



**SOCIO-ECONOMIC REPORT FOR THE PROPOSED
CONSTRUCTION OF ±250km 400kV-POWER LINE FROM
BORUTHO S/S IN MOKOPANE TO BOKMAKIERIE S/S IN
NZHELELE AND ASSOCIATED SUBSTATION WORKS TO
ACCOMODATE THE POWERLINE IN LIMPOPO PROVINCE.**

SOCIO-ECONOMIC Report

May 2013



Socio-Economic Report

Socio-Economic Report for the proposed construction of ±250km 400kV powerline from Borutho s/s in Mokopane to Bokmakierie s/s in Nzhelele and associated substation works to accommodate the powerline in Limpopo Province.

May 2013

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External Review: Eskom Holding SOC Limited

*For and on behalf of
Nzumbululo Sustainability, Energy and
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Position: Director

Date: May 2013

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DOCUMENT INFORMATION SHEET

TITLE:	DRAFT SCOPING REPORT FOR THE PROPOSED CONSTRUCTION OF 250km 400kv-POWERLINE FROM BORUTHO S/S IN MOKOPANE TO BOKMAKIERIE S/S IN NZHELELE AND ASSOCIATED SUBSTATION WORKS TO ACCOMODATE THE POWERLINE IN LIMPOPO PROVINCE.
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PURPOSE OF SCOPE:

The purpose of this Social Impact Assessment document is to describe the social values and factors that may be impacted on by the proposed construction of a approximately 250km 400kv Powerline project in Limpopo Province. The report will form part of Environmental Impact Assessment study being conducted in compliance with the National Environmental Management Act (Act 107 of 1998) and Government Notices No. R. 544, R545 and R546 of June 2010.

DOCUMENT VERIFICATION			
Signature:	Position:		
Name:	Date:		
ENDORSED Client Project Responsible Officer to sign off.			
Signature	Position		
Name:	Date:		

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Issue	Date	Reason For Issue	Responsible	Accountable
1		Social Impact Assessment Report	K. Mogajane	M. Murimbika
2				
3				
4				

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Caveat:

SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED CONSTRUCTION OF 250km 400kV POWERLINE FROM BORUTHO S/S IN MOKOPANE TO BOKMAKIERIE S/S IN NZHELELE AND ASSOCIATED SUBSTATION WORKS TO ACCOMODATE THE POWERLINE IN LIMPOPO PROVINCE.

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Maps: Maps included in this report use data extracted from the NTS Map and data from Google Earth Pro were also utilised.

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May 2013

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DEFINITIONS

“Air pollution means any change in the composition of the air, caused by smoke, soot, dust (including fly ash), cinders and solid particles of any kind, gases, fumes, aerosols and odorous substances” (Air Quality Act, 2004).

“Alternative” means a different means of meeting the general purpose and need of a proposed activity.” (National Environmental Management Act, 1998 (Act No. 107 of 1998), Guideline 5, June 2006).

“Construction” means the building, erection or expansion of a facility, structure or infrastructure that is necessary for the undertaking of an activity, but excludes any modification, alteration or upgrading of such facility, structure or infrastructure that does not result in a change to the nature of the activity being undertaken or an increase in the production, storage or transportation capacity of that facility, structure or infrastructure;” (National Environmental Management Act, 1998 (Act No. 107 of 1998), Regulation 386 of 2006).

“Interested and affected party”- refers to:

- (a) Any person, group of persons or organization interested in or affected by an activity; and
- (b) Any organ of state that may have jurisdiction over any aspect of the activity;” (R385, 2006).

“linear activity- means an activity that is undertaken across several properties and which affects the environment or any aspect of the environment along the course of the activity in different ways, and includes a road, railway line, power line, pipeline or canal” (National Environmental Management Act, 1998 (Act No. 107 of 1998) Regulation 385 of 2006).

“Public participation process- means a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters.”(R385, 2006).

“Plan of study for environmental impact assessment- means a document contemplated in regulation 28(1)(i) which forms part of a scoping report and sets out how an environmental impact assessment must be conducted;”(R543, 2010).

“Significant impact- means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.”(R385, 2006).

ABBREVIATIONS

DEA	Department of Environmental Affairs
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMF	Electrical and magnetic field
EIAR	Environmental Impact Assessment Report
EMP	Environmental Management Plan
Eskom	Eskom Distribution Northern Region
Nzumbululo	Nzumbululo Heritage Solutions South Africa
IAPs	Interested and Affected Parties
MW	Megawatt
NEMA	National Environmental Management Act (Act No: 107 of 1998)
PPP	Public Participation Process
PSP	Public Service Provider

1 PROJECT INTRODUCTION

Nzumbululo Heritage Solutions South Africa (Nzumbululo) was appointed by Eskom Holdings SOC Limited to conduct an Social Impact Assessment (SIA) study as part of Environmental Impact Assessment study for the proposed construction of a 250km from Borutho Substation in Mokopane to Bokmakierie Substation in Nzhelele and associated works in Limpopo.

This is Social Impact Assessment Report for the proposed proposed construction of a 250km from Borutho Substation in Mokopane to Bokmakierie Substation in Nzhelele and associated works in Limpopo.

“Social impact assessment can be defined as the process of assessing or estimating, in advance, the social consequences that are likely to follow from specific policy actions or project development, particularly in the context of appropriate national, state, or provincial environmental policy legislation” say Budge *et al* (1996).

1.1 Objectives of Social Impact Assessment

The SIA determines the baseline environment and the manner in which socio-economic environment may be affected by the proposed development. Wells (2006) *et al* says SIA aims:

- 1) To assess levels of existing vulnerability and access to services within geographical sites identified.
- 2) To assess the potential social impact the proposed population growth could have on the existing populations.
- 3) To create a series of recommendations about the appropriateness of proposed growth areas. Information gathered through the scoping process will formed the recommendations. The recommendations will be predominately associated with future population increases in new release areas, existing sites and corridors.

2 PROJECTDESCRIPTION

The proposed project will include the construction of a new 250km-long 400kv powerline from Borutho Substation Station to proposed Nzhelele Substation in the Limpopo Province. The study considers 3 route options which are 3km, however once approved by the authorities, the servitude will only be 55m wide.

2.1 Project Location

The affected project area is located in the Capricorn and Vhembe Districts in Limpopo Province. The powerline preferred and alternative routes will traverse through the following farms.

Table 1: List of individual farms affected by the proposed powerline development.

