

**SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED CONVERSION OF ESKOM'S  
ANKERLIG POWER PLANT IN ATLANTIS FROM OCGT TO CCGT, AND  
ASSOCIATED 400KV TRANSMISSION LINE TO OMEGA SUBSTATION**

Prepared by: Liezl Coetzee

*Southern Hemisphere Consultants*

For: Savannah Environmental

Date: 2 July 2008

## ***Executive Summary***

### ***Introduction***

Eskom Holdings Limited (“Eskom”) is investigating the conversion of the nine Open Cycle Gas Turbine (OCGT) units at the existing Ankerlig Power Station (located in Atlantis Industria) to Combined Cycle Gas Turbine (CCGT) units in order to increase the generating capacity of this existing power station by approximately 720 MW. Eskom is also proposing the construction of a 400kV transmission power line between the Ankerlig Power Station and the already-authorized Omega Substation (to be located on the Farm Groot Oliphantskop 81) to transmit the additional power generated at this power station into the National electricity grid. Savannah Environmental has been appointed as an independent consultant to undertake the required Environmental Impact Assessment (EIA) and public participation for the proposed project. Savannah Environmental contracted Southern Hemisphere to undertake a specialist social assessment as part of the EIA.

Alternatives assessed for the proposed Ankerlig conversion process include the conversion as proposed and the no-go alternative. Potential impacts related to additional fuel storage on the site are noted with respect to the conversion as proposed. Alternatives assessed for the transmission power line include three alternative alignments for the proposed power line between the Ankerlig and Omega stations, notably the preferred alternative nominated through the scoping phase of the EIA process (Option A for scoping) and a proposed sub-alternative, as well as Option C for scoping which, although initially eliminated in scoping, is included again for assessment upon request of stakeholders affected by the preferred alternative (*see Map of Study Area and Alternatives*).

### ***Approach***

The approach to this study follows guidelines outlined in the Western Cape Department of Environmental Affairs and Development Planning’s “Guidelines for involving Social Specialists in an EIA.”

This scoping study of potential social impacts that may be associated with the proposed Ankerlig Power Station Conversion and transmission line was conducted through a combination of:

- a desk-top study in which available information was reviewed,
- attendance of selected Focus Group Meetings held as part of the Public Participation process in November 2007,
- meetings and telephonic consultation with stakeholders to discuss impacts
- analysis and presentation of findings in accordance with principles laid out in the Provincial Guidelines, and specific reporting requirements.

### ***Socio-economic profile of potentially impacted population***

The study area is located within the Koeberg and Blaauwberg sub-councils of the City of Cape Town Metropolitan Municipality in the Western Cape Province. The transmission power line will pass through the Blaauwberg sub-council, through the Klein Zoute River Agricultural Holdings, past the residential areas of Melkbosstrand, Van Riebeeckstrand and Duynfontein.

The population potentially affected by the development include:

- Residents of Atlantis, particularly the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill and Robinvale, and the nearby informal settlement of Witsand, situated in close proximity to the Industrial area.
- Residents of Melkbosstrand, Duynfontein and Van Riebeeckstrand
- Residents of Klein Zoute River Agricultural Holdings and landowners of farms situated in the Malmesbury non-urban area immediately south of Atlantis Industrial Area.

This report presents socio-economic data based on 2001 Census Statistics, as compiled in the City of Cape Town's Suburb Profiles. Suburbs used in this assessment include: City of Cape Town; Atlantis; Melkbosstrand; and Atlantis non-urban,

#### *Current land uses*

The Ankerlig Power Station site is situated in the Atlantis Industrial area, and is currently occupied by the OCGT power station which is proposed to be converted into a CCGT power station. The existing power station consists of 9 OCGT units (i.e. four existing OCGT units, plus an additional five OCGT units, currently under construction).

The alternative alignments proposed for the transmission power line to the Omega substation are situated to the south of Atlantis, passing through the 'Atlantis non-urban' area as defined above. The proposed transmission line passes through a portion of Klein Zoute River AH, and would directly affect between five and ten households and landowners, depending on the alignment selected.

#### *Demographic profile*

At the time of the 2001 Census, the total population of the City of Cape Town was about 2.9 million people. Within the study area, the Atlantis population comprised of just under 55 000 people, while the surrounding non-urban areas (Atlantis non-urban according to suburb profiles) housed just over 4 000 people, and just under 6 500 people resided in the Melkbosstrand area. Females outnumber males in all areas except Atlantis non-urban, where males predominate by a slight margin.

The age distribution in Atlantis is slightly younger than the average for the City of Cape Town, with a larger percentage (just under 40%) aged under 17. The

corresponding percentage in Melkbosstrand is significantly lower at only 24%. By contrast the percentage of older people in the age categories above 35 is significantly higher in Melkbosstrand (~55%) than in the broader Cape Town (~35%) or Atlantis (28%) and surrounding non-urban areas (37%). Almost a third of the population in Atlantis are between the ages of 18 and 34, while a quarter is aged 35 to 54. These age groups may be considered as the potential labour force, together comprising about 55% of the Atlantis population, and 57% of Atlantis non-urban.

The Atlantis population is predominantly Coloured (92.6%), with a small percentage (6.6%) Black African<sup>1</sup> and less than one per cent respectively White and Indian. The population of Atlantis non-urban is also predominantly Coloured (68%) according to the 2001 census, with a significantly greater percentage of Whites (22%) and slightly more Black African (10%). By contrast Melkbosstrand is predominantly White (89%).

Afrikaans is the most common language spoken in Atlantis (87%), Atlantis non-urban (78%) and to a somewhat lesser extent Melkbosstrand (58%). English is the first language of 38% of Melkbosstrand residents, 16% of those in Atlantis non-urban, and less than 10% of the Atlantis community.

#### *Education, Health and Social Services*

Educational facilities in Atlantis include four high schools, 13 primary schools, three special schools catering for students with special needs, and two higher institutions. Just over 20% of Atlantis residents aged over 20 had completed matric in 2001, and of these less than 4% had attained any further levels of education. The percentage with 'no schooling' was slightly higher in Atlantis non-urban at 9%, compared to 4% in Atlantis. By contrast Melkbosstrand had less than 2% with no education, over three quarters had completed matric, and just under a third had attained some level of tertiary education, about half of which is certificates, with the other half being various levels of degrees.

Health facilities in and around Atlantis include the Wesfleur Hospital, Wesfleur Medical Centre and Wesfleur Private Clinic, as well as Protea Park and Saxon Sea clinics, and the Mamre Clinic. While the most common cause of death recorded in Blaauwberg district in 2002 (9.4% of deaths) as well as 2003 (8.7%) was Ischaemic heart disease, HIV/ AIDS had risen to the greatest killer by 2004 (7% of total deaths). TB accounted for a further 4.5% of deaths in 2004. HIV Prevalence in the Blaauwberg Health District was estimated at 4.5% in 2003/4 according to an ANC HIV Prevalence Survey. Total TB incidence in the District stood at 513 people in 2002, while the total rate recorded for Cape Town was 7 366 infections.

---

<sup>1</sup> This proportion can be expected to have increased since 2001, with the Black African group noted to be the fastest growing across the Western Cape.

There is a lack of suitable state welfare programmes to meet the specific needs of the area. A Multi-Purpose Community Centre that was erected in Atlantis, and is capable of providing various social services, but remains largely under-utilised. The rapidly growing incidence of HIV/AIDS infection is placing an increasing burden on existing health services, including hospital and medical facilities. The Red Door Database (2007) lists a total of 67 Community Based Organisations (CBOs) operating in Atlantis. Local Government Offices of the Blaauwberg District Council dealing with Social Services include a District Office situated in Atlantis Industria, and a Satellite Office in Sherwood.

### *Employment and income*

The economically active population comprised of about 46% of City of Cape Town residents aged between 15 and 65 in 2001. Figures for the study area are similar, though slightly lower for Atlantis at 44%, and higher for Melkbosstrand (48%). Of those indicated as economically active, 31% in Atlantis are unemployed, slightly higher than the average for the City of Cape Town as a whole. Corresponding percentages are much lower for Atlantis non-urban (13%), and Melkbosstrand (7%).

Of the economically active residents of Atlantis that are employed, approximately 12% commute to jobs outside Atlantis. Another 25% are employed by local industries, and 5% are employed by small- medium- and micro-enterprises (SMMEs). A significant number of jobs in Atlantis are held by outsiders who commute to the area. These jobs generally fall in the educational and other professional occupational categories.

Over 40% of those employed in the Atlantis non-urban area in 2001 were engaged in elementary occupations. By comparison only 22% of employed Atlantis residents were cited in such elementary occupations, although this was still the predominant occupation. Also common however were plant and machine operators and assemblers (19%) as well as craft and related trade workers (18%), while 12% were cited as clerks. The presence of these skills should be considered with regards to possible employment opportunities that the proposed development may offer.

Manufacturing represents the largest source of employment in the area. A total of 107 Manufacturers are listed in the Red Door database. The area experienced increases in employment in the construction, financial, real estate, business and wholesale sectors between 1996 and 2001. Sectors which experienced the largest setback in terms of growth includes mining (a decrease of 32%) and, to a much smaller extent electricity, gas and water services (a decrease of 10%). The Red Door Database lists a total of 59 SMMEs concerned with construction and building activities. Other SMMEs listed include Automotives (4), Bed and Breakfasts (9), Manufacturing (6), Catering (5), Cleaning services (4), Engineering (8), Information Technologies (2) Labour Consultants (4), Maintenance (18), Retain Suppliers (5), Security Services (5), Services (19), and Transport (11).

