farms, nature reserves and conservation areas

Stage	Construction	Operation
Nature	Negative	Negative
Extent of impact	Local	Region
Duration of impact	Short term	Long term
Intensity	High	High
Probability of occurrence	Highly Probable	Definite

Significance before mitigation	High	High
Mitigation measures	<p>The placement of a power line through the conservation areas or nature reserves is thus not preferable from a social perspective. However, if such is not possible and the line would traverse such areas, the following measures should be adhered to:</p> <ul style="list-style-type: none"> • Construction activities should be done via helicopter where possible to avoid any damage to the sensitive vegetation, but should not be used in areas where sensitive game species could be disturbed by the noise; • Contractors should be supervised at all times while working in these areas, utilization of bulldozers should be minimized, access routes should be minimised; • Eskom should develop an emergency management plan to specifically deal with the increased risk of fires. 	
Significance after mitigation	Medium	Medium

5.16 Tourism and Visual

Tourism is an important activity in sectors of the total power line corridor and include travelling of visitors to local residents and visitors to a number of tourism destinations in the area. The current land use is mostly related to the game industry and ecotourism. This will create a problem in area where construction activities take place in close proximity to tourism ventures, as well as where towers are clearly visible to the tourists. The impacts are however anticipated to be of a long duration with lasting negative impacts on tourism.

Table 20: Tourism and Visual

Stage	Construction	Operation
Nature	Negative	Negative
Extent of impact	Region	Region
Duration of impact	Long term	Permanent
Intensity	Medium	Medium
Probability of occurrence	Probable	Probable
Significance before mitigation	Medium	High
Mitigation measures	Deviating line alignments or placing the line on the border of the properties away from tourism ventures could serve as a mitigation measure in this regard.	
Level of significance after mitigation	Low	Medium

6. RECOMMENDATIONS

From a social impact assessment perspective, the proposed development will have varying negative/ positive impacts ranging from high to low in the area proposed for development. It is apparent that there is little differentiation between the proposed alternatives assessed, either-way, the area will be impacted upon during both the construction and operational phase of the project. It is recommended that the mitigation measures suggested in this document, in addition to those highlighted as part of the EMPr be implemented and monitored as prescribed in the EMPr, and it is the duty of Eskom to ensure that the development comply. It should be clearly stipulated that the EMPr would remain a draft document for the duration of the project as it has to be amended to continue to mitigate against any possible negative impacts. Thus, if Eskom implement the recommended measures as highlighted in this report, the impacts may be reduced from high to medium-low.

In areas or on properties with existing power lines, Eskom should at all times aim to place the new transmission line away from the residential dwellings and sensitive activities taking place on those properties. This could assist in limiting the intrusion factor, lessen the negative impact on the property value and possibly contain the impact on the overall sense of place of each property. Where possible, towers must be placed along the boundary of the properties to limit the incursion on property value, as well as on the residents' daily living and movement patterns. However, this recommendation should be waived if it will result in more negative visual impacts on the property. Should the economic potential of a property be proven to be negatively impacted upon by this development, Eskom should negotiate with owners with regards to buying those properties.

Eskom should attempt to avoid relocating people in the best way possible. Thus, resettlement of individuals should be avoided as far as possible. Due to the rural character of the study area, it is anticipated that resettlement can be avoided even if it results in placing the proposed new transmission line in 'unspoilt areas'. Thus, when people are resettled, especially villagers, their graves are also affected since some still bury at home, and relocation of graves entice emotions, such should be avoided.

One of the most important potential social benefits will be the improvement in the quality of life of those receiving improved electricity supply. However, the receiving social environment might not be those property owners who are negatively impacted upon by the power line traversing their properties. Enjoyment of the landscape and ‘sense of place’ would be negatively affected. The intensity of the negative impact would thus depend on the perception of the viewer. If properly planned, and recommendation made in the Visual and Tourism Impact Assessment are adhered to, the negative impact that comes with the proposed project can be significantly reduced in a manner that it would not entirely alter the host community’s standard of living or quality of life, even though it would have a negative impact on the sense of place. The impact on the “sense of place” does not readily lend itself to mitigation. The sense of place is non-economic and non-transferable, it cannot be mitigated through reimbursement or relocation of individuals. Thus, failure to adopt recommendation made in the Visual Impact Assessment, can have a negative impact on the project since some landowners might feel that the future of tourism activities and the “sense of place” would be compromised by the proposed project, and this could lead to select mobilisation against the project.

7. CONCLUSIONS

From a social perspective based on the initial assessment of the receiving environment, there will be no fatal flaws associated with the proposed development that can have grave social consequences. The majority of the negative social impacts can respond to well-orchestrated mitigation measures, since they are general construction related problem, such as inflow of workers and jobseekers, possible impacts on farming and conservation activities, noise pollution, increased vehicle movement, as well as safety and security issues.

If the Interested and Affected Parties (I&APs) in the study area are well informed regarding Environmental Impact Assessment (EIA) Processes, and engagement with farm owners in regard to the tourism activities, conservation areas and environmental friendly establishments in the area is properly managed, it is expected that there could be no opposition against the proposed project from the affected property owners. Eskom should thus establishment a forum to liaise between Eskom, the contractors and property owners on an on-going basis, this is important in ensuring transparent communication channels.

8. REFERENCES

C. J. Delaney and D. Timmons (1990). High Voltage Power Lines: Do They Affect Residential Property Value? *Journal of Real Estate Research*.

Coega Development Corporation (2009). Coega Industrial Development Zone. Available online at: <http://www.coega.co.za/>

D. R. Bolton and K. A. Si ck (1999). Power Lines and Property Values: The Good, the Bad, and the Ugly. *The Urban Lawyer*.

Department of Agriculture (2002). The Integrated Food Security Strategy for South Africa. Available online at: <http://www.nda.agric.za/>

J. Farnum, T. Hall, Troy and L. E. Kruger (2005). Sense of place in natural resource recreation and tourism: An evaluation and assessment of research findings. Portland, OR: U.S. Department of Agriculture.

MasterQ Research (2007b). Proposed 4x400kv Mmamabula-Delta Transmission power lines, Socio- economic survey report for the Social Impact Assessment as part of the Environmental Impact Assessment.

S. Sims and P. Dent (2005). High-voltage Overhead Power Lines and Property Values: A Residential Study in the UK. *Urban Studies*.

StatsSA (2007). Community Survey 2007. Available online at: <http://www.statssa.gov.za/>

MasterQ Research (2007a). Post hoc study: social impacts in constructing high voltage transmission.

MasterQ Research (2009a). Kyalami Transmission Project: Economic Impact Assessment.

MasterQ Research (2009b). Mokopane Integration Project: Social Impact Assessment.

MDM (2017). Mopani District Municipality IDP 2016-2017.

Urban-Econ (2009). Crossways/Sunnyvale Socio-Economic Impact Assessment.

Vanclay, F. & Becker, H.A. 2003. The International Handbook for Social Impact Assessment. Cheltenham: Edward Elgar Publishing Limited.

Vanclay, F. 2003. Conceptual and methodological advances in Social Impact Assessment.