FARMNAME	SG_CODE	FARM_NO	MAJ_REGION	MUNICIPALITY	NM_NUM_DIV
PYLKOP	TOMS0000000005930000	593	MS	Makhado	PYLKOP593MS
KONIGGRATZ	TOLS0000000001350000	135	LS	Molemole	KONIGGRATZ135LS
KONIGGRATZ	TOLS0000000001350000	135	LS	Molemole	KONIGGRATZ135LS
BOOMZIEN	TOLS0000000001640000	164	LS	Molemole	BOOMZIEN164LS
INDERHIKEN	TOLS0000000001650000	165	LS	Molemole	INDERHIKEN165LS
	TOLS0000000002600000	26	LS	Makhado	26LS
LA PUCELLA	TOLR0000000006930000	693	LR	Mogalakwena	LA PUCELLA693LR
LUXEMBURG	TOLR0000000007720000	772	LR	Mogalakwena	LUXEMBURG772LR
ZUID HOLLAND	TOLR0000000007730000	773	LR	Mogalakwena	ZUID HOLLAND773LR
NOORD BRABAND	TOLR0000000007740000	774	LR	Mogalakwena	NOORD BRABAND774LR
HARTEBEESTPAN	TOLS0000000002200000	22	LS	Makhado	HARTEBEESTPAN22LS
BARROW	TOMS0000000006220000	622	MS	Makhado	BARROW622MS
KAMEEKOP	TOMS0000000006230000	623	MS	Makhado	KAMEEKOP623MS
SANDSLOOT	TOMS0000000006260000	626	MS	Makhado	SANDSLOOT626MS
LANGDRAAI	TOMS0000000006270000	627	MS	Makhado	LANGDRAAI627MS
OVERDYK	TOLS0000000001470000	147	LS	Molemole	OVERDYK147LS
BADBURG	TOLS0000000001680000	168	LS	Molemole	BADBURG168LS
WELVAREND	TOLS0000000001670000	167	LS	Blouberg	WELVAREND167LS
HOOGLAND	TOLS0000000004300000	43	LS	Blouberg	HOOGLAND43LS
SOLINGEN	TOLS0000000008600000	86	LS	Blouberg	SOLINGEN86LS
LUTON	TOLS0000000008700000	87	LS	Blouberg	LUTON87LS
WITTEN	TOLS0000000009100000	91	LS	Blouberg	WITTEN91LS
WESTPHALIA	TOLS0000000001390000	139	LS	Molemole	WESTPHALIA139LS
WELTEVREDEN	TOLS0000000001620000	162	LS	Molemole	WELTEVREDEN162LS
POTSDAM	TOLS0000000001280000	128	LS	Molemole	POTSDAM128LS
GROOTHOEK	TOLS0000000001290000	129	LS	Molemole	GROOTHOEK129LS
MEANDERTHAL	TOLS0000000001880000	188	LS	Molemole	MEANDERTHAL188LS
STETTIN	TOLS0000000001330000	133	LS	Molemole	STETTIN133LS
TRIEST	TOLS0000000001920000	192	LS	Molemole	TRIEST192LS
BRILLIANT	TOLS0000000001550000	155	LS	Molemole	BRILLIANT155LS
LISSA	TOLS0000000001610000	161	LS	Molemole	LISSA161LS
MARINASPRUIT	TOLS0000000007500000	75	LS	Blouberg	MARINASPRUIT75LS
PURASPAN	TOLS0000000008200000	82	LS	Blouberg	PURASPAN82LS
WUPPERTOE	TOLS0000000008300000	83	LS	Blouberg	WUPPERTOE83LS
SCHROELEN	TOLS0000000008400000	84	LS	Blouberg	SCHROELEN84LS
DONSANNA	TOLS0000000001410000	141	LS	Blouberg	DONSANNA141LS
BOCHEM	TOLS0000000001450000	145	LS	Blouberg	BOCHEM145LS

FARMNAME	SG_CODE	FARM_N O	MAJ_REGIO N	MUNICNAM E	NM_NUM_DIV
FRAAIHOLT	TOLS0000000001480000	148	LS	Blouberg	FRAAIHOLT148LS
JOSLAND	TOLS0000000001300000	13	LS	Blouberg	JOSLAND13LS
MUNT	TOLS0000000001370000	137	LS	Blouberg	MUNT137LS
DE RUIGTE	TOLS0000000002700000	27	LS	Makhado	DE RUIGTE27LS
JAKHALSDRAAI	TOLS0000000001020000	102	LS	Makhado	JAKHALSDRAAI102LS
REDHILL	TOLS0000000001030000	103	LS	Makhado	REDHILL103LS
CLAUDIUS HOOP	TOLS0000000001060000	106	LS	Makhado	CLAUDIUS HOOP106LS
SCHOONVELD	TOLS0000000002500000	25	LS	Makhado	SCHOONVELD25LS
RIETBOKVLEI	TOMS0000000004490000	449	MS	Makhado	RIETBOKVLEI449MS
ZWARTKLIP	TOLS0000000002000000	20	LS	Makhado	ZWARTKLIP20LS
BALMORAL	TOLS0000000006000000	60	LS	Makhado	BALMORAL60LS
VULPAN	TOLS0000000006400000	64	LS	Makhado	VULPAN64LS
GRUISPAN	TOLS0000000006500000	65	LS	Makhado	GRUISPAN65LS
GRUISPAN	TOLS0000000006500000	65	LS	Makhado	GRUISPAN65LS
LEEUWKNOP	TOLS0000000006600000	66	LS	Makhado	LEEUWKNOP66LS
LEEUWKNOP	TOLS0000000006600000	66	LS	Makhado	LEEUWKNOP66LS
TER SCHELLINGEN	TOLS0000000001500000	15	LS	Makhado	TER SCHELLINGEN15LS
SCHIERMONIKOOG	TOLS0000000001600000	16	LS	Makhado	SCHIERMONIKOOG16LS
HOOGEPLAATS	TOMS0000000003990000	399	MS	Makhado	HOOGEPLAATS399MS
VERVULLING	TOMS0000000004010000	401	MS	Makhado	VERVULLING401MS
DU PLOOY	TOMS0000000006000000	600	MS	Makhado	DU PLOOY600MS
TAMBOTIE	TOMS0000000004220000	422	MS	Makhado	TAMBOTIE422MS
ROOS	TOMS0000000006050000	605	MS	Makhado	ROOS605MS
DIAMANT	TOMS0000000006280000	628	MS	Makhado	DIAMANT628MS
AFSTAP	TOMS0000000006080000	608	MS	Makhado	AFSTAP608MS
KORTDRAAI	TOMS0000000006090000	609	MS	Makhado	KORTDRAAI609MS
VOGELSTRUIS	TOMS0000000004150000	415	MS	Makhado	VOGELSTRUIS415MS
DANIE	TOMS0000000004160000	416	MS	Makhado	DANIE416MS
DE BEERS LOOP	TOLS0000000005320000	532	LS	Aganang	DE BEERS LOOP532LS
FAIR LAURIE	TOLS0000000005340000	534	LS	Aganang	FAIR LAURIE534LS
GRAAFF REINET	TOLS0000000005350000	535	LS	Aganang	GRAAFF REINET535LS
LONSDALE	TOLS0000000005380000	538	LS	Aganang	LONSDALE538LS
LOUISIANA	TOLS0000000005390000	539	LS	Aganang	LOUISIANA539LS
POUR LA PATRIE	TOLS0000000005400000	540	LS	Aganang	POUR LA PATRIE540LS
HONEYMOON	TOMS0000000006100000	610	MS	Makhado	HONEYMOON610MS
VRYHEID	TOMS0000000004170000	417	MS	Makhado	VRYHEID417MS
DUINEN	TOMS0000000004190000	419	MS	Makhado	DUINEN419MS
WITLAAGTE	TOMS0000000004210000	421	MS	Makhado	WITLAAGTE421MS
SANDHEUVEL	TOMS0000000004250000	425	MS	Makhado	SANDHEUVEL425MS
FRAAIFONTEIN	TOMS0000000004470000	447	MS	Makhado	FRAAIFONTEIN447MS
KNOPJESDOORN	TOMS0000000004480000	448	MS	Makhado	KNOPJESDOORN448MS
KAALPLAATS	TOMS0000000004510000	451	MS	Makhado	KAALPLAATS451MS
LEENA	TOMS0000000004530000	453	MS	Makhado	LEENA453MS
TWYFEL	TOMS0000000006290000	629	MS	Makhado	TWYFEL629MS
RINGER	TOMS0000000004030000	403	MS	Makhado	RINGER403MS
BUCHAN	TOMS0000000004040000	404	MS	Makhado	BUCHAN404MS