Over half of those employed in Atlantis, and 62% in Atlantis non-urban earned less than R1 600 per month in 2001, with almost all the remainder (45% in

Atlantis and 32% in Atlantis non-urban) earning between R1 600 and R6 400 per month. Income of Melkbosstrand residents was notably higher, with about half earning over R6 400 per month. Over a third of Atlantis households lived on less than R19 200 per annum in 2001, with a further 50% citing an annual household income of between R19 200 and R76 800. The corresponding percentage for the lowest income group in Atlantis non-urban was 10% higher, with 44% with an annual household income of less than R19 200, with a further 40% in the group between R19 200 and R76 800. By contrast Melkbosstrand only had 14% and 20% of households in these lower income brackets, with about 65% of households citing an income of greater than R76 800 per annum.

### *Housing and Services*

Atlantis has experienced land invasions and the growth of informal settlements, especially in the area that has become known as Witsand. The percentage in informal dwellings is lower than that for the broader Cape Town (18%) in all parts of the study area, but notably higher in Atlantis non urban (11%) and Atlantis (9% - which would include residents of the Witsand settlement) than in Melkbosstrand (1%). While over 70% of Atlantis households live in dwellings which they own, only 22% have fully paid these off. By comparison, 36% of Melkbosstrand households live in houses that are owned and fully paid, and a further 40% in houses they are paying off. In Atlantis non-urban the majority of households either reside rent-free (46%), or rented housing (31%). Housing ownership is relevant to consider when assessing potential impact on people's sense of and attachment to place and personal investment in the area.

According to the 2001 Census, 70% of South Africa's population used electricity as primary source of energy for lighting. The corresponding figure in the Western Cape was significantly higher at 88%, with that in the City of Cape Town being 89%. The current project is intended to provide additional capacity to the National grid, which will thus have a National impact affecting the South African population of close to 50 million people belonging to about 12 million households according to the 2001 Census. Within the study area electricity use for lighting is almost universal in Melkbosstrand (98% of households) and only slightly less common in Atlantis (92%) where paraffin is the other form most cited (7%). Atlantis non-urban noted this to be slightly less common at only 64% of households using electricity for lighting, while 32% rely on candles, and smaller percentages on gas, paraffin and other sources of energy.

Atlantis receives the bulk of its water supply from the Atlantis Aquifer. Access to piped water inside dwellings is higher in Atlantis (83%) and Melkbosstrand (93%) than in the broader Cape Town (69%). This percentage is significantly lower in Atlantis non-urban at only 36%, with 23% citing piped water in the yard, and over 30% piped water on a community stand, mostly over 200m from the dwelling.

The comparatively lower levels of living prevalent in the Atlantis non-urban area is highlighted in terms of access to sanitation facilities, with only half of all households having access to flush toilets (including both sewerage and septic tanks), compared to over 90% in Atlantis and Melkbosstrand. About a fifth of Atlantis non-urban households have no sanitation facilities, while 17% rely on bucket latrines. The remainder use chemical toilets and pit latrines.

While almost all households in Atlantis and Melkbosstrand had refuse removed by the local authority in 2001, this was true for less than a quarter of households in Atlantis non-urban, the majority (65%) of whom use their own refuse dumps. The potential impact of the proposed transmission line on a proposed municipal landfill site planned for the area needs to be considered in selecting a preferred corridor.

Travelling by foot is the dominant mode of transport to work or school, followed by minibus taxis. The use of buses is somewhat less frequent. Due to the absence of passenger train services in the area, very little use is made of this form of transport.

#### *City Development Index*

The City Development Index (CDI) is a composite index looking at: infrastructure (water, sewerage, telephone and electricity) health (life expectancy, divided by infant mortality), education (adult literacy and gross enrolment ratio) and income (mean household income). Overall, the City of Cape Town has a higher CDI of 0,88 compared to 0,81 for the rest of the Western Cape Province. Cape Town outperformed the rest of the province in terms of infrastructure, income and waste disposal. Atlantis rates slightly lower than the City average at 0.86, but still higher than the broader Western Cape Province. Its rating for health is however slightly lower than that for both City and Province. Melkbosstrand by contrast rates higher than the City of Cape Town at 0.92, scoring higher in all indexes.

#### *Plans for economic development*

Despite its current problems, Atlantis offers significant potential for economic development. Its assets include proximity to the West Coast Biosphere, the historical settlements of Mamre and Pella and the expanding high-income housing developments on the West Coast. Large areas of land are currently services for industrial investment, and are available at very low cost. Because of this development potential, the Cape Town Metropolitan Municipality IDP (2004) identified Atlantis as one of the focal areas for residential upgrading. The City is currently in the process of developing an economic development action plan for the area.

## ***Impact Assessment***

### *Summary of Impacts*

Table A below provides a summary of potential social impacts associated with the proposed conversion as well as transmission line proposed, for both construction and operational phases. Significance and status of each impact is indicated with and without mitigation.

**Table A: Summary of Impacts anticipated**

<b>Construction for the proposed Conversion</b>			
<b>Impact:</b>	<b>Mitigation</b>	<b>Significance</b>	<b>Status</b>
Temporary Employment	Without Mitigation	Low	Positive
	With Mitigation	Medium	Positive
Business Opportunities	Without Mitigation	Low	Positive
	With Mitigation	Medium	Positive
Skills Development	Without Mitigation	Low	Positive
	With Mitigation	Medium	Positive
Housing of temporary workers	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative/ Positive
Influx of job-seekers	Without Mitigation	Low	Negative
	With Mitigation	Low	Negative
Social Conflict/ Disputes	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative/ Positive
Increase in traffic	Without Mitigation	Low	Negative
	With Mitigation	Low	Negative
Visual and noise impacts	Without Mitigation	Low	Negative
	With Mitigation	Low	Negative

<b>Operation of the CCGT plant</b>			
<b>Impact:</b>	<b>Mitigation</b>	<b>Significance</b>	<b>Status</b>
Ongoing Employment	Without Mitigation	Low	Positive
	With Mitigation	Low	Positive
Social Investment	Without Mitigation	Low	Positive
	With Mitigation	Medium	Positive
Increase in traffic	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative
Impacts on health & safety	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative

<b>Operation of the CCGT plant</b>			
<b>Impact:</b>	<b>Mitigation</b>	<b>Significance</b>	<b>Status</b>
Impact on sense of place	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative/ Positive
Interest group activity	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative

<b>Construction of the proposed Transmission Line</b>			
<b>Impact:</b>	<b>Mitigation</b>	<b>Significance</b>	<b>Status</b>
Temporary Employment	Without Mitigation	Low	Positive
	With Mitigation	Medium	Positive
Housing of temporary workers	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative/ Positive
Population influx	Without Mitigation	Low	Negative
	With Mitigation	Low	Negative
Increase in traffic	Without Mitigation	Low	Negative
	With Mitigation	Low	Negative
Impact on current land-uses - Option A	Without Mitigation	Low/Medium	Negative
	With Mitigation	Low	Negative
<i>Impact on current land-uses- Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Medium</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Low</i>	<i>Negative</i>
Impact on current land-uses- Option C	Without Mitigation	Medium	Negative
	With Mitigation	Medium	Negative
Intrusive impacts - Option A	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative
<i>Intrusive impacts - Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Medium</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Low</i>	<i>Negative</i>
Intrusive impacts- Option C	Without Mitigation	Medium	Negative
	With Mitigation	Low	Negative

<b>Operation of the proposed Transmission Line</b>			
<b>Impact:</b>	<b>Mitigation</b>	<b>Significance</b>	<b>Status</b>
Impact on current land-uses - Option A	Without Mitigation	High	Negative
	With Mitigation	Medium	Negative
<i>Impact on current land-uses- Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>High</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Medium</i>	<i>Negative</i>

<b>Operation of the proposed Transmission Line</b>			
<b>Impact:</b>	<b>Mitigation</b>	<b>Significance</b>	<b>Status</b>
Impact on current land-uses- Option C	Without Mitigation	High	Negative
	With Mitigation	Medium	Negative
Impacts on health & safety Option A	Without Mitigation	Medium/High	Negative
	With Mitigation	Low	Negative
<i>Impacts on health &amp; safety Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Medium</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Low</i>	<i>Negative</i>
Impacts on health & safety Option C	Without Mitigation	Medium/High	Negative
	With Mitigation	Low	Negative
Impact on sense of place Option A	Without Mitigation	High	Negative
	With Mitigation	Low	Negative
<i>Impact on sense of place Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Medium/High</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Low</i>	<i>Negative</i>
Impact on sense of place Option C	Without Mitigation	High	Negative
	With Mitigation	Low	Negative

#### *Recommendations regarding preferred alternatives*

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. Such negative impacts can be mitigated, while other potential positive impacts such as social investment and employment creation during construction can be optimised through appropriate management measures.

For the transmission line the sub-alternative is considered the preferred alternative from a social perspective, as it would impact mainly on those landowners who already have servitude for the existing transmission lines registered on their properties.

#### **Conclusion**

This report provided an overview of the social environment in and around Atlantis in the City of Cape Town, where Eskom proposes to convert nine OCGT Units at its Ankerlig Power Station to CCGT Units, and construct a transmission power line between the Ankerlig Power Station and the already approved Omega substation. This was followed by a brief look at the existing policy environment at National, Provincial and Municipal level, to serve as context for assessing potential social impacts identified. A scoping assessment of social impacts on the social fabric of surrounding communities looked at potential impacts of both the Conversion process and proposed transmission power line, for construction as well as operational phases.

The most significant positive social impact that may be associated with the proposed developments is provision of electricity, and its related linkages to the broader national economy. Other potential positive impacts include provision of temporary employment during construction and limited employment opportunities for locals during the operational phase for the Ankerlig CCGT station.

Potential negative impacts that may result from the proposed CCGT development include an influx of temporary workers as well as jobseekers, particularly during the construction period as well as potential impacts on health and safety and an increase in traffic. Potential impacts on sense-of place could result from visual and noise impacts, as well as the perception of the area being a 'dump' for energy developments, without receiving sufficient benefits in compensation. The possibility of interest group activity that may result from such perceptions is also noted.