FARMNAME	SG_CODE	FARM_N O	MAJ_REGIO N	MUNICNAM E	NM_NUM_DIV
BRUNO	TOMS0000000004070000	407	MS	Makhado	BRUNO407MS
VERLOOREN	TOMS0000000004090000	409	MS	Makhado	VERLOOREN409MS
BRUILOF	TOMS0000000005980000	598	MS	Makhado	BRUILOF598MS
BIERMAN	TOMS0000000005990000	599	MS	Makhado	BIERMAN599MS
KALKHEUVEL	TOMS0000000004540000	454	MS	Makhado	KALKHEUVEL454MS
JUPITER	TOLS0000000007170000	717	LS	Aganang	JUPITER717LS
BILLINGSGATE	TOLS0000000006510000	651	LS	Aganang	BILLINGSGATE651LS
VENUS	TOLS0000000006520000	652	LS	Aganang	VENUS652LS
RAMPIETJESFONTEIN	TOLS0000000005980000	598	LS	Aganang	RAMPIETJESFONTEIN598LS
CERES	TOLS0000000005990000	599	LS	Aganang	CERES599LS
LUTTIGSDALE	TOLS0000000005830000	583	LS	Aganang	LUTTIGSDALE583LS
KALKSPRUIT	TOLS0000000006330000	633	LS	Aganang	KALKSPRUIT633LS
UITZICHT	TOLS0000000006350000	635	LS	Aganang	UITZICHT635LS
VLAKLAAGTE	TOLS0000000006360000	636	LS	Aganang	VLAKLAAGTE636LS
EENSGEVONDEN	TOLS0000000006450000	645	LS	Aganang	EENSGEVONDEN645LS
COMMISSIEDRIFT	TOLS0000000006460000	646	LS	Aganang	COMMISSIEDRIFT646LS
LANGVERWACHT	TOLS0000000006470000	647	LS	Aganang	LANGVERWACHT647LS
VULCANUS	TOLS0000000005840000	584	LS	Aganang	VULCANUS584LS
PERSIE	TOLS0000000002000000	200	LS	Aganang	PERSIE200LS
ZOMERSFONTEIN	TOLS0000000006040000	604	LS	Aganang	ZOMERSFONTEIN604LS
OLYMPUS	TOLS0000000005850000	585	LS	Aganang	OLYMPUS585LS
JUNO	TOLS0000000005860000	586	LS	Aganang	JUNO586LS
CHLOE	TOLS0000000005870000	587	LS	Aganang	CHLOE587LS
VLAKFONTEIN	TOLS0000000005880000	588	LS	Aganang	VLAKFONTEIN588LS
WESTHEIM	TOLS0000000001910000	191	LS	Aganang	WESTHEIM191LS
WESEL	TOLS0000000001930000	193	LS	Aganang	WESEL193LS
BURGWAL	TOLS0000000001950000	195	LS	Aganang	BURGWAL195LS
TERBRUGGE	TOLS0000000001560000	156	LS	Aganang	TERBRUGGE156LS
LANARK	TOLS0000000001990000	199	LS	Aganang	LANARK199LS
LUCY'S TOWN	TOLR0000000006870000	687	LR	Aganang	LUCY'S TOWN687LR
CROMFORD	TOLR0000000006900000	690	LR	Aganang	CROMFORD690LR
SCHOONGELEGEN	TOLR0000000006950000	695	LR	Aganang	SCHOONGELEGEN695LR
SOUR APPLE TREE	TOLR0000000006910000	691	LR	Aganang	SOUR APPLE TREE691LR
GOEDGEVONDEN	TOLR0000000007320000	732	LR	Aganang	GOEDGEVONDEN732LR
WELGELEGEN	TOLR0000000003950000	395	LR	Aganang	WELGELEGEN395LR
PRAGUE	TOLR0000000007340000	734	LR	Aganang	PRAGUE734LR
ROZENKRANS	TOLR0000000004240000	424	LR	Aganang	ROZENKRANS424LR
MATALAS LOCATION	TOLS0000000005910000	591	LS	Aganang	MATALAS LOCATION591LS

These farm names are within the Limpopo Province and comprises of rural settlements, commercial farming areas, urban settlements and agro-industrial with associated infrastructures.

2.2 Layout and design

The proposed project includes the following activities:

- Establish the Nzhelele Substation Site,
- Establish Borutho-Nzhelele 250km 400kV transmission power line,
- Install 2x 250MVA 400/132kV transformers at Nzhelele MTS and terrace Nzhelele for end state 3x 250MVA 400/132kV transformers,
- Terrace the Nzhelele 400kV yard for an end state of 4x 400kV feeders,
- Terrace the Nzhelele 132kV yard for an end state of 8x 132kV feeders,
- Establish the control building, telecommunication infrastructure, oil dam, and
- Establish the entire access road infrastructure to and within Nzhelele MTS.
- Commission all new infrastructure by year 2017.

2.3 Project Motivation

The project was initiated as part and parcel of power transmission network grid improvement and stabilisation within and across the Limpopo Province. Polokwane Customer Load Network (CLN), including the Tabor and Spencer power corridor, remains susceptible to voltage instability and is the weakest part of the Northern Grid network due to being operated beyond its reliability power transfer limit. In addition to this, the Polokwane CLN, i.e., Tabor and Spencer 275kV and 132kV network, is susceptible to low voltages regardless of the approved and commissioned network strengthening in year 2010:

- Tabor-Spencer 275kV line, and
- 2nd 250MVA 275/132kV transformer.

Listed below is another approved 400kV network re-enforcement in the Polokwane CLN which is expected for commissioning by the end of year 2012:

- Witkop-Tabor 400kV line, and
- Tabor 500MVA 400/132kV transformer.

The combined transformation capacity at Tabor and Spencer MTS of 846MW exceeds the installed and the approved transformation capacity of 712MW. In addition to this, the low voltages and thermal constraints in the 132kV Distribution network for both existing and planned network remains far below operational par. The Tabor and Spencer 275/132kV transformation recorded peak in the year 2010 was 280MW and 210MW, respectively. The exceeded Tabor 275/132kV transformation firm capacity will be restored to optimal operational and transmission capacity once the Witkop-Tabor 400kV line and the 1st of the 500MVA 400/132kV transformer have been commissioned. The Spencer 275/132kV transformation firm capacity of 234MW will be exceeded by 40MW in year 2015, as shown in load forecast, therefore, compromising the network reliability by violating the set Grid Code N-1 transformation criteria.

Furthermore, the lengthy Tabor and Spencer 132kV Distribution networks stretching 200km from Polokwane to 50km away from the Mussina border-post result in low voltages and thermal constraints during N-1 transformation and line contingencies in year 2011 and beyond. The expected Tabor and Spencer 132kV load growth is located 100km north of Tabor and 70km from Spencer, therefore, the Transmission outreach constraint will cap the load growth. Following the findings after an assessment of the Tabor and Spencer 400kV, 275kV and 132kV network constraints for the 20 year horizon, Eskom SOC Limited Grid Planning has proposed the following:

- Establish 3x 250MVA 400/132kV Nzhelele Main Transmission Station (MTS),
- Construct Tabor–Nzhelele 130km 400kV line,
- Construct Borutho–Nzhelele 250km 400kV line, and
- Commission all the associated infrastructure by year 2017.

However, the proposed servitudes for the Tabor-Nzhelele-Borutho 400kV power line is likely to be more challenging to acquire due to the Soutpansberg mountain range section of which the lines will have to traverse through to feed into the Nzhelele MTS. However, the planned commissioning date of 2017 has taken into account the EIA approval processes and possible project planning challenges.

The above proposed network solution meets the 10 year Distribution load requirements in the Tabor and Spencer network areas and it is also informed by the 20 year Transmission and Distribution load forecast in meeting the Transmission 20 year plan.

It is in this context that this project is proposed and motivated to be considered for approval by compliance authorities in light of its highlighted significance and critical role in the future socio-economic and national development interests.

2.4 Technical Details of the Proposed Powerline

The proposed powerline will be approximately 250km long. Monotype structures are being considered for use during the construction in different sections of the line subject landscape features.

2.4.1 400kv Tower types

Towers for the proposed powerline would be between 30m and 40m in height. Their total footprint area for each tower would be 80m x 50m. The distance between each tower would be approximately 400m. The actual number of towers, the type of towers and other support structures associated with the proposed powerline would be confirmed and detailed following approval of final route for the proposed development. In general, the type of towers to be used would consider weight, the area (e.g. topography characteristic), height, costs and erection time. In addition,

from an engineering perspective, transmission powerline routes are planned with as few bends as possible.

2.5 Proposed Activities and Project Timeline

The activities for the construction and operation will be finalised during EIA phase. The powerline is expected to be operational in 2017.

2.5.1 Preconstruction phase

The project is currently on the pre-construction phase where the EA including the SIA study is conducted. The entire project is estimate to take a year.

2.5.2 Construction phase

As illustrated above, construction will commence once pre-construction studies are completed. Construction is estimated to take about 12 months. We currently envisage construction to begin in 2014. The construction activities for the proposed development will include the following activities.

- Creation of Access roads where required.
- Construction camps
- Construction of transmission powerline
- Assembly and erection of structures
- Operation and maintenance

3 APPROACH TO THE STUDY

3.1 Desktop

Research was conducted on the Social and Economic Reports written for areas affected by the proposed development for Nzhelele Substation to Borutho Substation. This was to assess published information. The objectives of the desktop study were to guide the assessment, support findings as well as to fill information gaps.

The major source of the desktop study about the affected communities were incorporated within the Integrated Development Plans (IDP) for the local municipalities.

3.2 Consultation

Consultation of the SIA was incorporated within the Public Participation Process for the EIA study. Based on the findings in the Public Participation Process for Scoping

Phase, further studies for the Impact Assessment Phase are still to follow. The study included:

A field trip, depth interviews, desk research, and survey research were conducted and public meetings and focus groups were attended.

The social specialist study included attendance of Public Participation meetings.

3.2.1 Focus Group Meetings

The focus group meetings included the

- Traditional Authorities and/or chiefs,
- Farmers Unions
- Local Municipalities with Town Planner

3.2.2 Public Meetings

- The public meetings were arranged and scheduled with ward councilors. The affected communities were highlighted and invited to the meeting. Where necessary each village had its own meeting.
- The discretion of the public meetings including protocol for the areas and communities were discussed with the chiefs, and the ward councilors. Facilitator at the meetings introduced the project and explained purpose of the meeting as part of Scoping phase and EIA phase for the Environmental Authorisation study.

The purpose of these sessions was not to inform stakeholders about the project, but to gain a better insight into their lives and activities. The information gathered during the fieldtrip and meetings were supplemented by information gathered by desktop studies.

Structured telephonic conversations were held with Ward Councillors and representatives for the focus group meetings and public meetings.

Details of Public Participation Process undertaken is illustrated in the next chapter.

4 PUBLIC PARTICIPATION PROCESS

Public Participation Process (PPP) forms part EIA, and a useful tool for SIA. It is an Integral requirement of the National Environmental Management act (Act 107 of 1998). The nature and manner in which the public participation process (PPP) should take place as governed by chapter 6 of the Environmental Impact Assessment Regulations (GN No. R.543 of 02 August 2010), Regulation 56 of GN R. 385 of 2006 and Guideline 4: Public Participation (2005).

The principles of the National Environmental Management Act (NEMA) govern many aspects of EIA'S, including public participation, including the provision of sufficient and transparent information on an ongoing basis to the interested and affected parties to allow to comment.

The PPPs primarily based on two factors, firstly the ongoing interaction with the environmental specialist and the technical teams in order to achieve integration of environmental assessment, technical assessment and public participation throughout. Secondly to obtain the bulk issues to be addressed early on in the process, with the latter half of the process designed to provide environmental and technical evaluation of these issues. These findings are presented to interested and affected parties for verification that their issues have been captured and for further comment.

Providing Interested and Affected Parties (I&APs) with opportunity to express their concerns and/or views on issues relating to a proposed development is one of the aims of scoping, as mandated by best practice and the regulations, as it means of focusing on the relevant issues to ensure that the concerns of the IAPs are addressed, as well as ensuring that the environmental report deals with those identified issues and is thus useful to the decision maker whose obligation is to review the report and either authorise or reject the application.

4.1.1 Objectives of Public Participation

The public participation process is designed to provide and accessible information to interested and affected parties (IAPs) in an objective manner to assist them:

- **During the Scoping Phase**
 - To raise issues of concern and suggestions for enhanced benefits and alternatives
 - Verify that their issues have been captured

- **During the Impact Assessment Phase:**
 - Verify that their issues have been considered by the specialist and technical investigations
 - Comment on the findings of the EIA

4.1.2 On-Site and Press Advertising

In accordance with the requirements pertaining to advertising as detailed in the Regulations, on site notices, press advertisements, sending emails and registered letters were utilised to bring the proposed activity to the attention of IAPs. The response or registration / comment period linked to the on-site notices and advertisements was 30 days.

- On 15 March on site notices were erected primarily on the main transportation routes adjacent to the proposed route alignment, the substations and also at the local shops.
- The newspaper adverts were placed on Sowetan and Capricorn newspaper 28 March 2012.

- Newspaper adverts were placed on Capricorn on the 16th January 2013 to inform IAPs of the release of Draft Environmental Impact Assessment report for review and public feedback meetings.

4.2 Background information document (BID)

A BID document was circulated to all identified I&APs. The document remain available and will be accessible to any member of the public who may express interest in the project. The BID document encourages all individuals to contact Nzumbululo Heritage Solutions should they wish to be registered on the I&AP database and make a comment regarding the proposed project. The BID and Response Sheet will be attached to this report.

4.3 Public review of Draft Scoping Report

The draft Scoping Report will be sent to different departments and posted on different public areas for review and commenting by the key stakeholders and the I&APs from the 15th of April 2012. I&APs will be notified with posted letters on the same day. The report will sent to:

- Department of Water Affairs and Forestry,
- Limpopo Department of Minerals and Energy,
- Limpopo Department of Agriculture and Land Affairs
- Limpopo libraries.
- Limpopo municipalities, Aganang, Blouberg, Makhado, Mogalakwena, Molemole.

4.4 Public meetings

I&APs will be invited, direct invitations through the local Councillors and community leaders and emails for Public meetings. The public meetings for the project were held as per schedule which forms part of Public Participation Report.

4.5 Issues and Response Report

Appendix 2, which forms part of Public Participation Report, presents a comments sheet for entire project phases including the comments or responses.

4.6 Assumptions and Limitation

The main source of data used for demographic profiles and population growth estimates was the 2001 census data, the 2007 Community Survey. This data should be viewed as indicative of broad trends within an area. Main sources of information included

- Recent available municipal IDPs (Integrated Development Plan)
-

- Issues raised during Public Participation

5 SOCIO ECONOMIC PROFILE FOR AFFECTED COMMUNITIES

This section presents background of the local and district municipalities. Where specification and details are relevant to the study, the local municipalities were addressed alone excluding the district municipalities. The sections include

- Background of municipalities,
- Safety and security
- Demographics,
- Educational health and social,
- Employment and income,
- Housing and services

5.1 Background of municipalities

5.1.1 Vhembe District Municipality

Vhembe District Municipality is situated in the north most part of South Africa. It is the last district of both the Limpopo province and South Africa. It shares the borders with three Southern African Development Community countries. These are Botswana, Zimbabwe and Mozambique.

5.1.2 Mogalakwena Local Municipality

Mogalakwena is situated in the western quadrant of Limpopo Province, within the Capricorn District Municipality. It is bordered by Mookgopong Local Municipality to the South and Aganang Municipality to the East, Lephallale Local Municipality to the West and bouberg Local Municipality to the North. It has about 6166 km² in area. The municipality has a range of smaller settlement between Mokopane and Rebone.

5.1.3 Makhado Local Municipality

The Makhado Local Municipality is located in the northern parts of Limpopo Province approximately 100km from the Zimbabwean border along the N1 Route. The municipal area is 8567, 38km² in size and strategically located on a macro scale along a major passage between South Africa and the rest of the African continent. Approximately 606 633 people currently live in Makhado and considering the size of the area, Makhado can be classified as a Rural Municipality with a density of 67 persons/km².

The municipal area forms part of the Vhembe District Municipality and can be considered as an important corridor between areas such as Polokwane, Musina, Thohoyandou and the Kruger National Park. Within the Vhembe District, the following

other local municipalities lie directly adjacent to Makhado Municipality, namely: Musina, Mutale and Thulamela Local Municipalities.

The Makhado Local Municipality consists of 38 wards demarcated by the Municipal Demarcation Board for administrative purposes.

5.1.4 Blouberg Local Municipality

Blouberg Local Municipality is situated towards the far northern part of the Capricorn District, bordered by Aganang on the south, Molemole on the south-west, Makhado on the north-east, Lephalale on the north-west, with Mogalakwena on the south-west and Musina on the north. As per the new Demarcations Board report (2011), the Municipality covers an area of about 9,248.44km²

5.1.5 Capricorn District Municipality

Capricorn District Municipality is situated in the centre of the Limpopo Province, sharing its borders with four district municipalities namely; Mopani (east), Sekhukhune (south), Vhembe (north) and Waterberg (west). The district is situated at the core of economic development in the Limpopo Province and includes the capital of the province, that is, the City of Polokwane.