The proposed transmission power line will impact severely on land users/ residents adjacent to the proposed alignments in Klein Zoute River Agricultural Holdings. The preferred alternative as nominated in the scoping report will have a higher impact than the proposed sub-alternative, affecting nine landowners, the majority of whom are severely opposed to the development.

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. The sub-alternative is considered the preferred alternative from a social perspective, as it would impact mainly on those landowners who already have servitude for the existing transmission lines registered on their properties.

## Table of Content

<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	STUDY AREA	1
1.2	ALTERNATIVES TO ASSESS FOR SCOPING	1
<b>2</b>	<b>APPROACH TO STUDY</b>	<b>4</b>
2.1	DESK STUDY	5
2.2	CONSULTATION	6
2.3	ANALYSIS AND PRESENTATION OF FINDINGS	8
2.4	ASSUMPTIONS	10
<b>3</b>	<b>SOCIO-ECONOMIC PROFILE OF AFFECTED POPULATION</b>	<b>11</b>
3.1	CURRENT LAND USES	11
3.1.1	<i>Ankerlig Power Station Conversion</i>	11
3.1.2	<i>Transmission Power Line</i>	12
3.2	HISTORICAL BACKGROUND OF ATLANTIS	14
3.3	DEMOGRAPHIC PROFILE	14
3.3.1	<i>Gender distribution</i>	15
3.3.2	<i>Age distribution</i>	15
3.3.3	<i>Population group</i>	16
3.3.4	<i>Language</i>	17
3.4	EDUCATION, HEALTH AND SOCIAL SERVICES	17
3.4.1	<i>Educational Profile</i>	18
3.4.2	<i>Health Profile</i>	18
3.4.3	<i>Social Services</i>	19
3.5	EMPLOYMENT AND INCOME	19
3.5.1	<i>Labour Force</i>	20
3.5.2	<i>Occupational status</i>	21
3.5.3	<i>Sectors of employment</i>	22
3.5.4	<i>Income</i>	23
3.6	HOUSING AND SERVICES	24
3.6.1	<i>Housing</i>	24
3.6.2	<i>Energy</i>	26
3.6.3	<i>Water</i>	27
3.6.4	<i>Sanitation</i>	28
3.6.5	<i>Refuse removal</i>	28
3.6.6	<i>Transport</i>	29
3.7	CITY DEVELOPMENT INDEX	29
3.8	PLANS FOR ECONOMIC DEVELOPMENT	30
<b>4</b>	<b>IMPACT ASSESSMENT</b>	<b>33</b>
4.1	SUMMARY OF POTENTIAL IMPACTS IDENTIFIED IN THE SOCIAL SCOPING STUDY	33
4.2	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE FOR THE PROPOSED ANKERLIG POWER STATION CONVERSION	37
4.2.1	<i>Temporary local employment opportunities</i>	38
4.2.2	<i>Business opportunities</i>	42
4.2.3	<i>Skills Development</i>	45

4.2.4	<i>Housing of temporary workers</i> .....	47
4.2.5	<i>Influx of job seekers</i> .....	49
4.2.6	<i>Social Conflicts/disputes</i> .....	50
4.2.7	<i>Increase in traffic</i> .....	52
4.2.8	<i>Intrusive impacts</i> .....	56
4.3	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH OPERATION OF ANKERLIG CCGT POWER STATION .....	57
4.3.1	<i>Ongoing Employment, business opportunities and skills development for locals</i> .....	58
4.3.2	<i>Social Investment</i> .....	59
4.3.3	<i>Increase in traffic</i> .....	62
4.3.4	<i>Impacts on Health and Safety</i> .....	64
4.3.5	<i>Impacts on Sense of Place</i> .....	67
4.3.6	<i>Possible interest group activity</i> .....	70
4.4	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH CONSTRUCTION OF TRANSMISSION POWER LINE .....	73
4.4.1	<i>Temporary local employment opportunities, business opportunities and skills development</i> .....	73
4.4.2	<i>Housing of temporary workers</i> .....	74
4.4.3	<i>Influx of job seekers</i> .....	74
4.4.4	<i>Increase in traffic</i> .....	74
4.4.5	<i>Impact on current and planned land-users</i> .....	74
4.4.6	<i>Intrusive impacts - visual and dust</i> .....	78
4.5	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH OPERATION OF TRANSMISSION POWER LINE	80
4.5.1	<i>Impact on current land-users and neighbouring residents</i> .....	81
4.5.2	<i>Impact on Health and Safety</i> .....	87
4.5.3	<i>Impact on sense of place</i> .....	91
4.6	SUMMARY OF IMPACT RATINGS .....	94
4.7	RECOMMENDATIONS REGARDING PREFERRED ALTERNATIVES .....	99
4.7.1	<i>Ankerlig Conversion</i> .....	99
4.7.2	<i>Transmission Power Line</i> .....	99
<b>5</b>	<b>SUMMARY OF MITIGATION MEASURES FOR INCLUSION IN EMP....</b>	<b>101</b>
5.1	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE FOR THE PROPOSED ANKERLIG POWER STATION CONVERSION.....	101
5.1.1	<i>Temporary local employment opportunities</i> .....	101
5.1.2	<i>Business opportunities</i> .....	102
5.1.3	<i>Skills Development</i> .....	103
5.1.4	<i>Housing of temporary workers</i> .....	104
5.1.5	<i>Influx of job seekers</i> .....	105
5.1.6	<i>Social Conflicts/disputes</i> .....	105
5.1.7	<i>Increase in traffic (Traffic assessment)</i> .....	106
5.1.8	<i>Intrusive impacts (See visual, noise and air quality assessments)</i> 107	
5.2	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH OPERATION OF ANKERLIG CCGT POWER STATION .....	107
5.2.1	<i>Ongoing Employment, business opportunities and skills development for locals</i> .....	107

5.2.2	<i>Social Investment</i> .....	108
5.2.3	<i>Increase in traffic</i> .....	108
5.2.4	<i>Impacts on Health and Safety</i> .....	109
5.2.5	<i>Impacts on Sense of Place</i> .....	109
5.2.6	<i>Possible interest group activity</i> .....	110
5.3	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH CONSTRUCTION OF TRANSMISSION POWER LINE .....	111
5.3.1	<i>Temporary local employment opportunities, business opportunities and skills development</i> .....	111
5.3.2	<i>Housing of temporary workers</i> .....	111
5.3.3	<i>Influx of job seekers</i> .....	111
5.3.4	<i>Increase in traffic</i> .....	111
5.3.5	<i>Impact on current and planned land-users</i> .....	111
5.3.6	<i>Intrusive impacts - visual and dust</i> .....	111
5.4	POTENTIAL SOCIAL IMPACTS ASSOCIATED WITH OPERATION OF TRANSMISSION POWER LINE .....	112
5.4.1	<i>Impact on current land-users and neighbouring residents</i> .....	112
5.4.2	<i>Impact on Health and Safety</i> .....	112
5.4.3	<i>Impact on sense of place</i> .....	113
<b>6</b>	<b>CONCLUSION</b> .....	<b>113</b>
	<b>REFERENCES</b> .....	<b>115</b>

### List of Tables

Table 1:	Current Land-uses along potential Transmission Line routes.....	12
Table 2:	City of Cape Town CDI (Selected suburbs - sorted by CDI), May 2005 .	30
Table 3:	Planned Capital Expenditure on projects in Project Area 2007 - 2010 ..	32
Table 4:	Summary of Impacts identified during Scoping for assessment in SIA .	34
Table 5:	Potential social impacts of conversion and transmission line assessed in this SIA .....	37
Table 6:	Current and Future Projects in Atlantis.....	60
Table 7:	Potential Social Impacts on Current Land Users Along Proposed Alternative Alignments during Construction.....	75
Table 8:	Potential Social Impacts on Current Land Users Along Proposed Alternative Alignments during Operation.....	83
Table 9:	Summary of Impacts anticipated during Construction for the proposed Conversion.....	95
Table 10:	Summary of Impacts anticipated for Operation of the CCGT plant .....	96
Table 11:	Summary of Impacts anticipated during Construction of the proposed Transmission Line .....	97

Table 12: Summary of Impacts anticipated for Operation of the proposed Transmission Line .....	98
--	----

### **List of Figures**

Figure 1: Study area showing proposed alternatives to be assessed in this study	3
Figure 2: Map of Cape Town Suburbs used in Suburb Profiles .....	9
Figure 3: Aerial view of potentially affected residents and land users - Proposed and Sub-alternatives .....	13
Figure 4: Location of Properties in Klein Zoute River Agricultural Holdings .....	13
Figure 5: Location of Cape West Coast Biosphere Reserve.....	14
Figure 6: Population distribution across the study area .....	15
Figure 7: Gender Distribution.....	15
Figure 8: Age Distribution .....	16
Figure 9: Population Group.....	17
Figure 10: Language Distribution.....	17
Figure 11: Highest Level of Education attained by persons aged 20+ .....	18
Figure 12: Work Status - Economically Active population .....	20
Figure 13: Work Status - Economically Inactive .....	21
Figure 14: Occupation of Labour Force .....	22
Figure 15: Monthly income of earners .....	23
Figure 16: Annual Household Income.....	24
Figure 17: Dwelling Type .....	25
Figure 18: Dwelling Ownership.....	26
Figure 19: Sources of Energy for lighting.....	27
Figure 20: Access to Water.....	27
Figure 21: Proposed location of municipal landfill site .....	29
Figure 22: Study area showing proposed alternatives assessed in Scoping .....	36

### **List of Acronyms**

AH	Agricultural Holdings
ASGI-SA:	Accelerated Shared Growth Initiative of South Africa
BEE:	Black Economic Empowerment
CCGT	Combined Cycle Gas Turbine
CDI	City Development Index
CMC	Community Monitoring Committee
CoCT	City of Cape Town
DEA&DP:	Department of Environmental Affairs and Development Planning
EIA:	Environmental Impact Assessment
EMFs	Electric and Magnetic Fields
ESDEF:	Eskom Social Development Forum
IDP:	Integrated Development Plan
LED:	Local Economic Development
OCGT:	Open Cycle Gas Turbine
SIA:	Social Impact Assessment
SME/SMME:	Small Medium and Micro Enterprises
TBA	To be assessed

### **List of Annexes:**

Appendix 1:	Maps: Map A: City of Cape Town Census Suburbs Map B: City of Cape Town Sub-councils and Wards
Appendix 2:	Eskom BEE Procurement Policy: ESKADAAT 6

# 1 INTRODUCTION

Eskom Holdings Limited is investigating the conversion of the nine Open Cycle Gas Turbine (OCGT) units at the existing Ankerlig Power Station (located in Atlantis Industria) to Combined Cycle Gas Turbine (CCGT) units in order to increase the generating capacity of this existing power station by approximately 720 MW. The proposed conversion involves the establishment of infrastructure associated with CCGT units and will be developed on the site of the existing Ankerlig OCGT power station.