The District Municipality is made up of five local municipalities namely, Aganang, Blouberg, Lepelle-Nkumpi, Molemole and Polokwane. These municipalities are quite different in terms of their levels of socio-economic development. It has 547 settlements distributed as follows: 167 in Polokwane, 138 in Blouberg, 109 in Lepelle – Nkumpi , 96 in Aganang and 37 in Molemole.

5.1.6 Molemole Local Municipality

Molemole Municipality is located within the Capricorn District Municipality, which is in the Limpopo Province. The municipality is situated about 60km north of Polokwane. Molemole Municipality's head office is situated in the town of Mogwadi, formerly known as Dendron.

Molemole Municipality covers an area of 3,347 km². The municipality is bordered to the south by Polokwane Municipality, to the North West by Blouberg Municipality, to the south east by greater Letaba Municipality and to the north by Makhado Municipality. Molemole Municipality forms part of the five municipalities that makes up Capricorn District Municipality, namely, Blouberg Municipality, Aganang Municipality, Lepelle- Nkumpi Municipality and Polokwane Municipality. Molemole Municipality comprise of 37 settlements which are located within 13 wards. The residential/ settlement areas are primarily structured around the urban development nodes of Botlokwa, Morebeng and Mogwadi.

5.1.7 Aganang Local Municipality

Aganang Municipality is situated 45 kilometers west of Polokwane. It is comprised of 105 villages and it is divided into 19 Wards. It covers an area of about 1 852 22 km². It is a rural Municipality and has 4 Traditional Authorities namely Moletsi, Matlala, Maraba and Mashashane.

The Municipality is made up of 5 formal towns namely, Makhado, Vleifontein, Vuwani, Waterval and Dzanani with about 279 villages.

5.2 Safety and security

5.2.1 Mogalakwena Local Municipality

No real information has been obtained thus far for the municipality thus far. More research to be conducted.

5.2.2 Makhado Local Municipality

There is a serious concern with the continued vandalism and theft of electrical infrastructure. There are no set norms for the provision of safety and security facilities such as police stations, as is the case with most of other social facilities such as schools and clinics. Police facilities are provided in accordance with real needs of a particular community. Therefore, the provision of a police station is not dependent on the size of a settlement but rather on the number of reported crime incidence within a given area, within an acceptable threshold.

The urban area is well served with police stations and magistrate courts however the rural areas do not have sufficient facilities. The long distances and road conditions in the deeper rural areas render the effective reaction time very long, which may be problematic in the case of emergencies. There are other stakeholders who play an important role in maintaining the basic degree of law and order in the area.

The Legal Aid Board is currently based in Makhado town; its primary objective is to provide legal aid to indigent persons and legal representation to accused persons. This has increased the access to legal aid for local people.

5.2.3 Blouberg Local Municipality

The municipality, with its 123 settlements, has a total of five police stations within the boundaries of Blouberg and three stations outside the boundaries but serving settlements of Blouberg. The ones within Blouberg are in Senwabarwana, Alldays, Tolwe, Platjan, Eldorado and Saamboubrug while those outside the Blouberg borders but serving Blouberg are found in Mara, Mogwadi and Gilead (Matlala). The most prevalent crimes occurring in Blouberg are housebreaking, common assault, and theft of diesel water engines.

5.2.4 Molemole Local Municipality

There are 3 police stations and 1 satellite police station, 2 magistrate offices and 1 high court in Molemole municipality. The IDP reported a general decline in the levels of crime in the municipal area for contact crimes, such as, murder, sexual crimes and common assault.

5.2.5 Aganang Local Municipality

Aganang Municipality is a stable Municipality in terms of issues of safety and security. The Municipality has one police station (Matlala) and one satellite at Mohlolong and other parts of the Municipality mainly some villages of Moletsi, Maraba and Mashashane are serviced by Seshego Police station. There are Community Police Forums established in Communities of the Municipality. The top five priority crimes as per statistics provided by Matlala Police station are mainly assault, housebreaking (residence and business) and common robbery.

5.3 Demographics

5.3.1 Mogalakwena Local Municipality

The population of Mogalakwena LM is estimated to 596 094 in 2007 as reported by the 2007 Community Survey StatsSA. This is 75 313 households with average of 4,4 person per household. The annual growth rate is 1,1% per year.

5.3.2 Makhado Local Municipality

The total population of Makhado is estimated at 495 261 and is growing at about 1.4% per annum. It is composed of 54.25% female and about 45.75% male persons. The local population has a youthful age structure and the immediate significance of this young age structure is that the population will grow rapidly in future and this implies a future high growth rate in the labor force.

There are 129 665 households in the Municipal area with about 225 059 registered voters. According to the submissions of ward committees the number of households has increased from the 129 6655 to 143 107, this figure reflects an increase of 13 442 households in the municipality. The majority of the population live in the rural areas and nearly 50% of the population is younger than 15 years. The rural area is also the most underdeveloped. The largest percentage of the rural black population between the ages of 15 to 65 years comprises women.

Makhado Local Municipality has 7 population concentration points, which are Midoroni, Gogobole, Bungeni, Tshino, Tshakhuma, Tshafhasi and Njakanjaka. According to the Limpopo spatial rationale document approximately 36% of the total population in the district reside within the population concentration points.

5.3.3 Blouberg Local Municipality

Table below represents a summary of the demographics of Blouberg LM according to the Community Survey 2007, of Stats SA.

Municipality	Population number	No of households
Aganang	145 454	33 826
Blouberg	194 119	35 598
Lepelle-Nkumpi	241 414	58 483
Molemole	100 408	27 296
Polokwane	561 772	130 361
Total	1 243 167	285 565
Source, Community survey 2007, Stats SA and Blouberg IDP (2011)		

5.3.4 Molemole Local Municipality

According to Census Information (2001) of Statistics South Africa, Molemole Municipality has a total population of 109,445 persons, with an average household size of 3,9 and a total of 28 923 households. However, the 2007 Stats SA Community survey show a total population for Molemole to be 100 404. A total of 27 296 households' lives in Molemole and the average households size is 6 persons.

53% of Molemole's population is under the age of 20 and 6% comprised of the elderly. The statistics indicates that majority of the population, 59% is dependent on the income of others. The fact that 73% of the population comprise of age categories 0 – 34 indicate prospects of a growing population.

5.3.5 Aganang Local Municipality

Aganang is the fourth densely populated Municipality within Capricorn District and has a population of 142 861 and total of 33 214 households (Community Survey 2007) and Municipal Ward Demarcations 2011. The average household size is 4, 3. This is mainly as a result of the demarcation process. The majority of the population of Aganang Local Municipality is mainly women with 54% according to Community Survey conducted in 2007.

5.4 Education health and social

The estimated HIV/ AIDS prevalence in South Africa has slightly increased from 29, 1% in 2006 to 29, 3% in 2008, according to the Department of Health, National Antenatal Sentinel HIV and Syphilis Prevalence Survey 2008. According to (Department of Health, South Africa, 2008), HIV prevalence in Limpopo Province is estimated at 20, 7%. In 2008, HIV prevalence among antenatal women in Capricorn District was 21%. HIV/ AIDS are is of the major causes of high mortality in themunicipality, increasing the number of child headed families and worsening poverty. The municipality initiated a move to establish HIV/AIDS forum, which is to be championed by the

Mayor. Makhado IDP says the most common communicable diseases in South Africa are TB and measles. The number of colleges for Education has been reduced from ten to four in the province.

5.4.1 Mogalakwena Local Municipality

Mogalakwena LM has 285 schools. 159 has access to water. Female teachers outnumber the male teachers. The learner-teacher ratio is 32,2 per class. The municipality has a high number of Old Aged pension.

5.4.2 Makhado Local Municipality

Makhado Municipality has one college of education. The Municipal area is well served with health care facilities such as clinics and hospitals. In the rural communities, access to health care facilities is a major problem, as most people are reliant on public transport for their travel. As such the lack of dedicated transport in close proximity poses a serious challenge in emergency situations.

The majority of the population that is shown to be in the economically active age categories (between 15 and 64) is highlighted by the fact that 42% of the total population has an education level at secondary schooling and or higher. Approximately 27% are at primary school level, whereas only 7.5% of the total population have tertiary (post school) qualifications.

5.4.3 Blouberg Local Municipality

There are 176 primary and 76 secondary schools in the Blouberg area. The circuit offices are six and currently the district office is under construction in Senwabarwana. There is one institution of higher learning which is the Senwabarwana campus of the Capricorn FET College. The detailed condition of the schools is in ward analysis. There is shortage of Maths and Science educators in the schools within the municipality. Some learners are walking more than five kilometres to schools while in some cases learners have been granted scholar transport and bicycles.

There are only 27 standard pre schools in the municipality and the backlog is 96. All the settlements in the municipality have makeshift pre schools structures.

5.4.4 Molemole Local Municipality

At least 15, 6% of the population in the municipal area has no formal education at all, (Community survey, 2007, Stats SA). Majority of the population, 67, 8%, has a limited education of less than Grade 12. These people thus face restrictions in terms of employment opportunities, income levels and upward mobility. In most cases they are unable to acquire the necessary skills likely to give them access to better work opportunities. The municipality in partnership with stakeholders needs to intensify the

back to school campaign and other campaigns aimed at improving the level of education.

5.4.5 Aganang Local Municipality

Aganang Municipality is comprised of 8 education circuits. Currently within the municipality there are pre schools, special schools, ABET centre, primary and secondary schools. There are no tertiary institutions except private initiatives that offer computer, security etc.

Aganang Municipality has one hospital and 10 Clinics (see table below). There is also a systems of mobile clinics to all the villages of the Municipality. There is also team of home based cares and drop in centres which operate within the Municipality which are critical to health and Welfare service to our Communities.

The following health facilities are provided within the Municipality: 3 Hospitals, 1 Private hospital, 43 Clinics, 7 Mobile Clinics, 4 Health Centre , 3 Place of Safety, and 1 Malaria Camp.

According to theStats .community survey 2007, education levels in Makhado are as follows.

- None - 11.5%
- Pre--Primary / Primary School - 29.0%
- Secondary School - 21.8%
- Tertiary (Certificate / Diploma/Degree) - 36.2%.

5.5 Employment and income

Molemole IDP stated that the South African economy contracted in the wake of global economic meltdown. The effects of the recession still prevail in South Africa with budget deficit remaining large, revenue collection suppressed and economic growth slow. However there are signs that the economy is on the path to recovery from the global economic crisis.

5.5.1 Vhembe District Municipality

Vhembe District is ideally positioned for easy access to African markets, its proximity to Zimbabwe, Mozambique and Botswana provides the investor with a powerful platform from which to access the South African region and to contribute as well as benefit the New Partnership for Africa's Development. The trade sector has been the fastest growing. This reflects the existence of a strong demand for goods and services and the growth of the tourism industry.

The unemployment rate using expanded definition stood at 49% in 2006. It rose to this

level from 47.7% in 1996. This level of unemployment rate is too high both at the provincial and district level. At provincial level the rate of unemployment rose from 44.4% in 1996 to 45.1% in 2006. The concern is that instead of the unemployment decreasing, it is increasing.

Vhembe District is predominantly a young population with 74.99% of the population at 35 years of age and below. The people are at a good age to be trained and acquire the skills necessary for the development of the economy.

Agriculture

Vhembe is a prolific fresh produce grower, with largescale exports testifying to the quality of production and the efficiency of many farmers. Vhembe produces no less than 4,4% of South Africa's total agricultural output, including 8,4% of the country's sub-tropical fruit and 6,3% of its citrus, according to Kayamandi Development Services which has drawn up Vhembe District Municipality's Local Economic Development Strategy.

The Luvuvhu Valley, with the Soutpansberg mountains forming an imposing backdrop. Like so many other parts of South Africa, agricultural production in Vhembe is undertaken by a small number of relatively large, highly productive commercial producers and a multitude of fragmented, small-scale farmers.

Mining

Vhembe's major investor, De Beers, is moving to ensure that the district will remain South Africa's biggest diamond producer and an increasingly important ecotourism destination. De Beers' Venetia diamond mine which has invested some R4 billion to extend its open pit operations and is now considering spending another R6 billion to dig for diamonds underground.

5.5.2 Mogalakwena Local Municipality

No real information has been obtained thus far for the municipality thus far. More research to be conducted.

5.5.3 Makhado Local Municipality

At present the local economy is unable to provide sufficient employment opportunities to meet the needs of the economically active population. A youthful population structure also implies a relatively higher dependency ratio. There is 46% population, which is economically active.

5.5.4 Blouberg Local Municipality

Agriculture

There is abundant land, which is mainly used for agricultural development. The area consists of two economies in the farming sector - the established and commercial white farming community and the less established and subsistence black farming community. The Strategy identifies even game farming as one of the pillars of the agricultural sector especially the one practiced in areas around Alldays and the surrounding farms. The subsectors of the agricultural sector in the Blouberg area are:

- Livestock and game farming
- Crop and vegetable farming

Tourism

Due to the Municipality's rich cultural and heritage background the strategy identifies tourism as one of the key economic drivers. This is evidenced by the existence of the rock art paintings at the Makgabeng Mountains, the Malebogo\Boer battlefields which have been declared a Provincial Heritage Site, the footprints of the missionaries at areas such as Leipzig and Milbank, the existence of two nature reserves (Malebogo and Blouberg) as well as the game farms which mainly attract international tourists. The Glen Alpine dam provides the municipality with the opportunity to enhance tourism if developed to an acceptable standard. Lot of fishing activities takes place in the area. Most of the provincial traverse through the municipality through to Botswana and Zimbabwe and with the development of overnight accommodation the municipality can benefit a lot.

Retail and SMME development

The Strategy recognizes the need for job creation through SMMEs and retails as pillars of growing the economy and job creation. The Strategy notes the fact that local retail sector has not been doing well in sustaining itself and recommends that the Municipality be proactive in coordinating the retail and business sector and further come up with ways of supporting their sustainability. The Strategy identifies nodal points such as Eldorado, Alldays and Senwabarwana as areas where major retail should be encouraged. A retail outlet has been established in Senwabarwana and a second one is currently under construction with the prospect of opening in August 2012. There is a new retail development earmarked for Eldorado with a possibility of construction starting in September 2012.

Mining

There are mining deposits which have a potential of growing the economy and creating sustainable jobs if explored and mined to the fullest. Potentials of mineral deposits are found in areas such as Harriswhich (platinum) and Arrie, Steamboat farms (pencil and coal, gold and other minerals). There is also a huge potential for

sand mining within the Blouberg area, especially in areas such as Indermark and Eussorinca.

The Blouberg LED Strategy will need to go through a process of review to ensure its relevance to the current situation.

5.5.5 Capricorn District Municipality

Mining

Mining is the smallest contributor to the CDM economy and accounts only for 0.6%. It is the only sector that experienced negative growth (-6.7%) in the last decade. Its total contribution in 2006 summed R154 million. These are operations mainly in Lepelle-Nkumpi and Ga-Mphahlele areas not any of the affected areas by the proposed routes for the proposed powerline.

Agriculture Sector

Agriculture accounts for 2.8% of the total district economy and contributes R690 million per annum. Potatoes are by far the most produced and important crop in the CDM. The production value of potatoes totalled R200 million in 2000. This is followed by tomatoes (R98 million), eggs (R88 million) and broilers and beef almost equal at R61 million. Pork and citrus production are also substantial at R37 million respectively.

Polokwane's farmers produce 60 000 tons of onions, generating R50 million per, but import all of their agricultural inputs comprising 65% of production value.

CDM has thriving livestock farming and the majority of livestock are goats (44%) followed by cattle (38%), pigs (10%) and sheep (9%). The district had 240 000 goats, 200 000 cattle, 55 000 pigs and 50 000 sheep in 2001. The proportion of cattle in the district increased between 1995 and 2001 while the proportion of goats lessened. Commercial livestock farming constitutes 25% of livestock farming in the district, whilst communal represents 75%.

According to the analysis made, livestock has amongst other weaknesses of stock theft.

5.5.6 Molemole Local Municipality

According to Community Survey, 2007, Stats SA, 49% of the population in the municipality has no income. These poor people live in appalling, dire and hopeless conditions. It is evident from the data that 23, 3% of the population earn less than R800 per month, whereas 16% take home less than R1600 per month. Majority of the population, 75%, survives on a monthly income of less than R1300 per month.