Eskom Holdings Limited is proposing the construction of a 400kV transmission power line between the Ankerlig Power Station and the already authorised Omega Substation (to be located on the Farm Groot Oliphantskop 81) to transmit the additional power generated at this power station into the National electricity grid.

Savannah Environmental has been appointed as an independent consultant to undertake the required Environmental Impact Assessment (EIA) and public participation for the proposed project. Savannah Environmental contracted Southern Hemisphere Consultants to undertake a specialist social assessment as part of the EIA. The consultant's approach to undertaking this assessment is described in Section 2 below.

## 1.1 Study Area

The proposed conversion is proposed to take place at the existing Ankerlig OCGT power station site in the Atlantis Industrial zone, which is located approximately 3km southwest of the residential area of Atlantis, situated approximately 40 km north of the Cape Town city centre.

The proposed transmission power line will follow an alignment between the Ankerlig Power Station and the already authorised Omega Substation (to be located on the Farm Groot Oliphantskop 81) situated to the north of Morning Star Agricultural Holdings.

## 1.2 Alternatives to assess for scoping

Alternatives that have been identified for investigation as part of this social scoping assessment include:

1. Ankerlig Conversion<sup>2</sup>:
  - a. No-go Alternative
  - b. Conversion of nine OCGT units to CCGT units.

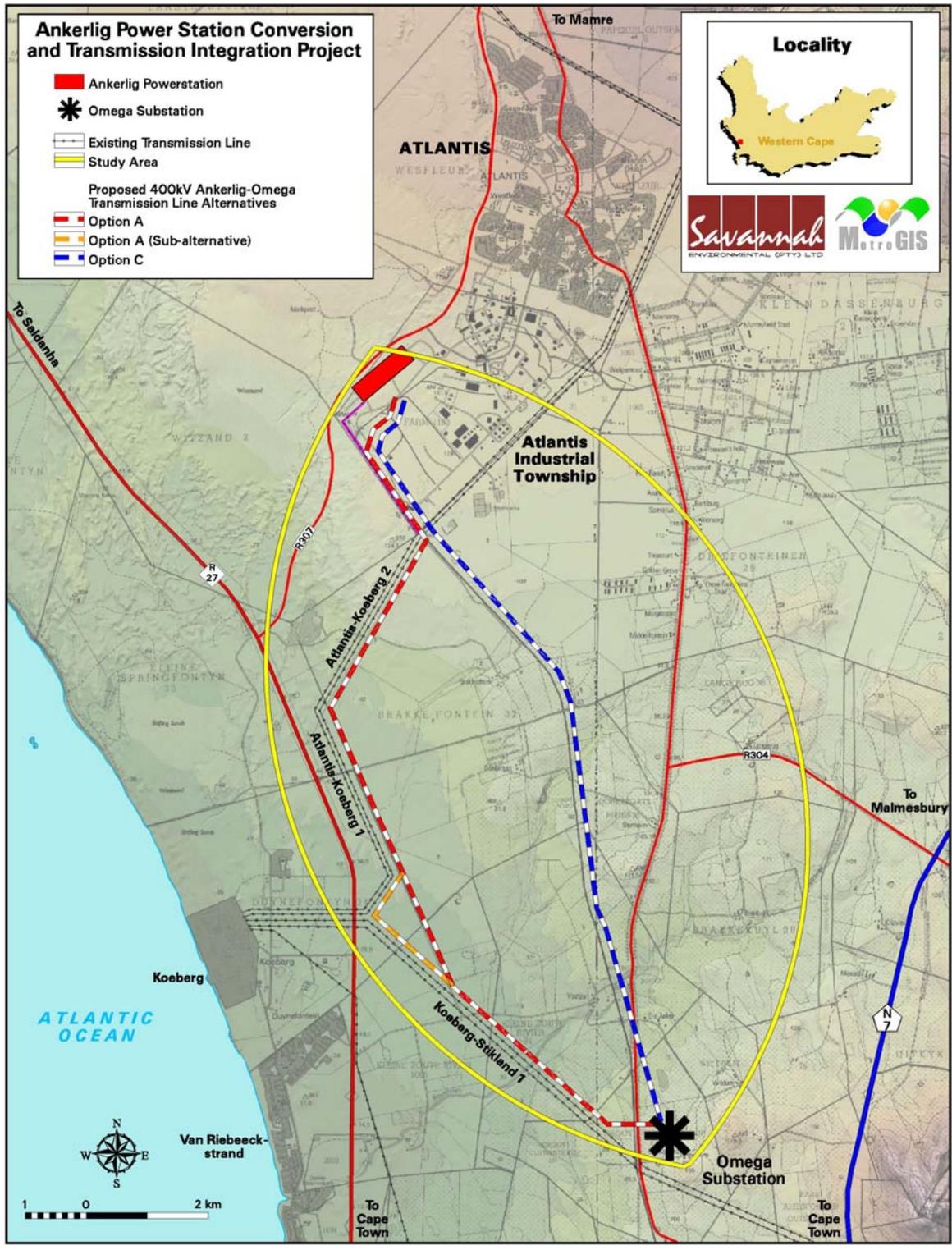
---

<sup>2</sup> As potential Social Impacts related to the conversion can be expected similar for different technology alternatives, the Social Study will not attempt to assess these technology alternatives, and only focus on the conversion process and no-go option as alternatives for assessment.

## 2. Transmission line

- a. No go option
- b. Option A (Red) as nominated through the environmental scoping study - This alignment is proposed to follow existing transmission lines from Ankerlig to Koeberg, continuing in a straight line where the existing lines turn to the Koeberg power station, and meeting up again with lines from Koeberg to the Omega substation at a point situated in the Klein Zoute Rivier Agricultural Holdings.
- c. Option A Sub-alternative (yellow) - This alignment is similar to the preferred alternative, but follows the alignment of the existing power lines which turn into Koeberg for a section of the route past Koeberg.
- d. Option C Proposed Option C (Blue) - This alignment will follow the existing railway line from Atlantis Industria, passing to the east of the Brakkefontein Shooting Range and the proposed landfill site, and west of the municipal sewage works and Apollo Bricks, before crossing through the eastern portion of the Klein Zoute Rivier Agricultural Holdings. This alternative is considered here as requested by stakeholders during the public participation process.

Figure 1: Study area showing proposed alternatives to be assessed in this study



## 2 APPROACH TO STUDY

The approach to this study follows guidelines outlined in the **Western Cape Department of Environmental Affairs and Development Planning's Guidelines for involving Social Specialists in an EIA**. Box 1 below provides the definition of Social Impacts and Social Impact Assessments according to these guidelines:

**Box 1: Definition of Social Impacts and Social Impact Assessment**

*(from Western Cape Department of Environmental Affairs and Development Planning  
Guidelines for involving Social Specialists in an EIA)*

Social impacts can be defined as "The consequences to human populations of any public or private actions (these include policies, programmes, plans and/or projects) that alter the ways in which people live, work, play, relate to one another, organise to meet their needs and generally live and cope as members of society. These impacts are felt at various levels, including individual level, family or household level, community, organisation or society level. Some social impacts are felt by the body as a physical reality, while other social impacts are perceptual or emotional." (Vanclay, 2002).

However, the issue of social impacts is complicated by the way in which different people from different cultural, ethnic, religious, gender, and educational backgrounds etc view the world. This is referred to as the "social construct of reality". The social construct of reality informs people's worldview and the way in which they react to changes.

Social Impact Assessment is the process of analyzing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programmes, plans and projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment (Vanclay, 2002).

(Barbour, 2007:9)

The assessment of social impacts that may be associated with the proposed Ankerlig Power Station Conversion and transmission line was conducted through a combination of:

- a desk-top study in which available information was reviewed,
- attendance of selected Focus Group Meetings held as part of the Public Participation process in November 2007 as part of the scoping assessment
- meetings and telephonic consultation with stakeholders to discuss potential impacts

- analysis and presentation of findings in accordance with principles laid out in the Provincial Guidelines, and specific reporting requirements.

These aspects are discussed in more detail below.