When comparing 2001 to 2007 the statistics show a significant increase in the number of people living below the breadline. The minimum subsistence income (breadline) for households to survive in Limpopo is considered to be R15 600 per year or R1 300 per month. The situation depicted by the statistics indicates a high rate of indigents within the municipal boundaries.

Unemployment in Molemole is very high, with 69% of the economically active population unemployed. The high unemployment can be associated with low educational levels.

Molemole municipality is predominantly rural and characterised by high levels of poverty and inequalities. A large part of Molemole's economy depends on agricultural development. The municipality produces the finest potatoes and tomatoes for both domestic and export markets. However the agricultural sector has contracted significantly, resulting in many crop commercial farmers opting for game farming. Approximately 80% of land in Molemole municipality is utilized for agricultural production. Of the total agricultural land 40% is utilised for commercial farming and 60% for subsistence.

5.5.7 Aganang Local Municipality

Majority of people are not economically active and further that most of the household do not have income. There was 57% of no income within the municipality. Aganang Municipality is predominantly rural however it has potential to grow in both primary and secondary economic activities. This refers to both production and manufacturing activities. Currently there are no major economic activities taking place except subsistence initiatives. Agriculture and tourism are the key economic drivers of the Municipality.

Agricultural

The economic activities that take place within the Municipality are mainly agriculture and Community based projects initiatives. Most Communities of Aganang Municipality plough maize and keep livestock like cattle, goats, sheep etc for subsistence. This activity is done in almost every village within the Municipality.

Community based projects

There are a number of community based projects initiatives that are running within the Municipality. These range from poultry farming, goat and cattle projects, egg production and vegetables production. There are no major manufacturing activities taking place within the Municipality despite activities of poultry farming, maize farming, brick making, paper production and etc.

Tourism

There are areas of potential within the Municipality with regard to tourism. Areas identified are Matlala game reserve (Mogoshi Mountains), Utjane dam and Ratang Baeng game reserve.

5.6 Housing and services

5.6.1 Mogalakwena Local Municipality

No real information has been obtained thus far for the municipality thus far. More research to be conducted.

5.6.2 Makhado Local Municipality

Most rural villages are served with communal stand pipes/taps and water from boreholes. These rural areas also do not have proper sanitation facilities and individual households have to construct their own pit latrines. About (8 251) households do not have sanitation at RDP standard.

About 34 693 households are without electricity and the municipality has a FBE policy targeted at poor households. About 19 340 indigent households in both Eskom and the Municipal licence areas are receiving FBE. A further 1 100 households using the Solar Energy system in areas where there is no electrical grid receive the free basic energy subsidy. There is a serious concern with the continued vandalism and theft of electrical infrastructure.

5.6.3 Blouberg Local Municipality

Since 2000 there has been an allocation of over 6000 low cost housing units to communities of Blouberg with Alldays and Senwabarwana being the biggest beneficiaries of such housing development programmes. The municipality implemented the first inclusionary housing project in Senwabarwana in 2009/10.

5.6.4 Molemole Local Municipality

No real information has been obtained thus far for the municipality thus far. More research to be conducted.

5.6.5 Aganang Local Municipality

There are two Water schemes (Houtrivier & Mashashane) that supply water to some of the Wards within the Municipality. Houtrivier scheme supply water to villages of Ward 11 and two villages of Ward 09. Mashashane scheme supply water to villages of Ward 13, 14 & 15. The rest of other Wards in the Municipality are mainly provided water through boreholes using either electric or diesel pumps.

Of 104 Villages 103 have been electrified and only 1 villages is currently under electrification and only 2216 households are remaining in order to meet the 2012 target.

The current rural housing backlog within the Municipality stands at 1931. The majority of households use own dumps as depicted by the table above.

Municipality provides free basic services to all Communities in the form of free basic water and free basic electricity. All villages receive free basic water through provision of diesel and oil and payment of electricity bills for those that use electric pumps. Free basic electricity is provided to all indigents households on the free basic electricity roll.

6 SOCIAL IMPACTS ASSESSMENT AND MITIGATION MEASURES

This section represents methodology used and adopted in assessing the identified or anticipated impact on the proposed powerline's environment. The section then later continues to the actually assessment on anticipated impact and the mitigation measures.

6.1 Methodology

This section represents methodology used and adopted in assessing the identified or anticipated impact on the proposed powerline's environment. There are guidelines and formulas developed for assessing or measuring identified or anticipated impacts on a given development's receiving environment. There are at least seven generic rating scales that are used into this SIA study. These are:

- Duration
- Extent
- Intensity
- Status of impact
- Probability and
- Degree of confidence
- Significance

6.1.1 Duration

Table 2: Period of Impact Rating.

RATING	DESCRIPTION
Short term	0-2 years
Medium term	2-15 years
Long term	Where the impact will cease after the operational life of the activity
Permanent	The impact will occur even after the operational and decommissioning of the project has occurred.

6.1.2 Extent

Extent defines the physical or spatial scale of particular impact on the receiving environment.

Table 3: Extent of Impact Rating

RATING	DESCRIPTION
Local	Limited to the site and its immediate surroundings
Regional	Impact extends beyond site boundary.
National	Impact is widespread, it can be Countrywide

6.1.3 Intensity

Evaluation of intensity is used to measure or establish whether the impact would be destructive or the level of destruction particular impacts will have on a given environment.

Table 4: Impact Intensity Rating.

RATING	DESCRIPTION
Low	Where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.
Medium	Where the affected environment is altered but natural, cultural and social functions and processes continue, although in a modified way.
High	Where natural, cultural and social functions or processes are altered to the extent that they will temporarily or permanently cease.

6.1.4 Status of Impact

The status of an impact is used to describe whether the impact would have a negative, positive or no effect on the receiving environment.

6.1.5 Probability

Probability describes the likelihood of the impact occurring during the proposed development, after the development or during the operational phase of the development.

Table 5: Impact Probability Rating.

RATING	DESCRIPTION
Improbable	The possibility of the impact occurring is very low or unlikely
Probable	There is a possibility that the impact will occur.
Definite	The impact will definitely occur

6.1.6 Degree of confidence

Degree of confidence measures the level of reliability of the impact predictions subject the availability of relevant information.

Table 6: Degree of Confidence.

RATING	DESCRIPTION
Low	Less than 35% sure of impact prediction.
Medium	Between 35% and 70% sure of impact prediction.
High	Greater than 70% sure of impact prediction.

6.1.7 Significance

Significance scale refers to threshold of the importance of a particular impact on the receiving environment.

Table 7: Level of significance

RATING	DESCRIPTION
Low	Impacts could both be of low intensity at a regional level and endure in the medium term or of low intensity at a national level in the short term.
Medium	Impacts could be either of high intensity at a local level and endure in the medium term or of medium intensity at a regional level in the medium term.
High	These impacts could be of high intensity at a regional level and last for a medium term or they could be of high intensity at a national level and go on for a short duration.
Very high	Impacts could be either of high intensity at a regional or national level and last for a long time

6.1.8 Degree to which the impact can be mitigated.

Table 8: Degree to which the impact can be mitigated

RATING	DESCRIPTION
Low	Less than 35% sure of impact prediction.
Medium	Between 35% and 70% sure of impact prediction.
High	Greater than 70% sure of impact prediction.

6.1.9 Cumulative Impact Assessment

The identified impact for the proposed powerline are direct as opposed to be indirect. Impacts will be observed as development occurs. No climatic change effects are expected from the development, and in time lag. If impacts such as fragmentations of environment and others occur, they have likelihood to occur because to other activities in the area such as mining.

6.2 Impact Assessment

Impacts on the social environmental associated with the construction phase and subsequent long term impacts. Issues that were considered for this assessment are as follows:

1. Employment opportunities
2. Nuisance impacts
3. Impactson health(Airquality and HIV)
4. ImpactsonLandUse
5. Impactsontraffic

6.2.1 Employment Opportunities

There will be a number employment opportunities associated with the construction of the 400kV powerline. Eskom staff will hire contractors, who are contracted to local skills

development. However, the majority of these employment opportunities are expected to require skilled personnel. The number of unskilled casuals will be required, even though not certain of the number. Therefore, any benefits to local communities would be determined by the available skills from the communities.