## **2.1 Desk Study**

The desk study consisted of a review of:

1. Western Cape Guidelines for conducting Social Impact Assessments.
2. Previous Environmental and Social Impact Assessments undertaken for:
  - a. OCGT plant and associated transmission lines (2005)
  - b. OCGT Expansion (2007)
  - c. Omega substation (2003)
3. City of Cape Town Integrated Development Plan and budget plans for 2007 to 2010.
4. City of Cape Town website (<http://www.capetown.gov.za>)
5. City of Cape Town Suburb Profiles based on statistics from Census 2001, to compile an updated socio-economic profile of the affected population.
6. Minutes of Focus Groups and a Key Stakeholder Meeting conducted as part of the Public Participation process for the current study.
7. Reports compiled by Red Door to demonstrate the OCGT's economic impacts in Atlantis.
8. Red Door Database of organisations, institutions and businesses operating in Atlantis.
9. Review of Spatial Data
  - a. Maps provided by the City of Cape Town Corporate GIS Division were used to locate the study area within existing council, ward and suburb demarcation, and identify potentially affected land uses.
  - b. Google Earth was used for a closer examination of current land uses along proposed transmission power line alternative alignments.

A full list of references consulted is provided at the end of this document.

## 2.2 Consultation

Stakeholder consultation involved attendance of selected focus group sessions that were held as part of the Public Participation process during the scoping phase, including:

- Atlantis Residents' Association (21 November 2007)
- Melkbosstrand & Duinefontein Ratepayers Association (21 November 2007)
- Atlantis Area Development Forum (22 November 2007)
- Atlantis Local Economic Development Forum (23 November 2007)
- Klein Zoute Rivier landowners (16 July 2008).

The purpose of attending these sessions was to serve as introduction to key community stakeholders, as well as get an understanding of potential social impacts based on issues raised.

Additional consultation during the EIA phase involved:

- Site visits to identify land users along alternative alignments for transmission line. Met with
  - Shawn Schutte - discussed potential impacts; obtained names and contact details for other neighbouring residents and landowners (15 May 2008)
  - Joseph Jenkinson - discussed potential impacts; viewed map of surrounding landowners in relation to proposed alignments (18 May 2008)
- Met with John Arends and Sybil McKinna Peterson of Atlantis Residents Association to discuss impacts on local community (18 May 2008)
- Met with Benito Hoop of Red Door to obtain 2007-8 Red Door Report on Ankerlig OCGT in Atlantis. (19 May 2008)
- Telephonic consultation with stakeholders, including:
  - Ward Councillors
    - Lubabalo Yiba - Ward 32, including the areas of Atlantis Industrial, Beaconhill, Camphill Village, Koeberg, Malmesbury Rural, Protea Park, Robinvale, Saxonwold, Sherwood, Witsand
    - Mercia Arendse - Ward 29, including the areas of Atlantis, Avondale, Cape Farms, Malmesbury farms, Mamre, Pella Mission Station, Saxonsea, Silverstreal Strand, Wesfleur, Extension 12, Extension 13

- Ian Nielson - Ward 23, including the areas of Melkbosstrand, Duynfontain, Van Riebeeckstrand, Atlantic Beach Estate, Bloubergstrand, West Beach, Blouberggrant, Blouberg Rise, Blouberg Sands, Sunningdale, Klein Zoute Rivier, Morningstar, Vissershok, Frankdale
- Melkbosstrand Residents' Association representative: Raymond Williamson
- Red Door representatives: Benito Hoop and Vernon McCarthy
- LED Forum representative - Clarence Mentoor
- Neighbouring landowners potentially affected by transmission line:
  - Proposed alternative and sub-alternative - Paul Gerber; Ronel Gerber; Shawn Viljoen; Anya van Wyk; Joseph Jenkinson; Frans De Nekker; Clive Spolander; Suzie Langer; Henry Kruger; Ruan Theron; Kobus Bantjes
  - Option C - Phil Stofberg (Die Anker); Nico Stofberg (Vaaitjie); Jan Esterhuizen (Omega Bricks); Brian Fourie (Atlantis Foundries)
- Eskom staff:
  - Yaron Truter: *Ankerlig site manager* - requested information on employment figures for construction and stakeholder consultation. Awaiting information
  - Debbie Joshua: *Community Development Practitioner at Koeberg* - requested information on stakeholder consultation. Awaiting information
  - Carin De Villiers: *Government and Media Liaison* - requested information on stakeholder consultation.
  - Thandi Nkonzo: *Eskom Development Foundation* - obtained information on social responsibility initiatives in Atlantis.
  - Marna Bester : *Specialist Buyer Gas1 Ankerlig Power Station* - obtained information about local procurement
  - Pamela Mrubata: *Operations Manager Ankerlig Power Station* - obtained information about local employment during operation.
  - Andre Stephenson: *Social Contracts Manager* - Social Contracts Manager - requested information on social investment by contractors.
  - Shane Pereira: *Lesedi Marketing Manager* - obtained information on Lesedi Social Investment in Atlantis.

### 2.3 Analysis and Presentation of findings

Findings from the research described above are presented in this report as follows:

**Section 3** provides a description of the affected social environment with a detailed socio-economic population profile based on statistics from the 2001 Census. While the previous two OCGT assessments also used 2001 census statistics as basis for the socio-economic profile of surrounding populations, these were based on Ward delineations, while this document uses Suburb Profiles published by the City of Cape Town in 2006. This is considered relevant in this updated study, as the wards on which the previous assessments were based (Ward 1 & Ward 2 according to pre-2004 demarcation) are no longer used as official demarcation zones. The use of suburban profiles also makes it possible to draw comparisons between different areas surrounding the development. The suburbs used in the CoCT Suburb Profiles are based on clustered suburban outlines including various census suburbs. Those used in this assessment include:

- **City of Cape Town** as a whole, to provide a comparative base,
- **Atlantis** - including Atlantis Industria, as well as the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill, Robinvale, Saxonsea, Sherwood, Beaconhill and the Town Centre, and the nearby informal settlement of Witsand.
- **Melkbosstrand**, including the residential areas of Duynfontein and Van Riebeeckstrand.
- **Atlantis non-urban**, comprised of the rural area surrounding Atlantis in all directions, including the Klein Zoute Rivier and Morning Star Agricultural Holdings to the south, as well as the regions indicated as 'Malmesbury non-urban' and 'Koeberg' according to Census demarcation

Figure 2 below provides an indication of suburban boundaries used in the Suburb Profiles.

**Figure 2: Map of Cape Town Suburbs used in Suburb Profiles**



Source: <http://www.capetown.gov.za/censusinfo/Census2001-new/Suburbs/Suburb%20Map.htm>

Where information for certain social indicators was not available in the Suburb Profiles, information for the former Ward 1 and Ward 2, as presented in the Afrosearch (2005) and MasterQ (2007) social assessments is included again in this report.

**Section 4** begins with a summary of issues identified during the scoping phase for detailed assessment as part of the EIA for the Ankerlig conversion and transmission integration project. This is followed by an assessment of potential impacts on the social environment, looking at impacts of both the power station conversion and transmission power line, for construction, as well as those impacts associated with the operational phase of the power station and power line. The nature, extent, duration, magnitude and probability of impacts are discussed, and used to determine the significance for each impact. Impacts are compared for different alternatives considered in this study for the two project components assessed. Mitigation measures to optimise positive impacts and avoid or minimise negative impacts are noted.

**Section 5** provides a summary of mitigation measures for inclusion in the Environmental Management Plan (EMP).

## **2.4 Assumptions**

The findings of this report have been based on the assumptions that:

1. All relevant project information has been provided to the consultant.
2. The assessment is largely based on a review of previous OCGT assessments, and addressing of gaps identified in these assessments.
3. The assessment was guided by issues identified during the Public Participation Process, which involved extensive stakeholder consultation, findings from which are included in the social assessment where relevant.

### **3 SOCIO-ECONOMIC PROFILE OF AFFECTED POPULATION**

The study area is located within the Koeberg and Blaauwberg sub-councils of the City of Cape Town Metropolitan Municipality in the Western Cape Province. According to 2006 Municipal Demarcation, Atlantis falls between Ward 29 (northwest) and Ward 32 (southeast) of the Koeberg sub-council. The transmission power line will pass through Ward 23 of the Blaauwberg sub-council, through the Klein Zoute River Agricultural Holdings, past the residential areas of Melkbosstrand, Van Riebeeckstrand and Duynfontein. Suburb and sub-council/ward maps are included in Appendix 1.

The population potentially affected by the development include:

- Residents of Atlantis, particularly the suburbs of Avondale, Wesfleur, Protea Park, Beacon Hill and Robinvale, and the nearby informal settlement of Witsand, situated in close proximity to the Industrial area (Conversion, Transmission Line).
- Residents of Melkbosstrand, Duynfontein and Van Riebeeckstrand (Conversion, Transmission Line)
- Users of land situated between Atlantis and the Omega substation site (transmission power line), including:
  - Residents of Klein Zoute River Agricultural Holdings (Transmission Line), particularly those directly adjacent to the proposed alignments.
  - Landowners of farms situated in the Malmesbury non-urban area immediately south of Atlantis Industrial Area.

This section begins with an overview of current land uses and land users in and around the study area. This is followed by an historical background of the Atlantis community to provide a contextual background to current socio-economic conditions. The remainder of the section provides a detailed socio-economic profile of the surrounding population, including Atlantis and surrounding rural areas, as well as Melkbosstrand. The section concludes with an overview of current plans for economic development in the affected wards.

#### **3.1 Current land uses**

Current land uses on the proposed development sites for the Ankerlig Conversion project as well as the proposed transmission line is discussed below:

##### **3.1.1 Ankerlig Power Station Conversion**

The Ankerlig Power Station site is situated in the Atlantis Industrial area, and is currently occupied by the OCGT power station which is proposed to be converted into a CCGT power station. The existing power station consists of 9 OCGT units

(i.e. four existing OCGT units, with an additional five OCGT units currently under construction).

### 3.1.2 Transmission Power Line

The alternative alignments proposed for the transmission power line to the Omega substation are situated to the south of Atlantis, passing through the 'Atlantis non-urban' area as defined above. Current (and proposed) land-uses are described in Table 1 below:

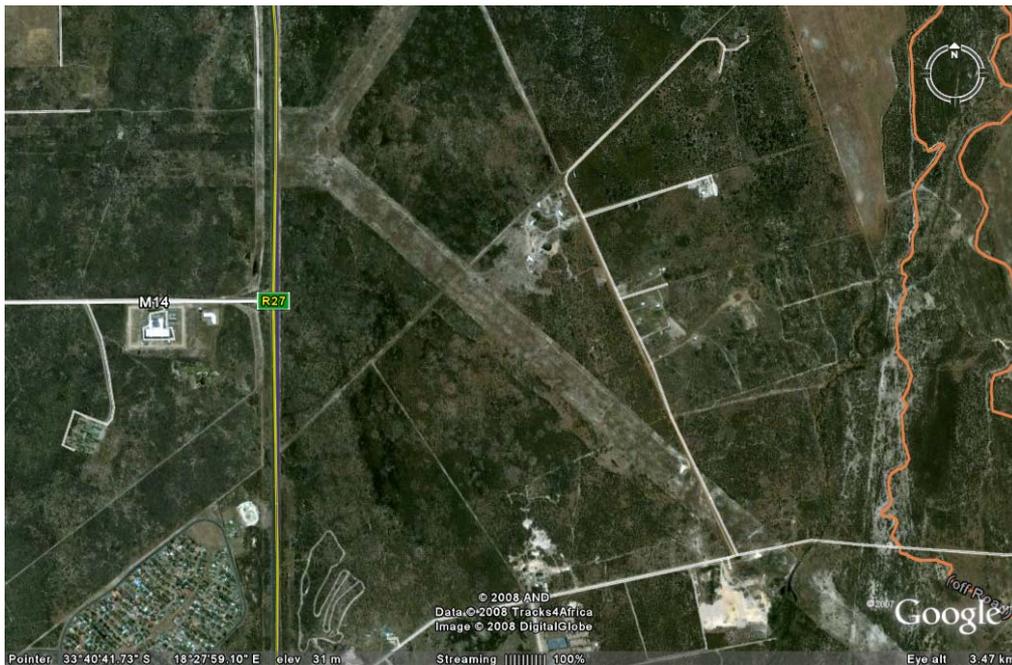
**Table 1: Current Land-uses along potential Transmission Line routes**

<b>Current Land-use</b>	<b>Project Alternatives:</b>
<ul style="list-style-type: none"> <li>• Klein Zoute Rivier Agricultural Holdings - see below:</li> </ul>	<ul style="list-style-type: none"> <li>• Preferred alternative</li> <li>• Sub-alternative</li> </ul>
<ul style="list-style-type: none"> <li>○ Part 1, of 1063 - Kobus Bantjies - residential</li> <li>○ Part 2 of 1063 - Frans De Nekker; Anya Van Wyk- residential</li> <li>○ Part 3 of 1063 - Ruan Theron; Shawn Schutte; Shawn Viljoen - residential, workshop, rehabilitation of fynbos, small farming</li> <li>○ (See Figure 3 and Figure 4 below)</li> </ul>	<ul style="list-style-type: none"> <li>• Preferred alternative</li> </ul>
<ul style="list-style-type: none"> <li>○ Portion 4 - formerly owned by Taljaard, but recently sold. No info on current owner (no clarity on this)</li> <li>○ Portion 5 - Suzie Langer - sand mine contract</li> <li>○ Portion 18 - Joseph Jenkinson - residential, planned sand mine</li> <li>○ Portion 19 - Clive Spolander</li> <li>○ Portion 20 - Paul&amp; Ronel Gerber - Residential, small farming (small stock &amp; poultry)</li> <li>○ (See Figure 3 and Figure 4 below)</li> </ul>	<ul style="list-style-type: none"> <li>• Preferred alternative</li> <li>• Sub-alternative</li> </ul>
<ul style="list-style-type: none"> <li>• Existing Transmission Line to Koeberg</li> </ul>	<ul style="list-style-type: none"> <li>• Preferred alternative</li> <li>• Sub-alternative</li> </ul>
<ul style="list-style-type: none"> <li>• Portions of Farms falling within the Malmesbury non-urban (classified as part of Atlantis non-urban for suburb population profiles) area between Atlantis and Klein Zoute River AH. - predominantly fallow land.</li> </ul>	<ul style="list-style-type: none"> <li>• Preferred alternative</li> <li>• Sub-alternative</li> </ul>
<ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - Phil Stofberg <ul style="list-style-type: none"> <li>○ Households of manager</li> <li>○ 3 tenant households</li> <li>○ 28 labourers' households</li> <li>○ 250 Cattle, mainly Dairy production</li> <li>○ Crop cultivation (grains)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>
<ul style="list-style-type: none"> <li>• Vaaitjie - Nico Stofberg (manage the farm trust) <ul style="list-style-type: none"> <li>○ Household of owner's daughter</li> <li>○ 3 labourers' households</li> <li>○ Agriculture (cattle, crops)</li> <li>○ Sandmine</li> <li>○ Planned game farm development</li> <li>○ Planned multi-stakeholder tourism development.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>
<ul style="list-style-type: none"> <li>• Vaaitjie School - approximately 100 children of labourers of surrounding farms.</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>
<ul style="list-style-type: none"> <li>• Omega Bricks <ul style="list-style-type: none"> <li>○ Approximately 250 workers on site</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>

Current Land-use	Project Alternatives:
<ul style="list-style-type: none"> <li>• Atlantis foundries <ul style="list-style-type: none"> <li>◦ Approximately 1800 workers on site</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>
<ul style="list-style-type: none"> <li>• Proposed Municipal landfill site</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>
<ul style="list-style-type: none"> <li>• Cape West Coast Biosphere Reserve (see <b>Error! Reference source not found.</b> below.)</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> <li>• Preferred alternative</li> <li>• Sub-alternative</li> </ul>

Figure 3 provides an aerial view of potentially affected residents and land uses in the Klein Zoute River Agricultural Holdings. Residences included in this view are those of Kobus Bantjes (portion 1), Paul and Rolene Gerber (portion 20), Frans De Nekker, Anya van Wyk (share portion 2), Shawn Viljoen, Shawn Schutte (house currently being built on area indicated here as a clearing) Ruan Theron, (share portion 3) and Joseph Jenkinson (portion 18). The sand mine area cleared to the south on portion 5 is mined by Mphoweni sands, on the property of Suzie Langer. The portion of fallow land between the Gerbers and Jenkinsons belongs to Clive Spolander (portion 19).

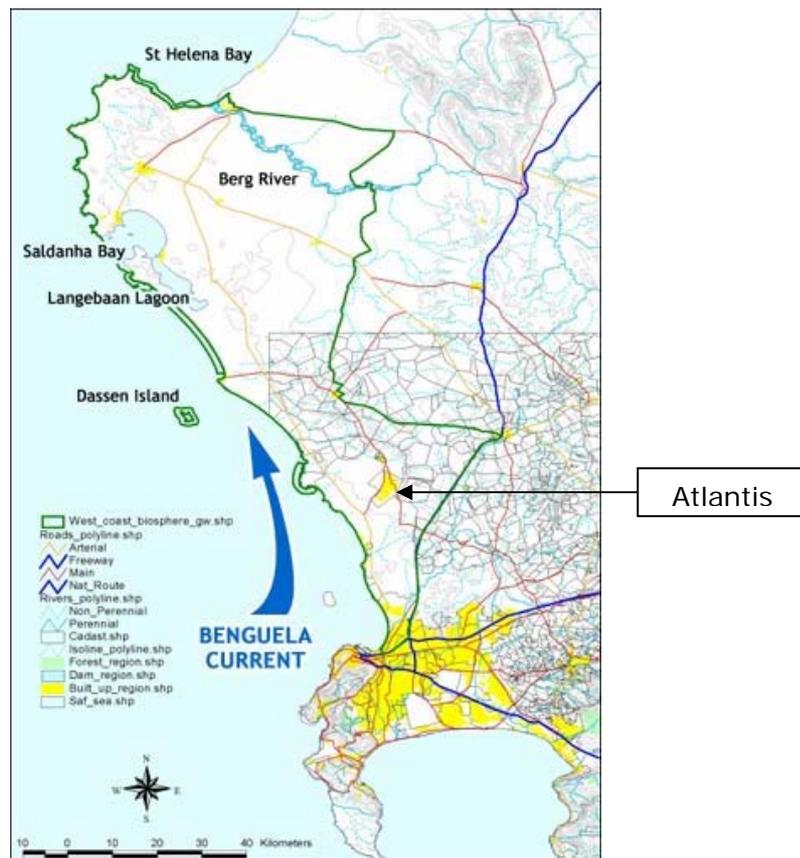
**Figure 3: Aerial view of potentially affected residents and land users - Proposed and Sub-alternatives**



**Figure 4: Location of Properties in Klein Zoute River Agricultural Holdings**

**Error! Reference source not found.** below shows the location of the Cape West Coast Biosphere Reserve, which extends across the study area, as indicated by the green boundary.