From understanding the background of the areas to affected, it is anticipated that not many people would be employed in the affected communities due to the unavailability of technical skills amongst the communities. Secondary employment opportunity would be for locals to start own businesses and sell food to the contractors.

During operation, no employment opportunities is envisaged, because Eskom are incharge of maintaining the powerline. Should it happen, it would be for maintaining of the route which would be a very small scale and have insignificant impact.

Table 9: Rating matrix for employment in the construction phase and decommissioning phase

Criteria	Rating	With mitigation
Extent	Local	Local
Duration	Medium term	Medium term
Intensity	Low	Low
Probability of occurrence	Probable	Probable
Degree of confidence	High	High
Status	Positive	Positive
Significance	High	
Degree to which the impact can be mitigated	Not necessary as it positive impact.	
Mitigation measures:	Mitigation measures will include the following but not limited to: <ul style="list-style-type: none"> • Train and Hire local people where possible. 	
Cumulative Impact	Not applicable	

6.3 Nuisance impacts

Nuisance will be caused with visual and noise impacts. Impacts will be very short-term during construction and decommissioning activities. The noise impact is therefore expected to be localised and of low significance.

6.3.1 Noise

Impacts associated with construction and decommissioning activities are expected to be of local extent and to the nearest communities. The actual communities to be affected will be determined once the powerline route is determined and authorized by DEA.

Table 10:Rating matrix for noise disturbance in the construction phase and decommissioning phase

Criteria	Rating	With mitigation
Extent	Local	Local
Duration	Medium term	Medium term
Intensity	Medium	Low
Probability of occurrence	Definite	Definite
Degree of confidence	High	High
Status	Negative	Negative
Significance	High	High
Degree to which the impact can be mitigated	Not necessary as it positive impact.	
Mitigation measures:	Mitigation measures will include, but not limited to: <ul style="list-style-type: none"> Working hours will be limited to 6:00am -17:00pm strictly from Monday-Friday. Affected residents will be notified of excessive noisy activities (if any are going to take place). Open liaison channels with affected community 	
Cumulative Impact	Not applicable	

6.3.2 Visual

The construction of the powerline will however have long term visual impacts due to the expected life of operation of the powerline. This will cause a negative impact on the social environment at a local level.

The erection of power lines would involve the digging of foundations, which would require soil to be excavated. The excavated soil will have to be stockpiled. While evidence of such will be visual to the farm owners and others in the nearby vicinity, such visual disruptions will be short term and limited to the construction phase only. The monopole steel structures considered to be less visually intrusive and are not as tall as the lattice steel structure. The lattice steel structures have the potential to impact visually on the mine signals as they are tall.

Table 11:Rating matrix for visual impacts in the construction and operational phase

Criteria	Rating	
Extent	Local	Local
Duration	Long tern	Long tern
Intensity	Medium Low	Low
Probability of occurrence	High	High
Degree of confidence	Medium	Medium
Status	Negative	Negative
Significance	Low to Medium	Negative
Degree to which the impact	Medium	

can be mitigated	
Mitigation measures	Mitigation measures will include the following but not limited to: <ul style="list-style-type: none"> • Confine impacts only to the development area. • Grey colour or non-bright colours should be used for the pylon structures.
Cumulative Impact	Not applicable

6.4 Impacts on health and safety

6.4.1 Safety

The construction workers will be exposed to excessive and continuous levels of construction-related dust and noise, without protective measures which may affect their health. Mitigation measures such as Personal Protective Equipment (PPE) will assist in reducing health impacts. Exposure to dust may aggravate conditions such as asthma, while exposure to excessive levels of noise may result in temporary deafness, shock and discomfort.

Other impacts will include:

- Impact of electromagnetic fields on human beings
- Fire hazards pose a threat to human health and safety
- Traffic impact due to construction vehicles

Table 12: Rating matrix for health and safety impacts in the construction and operational phase

Criteria	Rating	With mitigation
Extent	Local	Local
Duration	Short term	Short term
Intensity	Low	Low
Probability of occurrence	Definite	Definite
Degree of confidence	High	High
Status	Negative	Negative
Significance	Medium	Medium
Degree to which the impact can be mitigated	High	
Mitigation measures	Mitigation measures will include, but not limited to: <ul style="list-style-type: none"> • All workers will be fully informed about the Health and Safety Policy by the contractor • All workers will wear PPE at all times. No worker shall act in any way that may pose risk to other workers.	

6.4.2 Air quality

Health impacts include impacts on Air Quality. The quality of the air will be impacted during construction and decommissioning phases only. The sources are likely to emanate from: excessive emission of exhaust gases from construction vehicles, dust

during excavation works, digging of foundations, stock piled soils and gravel access roads. The dust may affect animals, vegetation and people on site and the surroundings. Please refer to impact for vegetation and flora for details of dust generation.

Table 13: Rating matrix for air quality impacts in the construction phase

Criteria	Without Mitigation	With mitigation
Extent	Local	Local
Duration	Short term	Short term
Intensity	Medium Low	Medium Low
Probability of occurrence	Definite	Definite
Degree of confidence	Medium	Medium
Status	Negative	Negative
Significance	Medium- Low	
Degree to which the impact can be mitigated	High	
Mitigation measures:	Mitigation measures will include the following but not limited to: <ul style="list-style-type: none"> • No open fires will be permitted on site. • Burning of materials, grass and refuse will not be permitted on site. • Construction machinery and vehicles will be maintained and serviced regularly. • Speed limits of about 40km/hr will be enforced and maintained on the construction site. 	
Cumulative Impacts	Not applicable	

6.4.3 Health

General health impacts include spread of diseases such as sexual transmitted diseases and HIV. This will occur especially between local and nearest communities and labourers or contractors that for the construction phase.

Table 14: Rating matrix for air quality impacts in the construction phase

Criteria	Without Mitigation	With mitigation
Extent	Local	Local
Duration	Short term	Short term
Intensity	High	High
Probability of occurrence	Definite	
Degree of confidence	High	
Status	Negative	Negative
Significance	High	
Degree to which the impact can be mitigated	High	

Mitigation measures:	Mitigation measures will include the following but not limited to: <ul style="list-style-type: none"> Local clinics, including mobile clinics and camps site to be proved with protective measures such as condoms to limit sexual transmitted diseases and unplanned and/or pregnancies
Cumulative Impacts	Not applicable

6.5 Land Use

Current or future land uses will be affected due to the proposed construction of the powerline. The project area a vast number of land uses varying from agricultural, conservations, residential, commercial, road servitude, railway servitude, natural veld and others. As explained by the proponent, the study routes are studied 3km wide, meaning there is a lot of room to choose where to place the powerline.

Category		Impacts
Land use profile	Trees Cattle, goats, and sheep farming Game farming	Loss of trees, Loss of grazing land
Mining	Open cast mining and underground mining	Working around pylons Blasting activities Fires Earth movement
Infrastructure	Houses Roads and railways	Not allowed in servitude
Land use	Irrigation, Crop spraying Fire fighting Crop harvesting	Need to work around powerlines

Table 15: Rating matrix for land use impacts in the construction phase

Criteria	Rating	
Extent	Local	Local
Duration	Long term	Long term
Intensity	High	High
Probability of occurrence	Definite	Definite
Degree of confidence	Medium	
Status	Negative	Negative
Significance	High	
Degree to which the impact can be reversed	Low	
Mitigation measures	Mitigation measures will include the following but not limited to: <ul style="list-style-type: none"> Confine impacts only to the development area. 	

- Selects servitude with minimal impacts.

7 RECOMMENDATIONS AND CONCLUSION

Social impacts associated with the proposed construction of the 250km of 400kV powerline from Borutho substation in Mokpane to Nzhelele Substation are expected to be localised in the short-medium term. There are both positive and negative impacts. Positive impacts include possibility of employment during construction and small scaled food selling. Negative impact with high impact would involved health impacts. Other issues such as nuisance will not have a very high impact when properly mitigated.

The proposed development is recommended with Route2, which would have less minimal impact to the communities. The construction, operation and decommissioning phases are also recommended with the mitigation measures as recommended above.



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