**Figure 5: Location of Cape West Coast Biosphere Reserve**



Source: <http://www.capebiosphere.co.za/Topography.60.0.html>

### **3.2 Historical background of Atlantis**

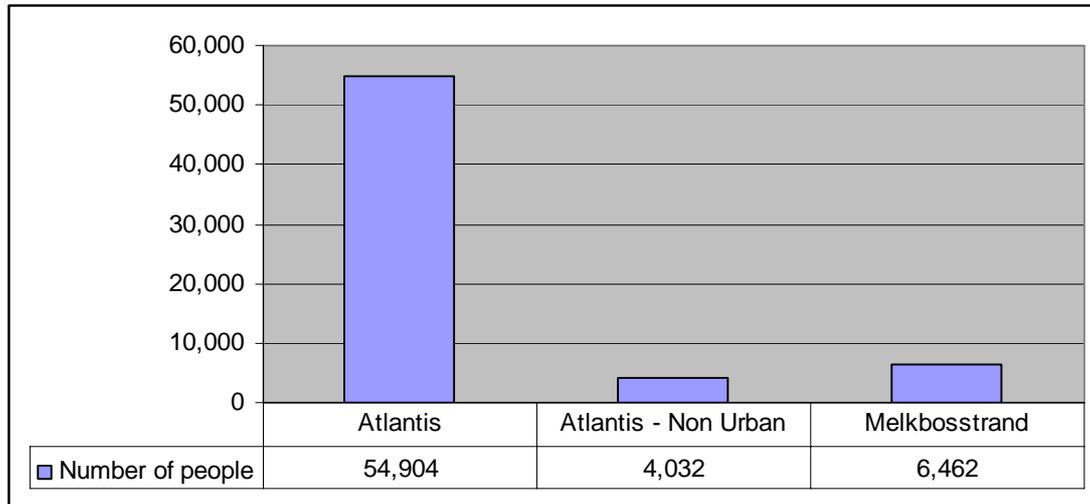
Atlantis was established in the early 1980s as part of the apartheid government's Industrial Decentralisation Policy of 1962, which was aimed at promoting industrial growth in less developed areas. To encourage occupation of the industrial area, the government introduced incentives such as subsidies and tax breaks. A period of economic growth followed, during which the population of Atlantis also increased. In the early 1990s however, the aforementioned subsidies were discontinued. As a result, many businesses in the area closed down or moved to more attractive locations closer to the Cape Town metropolitan area. The crumbling of the economic infrastructure of Atlantis led to large-scale job losses among its population. As a consequence of these events, the current social profile of Atlantis is characterised by widespread poverty and social problems (Afrosearch 2005).

### **3.3 Demographic Profile**

The total population of the City of Cape Town was about 2.9 million people according to the 2001 Census. Within the study area, the Atlantis population comprised of just under 55 000 people, while the surrounding non-urban areas (Atlantis non-urban according to suburb profiles) housed just over 4 000 people,

and just under 6 500 people resided in the Melkbosstrand area. It is worth noting that more recent population estimates cited by the City of Cape Town estimate the total population of Atlantis at around 100 000 people (CoCT, 2007(2)).

**Figure 6: Population distribution across the study area**

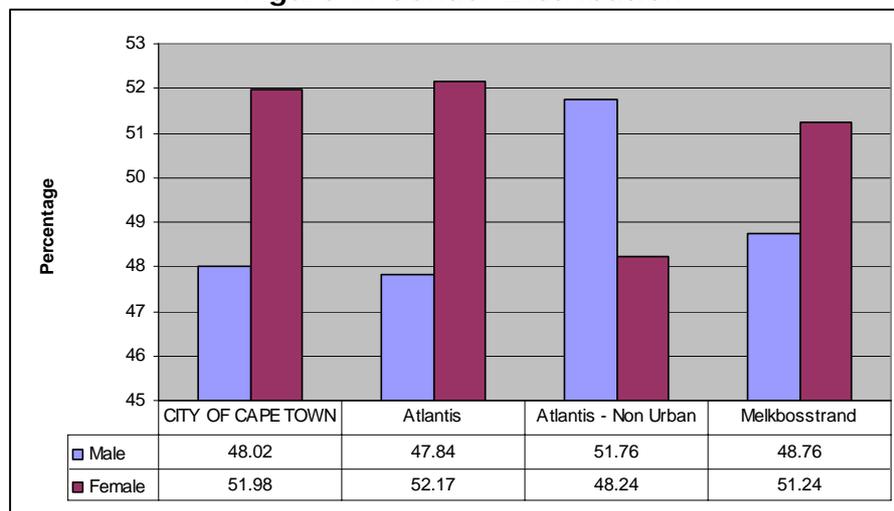


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.3.1 Gender distribution

Figure 7 below shows gender distribution to have been reasonably equal across these areas, with slightly more females than males in all areas except Atlantis non-urban, where males predominate by a slight margin.

**Figure 7: Gender Distribution**



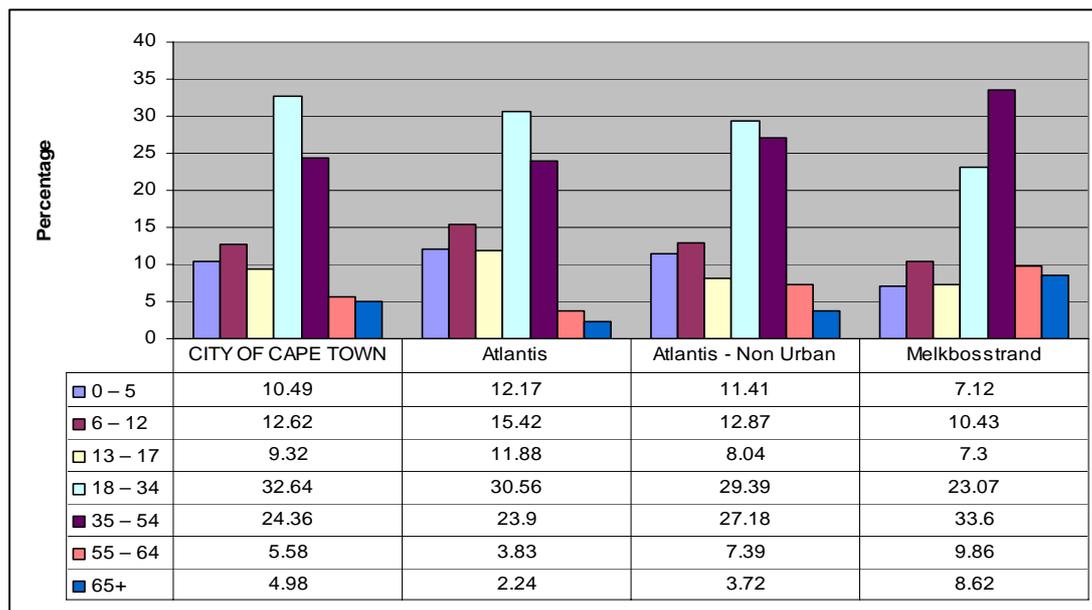
Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.3.2 Age distribution

The age distribution in Atlantis is slightly younger than the average for the City of Cape Town, with a larger percentage (just under 40%) aged under 17. The

corresponding percentage in Melkbosstrand is significantly lower at only 24%, shown in Figure 8. By contrast the percentage of older people in the age categories above 35 is significantly higher in Melkbosstrand (~55%) than in the broader Cape Town (~35%) or Atlantis (28%) and surrounding non-urban areas (37%). Almost a third of the population in Atlantis are between the ages of 18 and 34, while a quarter are aged 35 to 54. These age groups may be considered as the potential labour force, together comprising about 55% of the Atlantis population, and 57% of Atlantis non-urban. The different age-profiles is relevant to consider when assessing potential types of social impacts on the respective populations of Atlantis, Melkbosstrand and surrounding areas.

**Figure 8: Age Distribution**

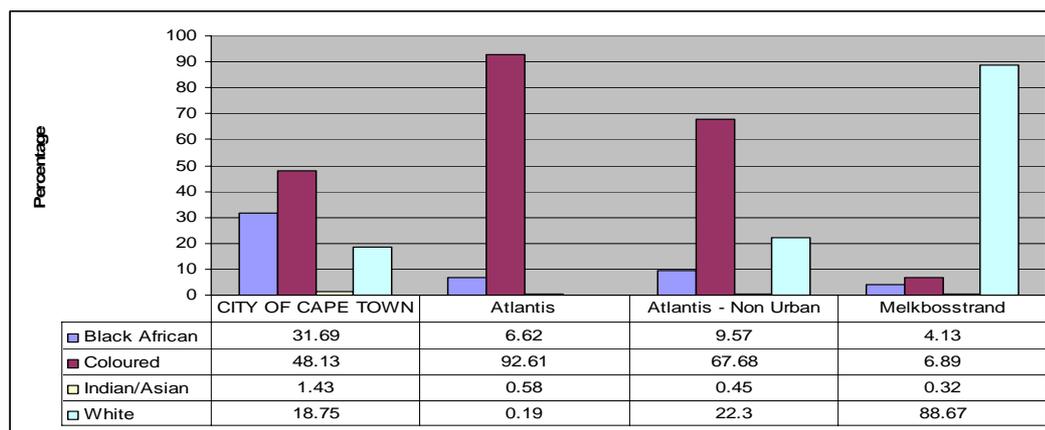


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.3.3 Population group

Figure 9 shows the Atlantis population to be predominantly Coloured (92.6%), with a small percentage (6.6%) Black African and less than one per cent respectively White and Indian. It is worth noting that population projections for the Western Cape show significantly larger growth amongst the Black African population than other groups (Romanovsky 2006). It can thus be expected that this group may have increased proportionately within Atlantis and surrounding areas. The population of Atlantis non-urban is also predominantly Coloured (68%) according to the 2001 census, with a significantly greater percentage of Whites (22%) and slightly more Black African (10%). By contrast Melkbosstrand is predominantly White (89%).

**Figure 9: Population Group**

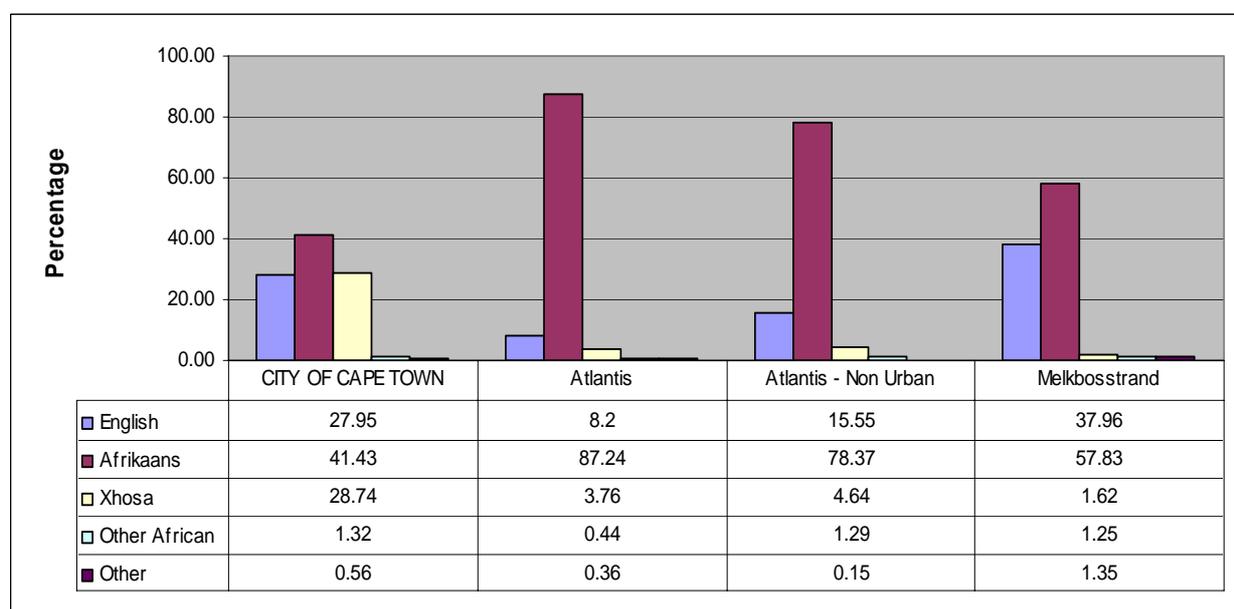


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.3.4 Language

Afrikaans is the most common language spoken in Atlantis (87%), Atlantis non-urban (78%) and to a somewhat lesser extent Melkbosstrand (58%). English is the first language of 38% of Melkbosstrand residents, 16% of those in Atlantis non-urban, and less than 10% of the Atlantis community. (See Figure 10)

**Figure 10: Language Distribution**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.4 Education, Health and Social Services

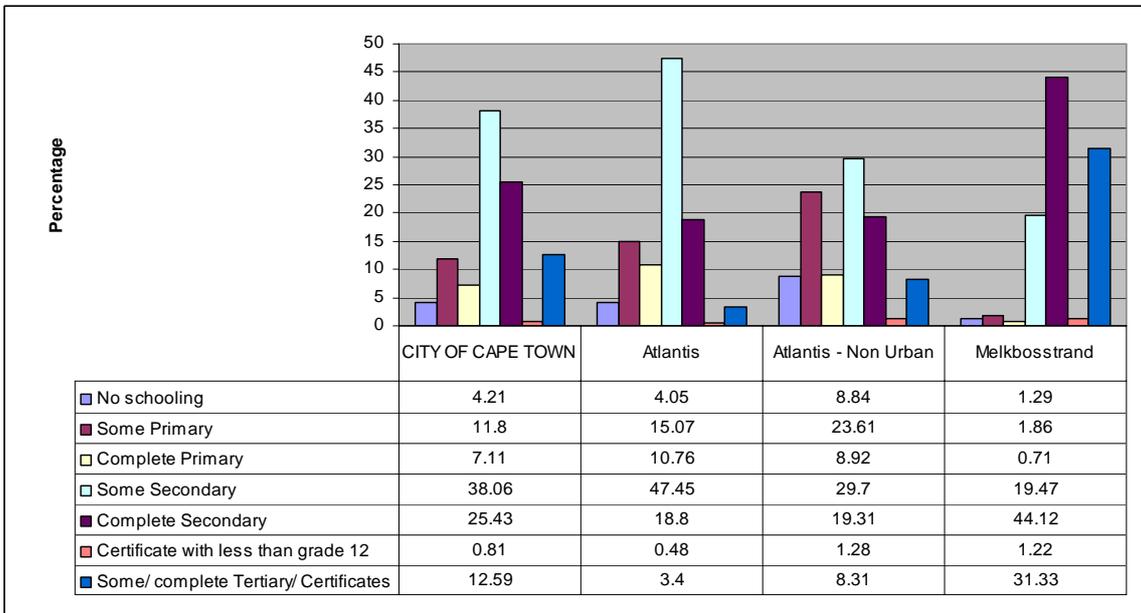
Education and health may be considered as key factors contributing to social well-being. These issues are discussed below, followed by a look at existing social services.

### 3.4.1 Educational Profile

Educational facilities in Atlantis include four high schools, 13 primary schools, three special schools catering for students with special needs, and two higher institutions, namely AETI and the West Coast College (Red Door Database, 2007).

Figure 11 shows that just over 20% of Atlantis residents aged over 20 had completed matric in 2001, and of these less than 4% had attained any further levels of education (the majority (3%) being a certificate or diploma with less than 0.5% citing any types of degrees). The percentage with 'no schooling' was slightly higher in Atlantis non-urban at 9%, compared to 4% in Atlantis (similar to that for Cape Town as a whole). By contrast Melkbosstrand had less than 2% with no education, over three quarters had completed matric, and just under a third had attained some level of tertiary education, about half of which certificates, with the other half being various levels of degrees.

**Figure 11: Highest Level of Education attained by persons aged 20+**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.4.2 Health Profile

Health facilities in and around Atlantis include the Wesfleur Hospital, Wesfleur Medical Centre and Wesfleur Private Clinic, as well as Protea Park and Saxon Sea clinics, and the Mamre Clinic (Red Door Database, 2007).

Atlantis fell within the former Blaauwberg Health District, which was incorporated into the Northern Panorama Health District in 2003. Northern Panorama is the largest Health District in Cape Town, with a total population estimated at 530 153 for 2006, projected to increase to 647 832 by 2011 (Romanovsky, 2006.)

While the most common cause of death recorded in Blaauwberg district in 2002 (9.4% of deaths) as well as 2003 (8.7%) was Ischaemic heart disease, HIV/ AIDS

had risen to the greatest killer by 2004 (7% of total deaths). TB accounted for a further 4.5% of deaths in 2004.

HIV Prevalence in the Blaauwberg District was estimated at 4.5% in 2003/4 according to an ANC HIV Prevalence Survey. This was significantly lower than elsewhere in Cape Town, with areas such as Gugulethu/ Nyanga and Khayelitsha having prevalence rates of 28.1% and 27.2% respectively, and Cape Town Central a rate of 11.1% (City of Cape Town, 2004).

Total TB incidence in the District stood at 513 people in 2002, with the total rate recorded for Cape Town was 7 366 infections. The TB cure rate for 2001 was 70%, and the success rate 75%, which is somewhat below the average rate for the broader Cape Town of 76% cure rate and 82% success rate (CoCT, 2004).

Focus Areas of the City of Cape Town's Environmental Health and Safety Department include the following: Air Quality Management; Sanitation and Housing; Planning and Building Development; Institutional Health & Safety; Disease Control; Food Quality & Safety; Noise Management; Smoking in Public Places; Water Quality & Safety.

### **3.4.3 Social Services**

There is a lack of suitable state welfare programmes to meet the specific needs of the area. A Multi-Purpose Community Centre that was erected in Atlantis, and that is capable of providing various social services, remains largely under-utilised. The rapidly growing incidence of HIV/AIDS infection is placing an increasing burden on existing health services, including hospital and medical facilities. (Afrosearch 2005)

The Real Enterprise Development initiative or RED Door is a 'one-stop shop' for new and existing businesses looking for help and advice, from the most basic to the most sophisticated, operating in Atlantis. As part of its service to the community Red Door has a database of local service providers, including small businesses, community organisations, health care providers, and educational institutions. The Red Door Database (2007) lists a total of 67 Community Based Organisations (CBOs) operating in Atlantis. Local Government Offices of the Blaauwberg District Council dealing with Social Services include a District Office situated in Atlantis Industria, and a Satellite Office in Sherwood.

The high levels of poverty and unemployment in the area have led to widespread frustration and hopelessness. These, in turn, have resulted in an increase in substance abuse (including alcoholism) and other social problems, such as high incidence of rape, murder and domestic violence, child abuse and prostitution. (Afrosearch 2005).

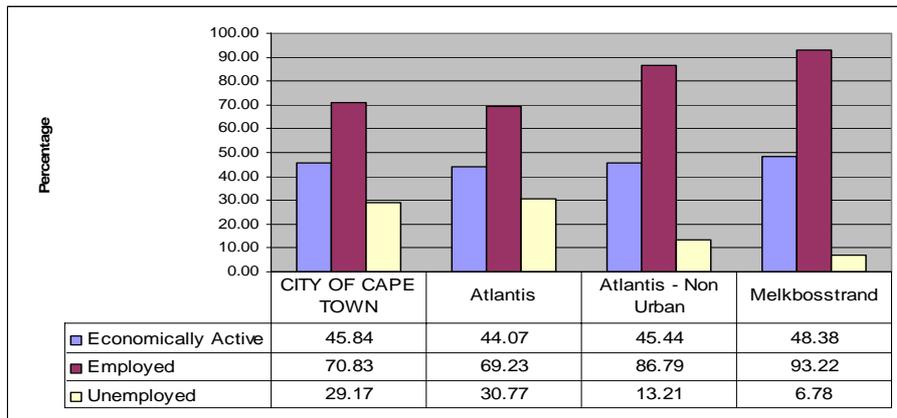
### **3.5 Employment and income**

This section provides an overview of employment and income characteristics in the study area, looking at the size and structure of the labour force, as well as occupational status, sectors of employment and income levels.

### 3.5.1 Labour Force

The labour force, or economically active population<sup>3</sup> comprised of about 46% of City of Cape Town residents aged between 15 and 65 in 2001. Figures for the study area are similar, though slightly lower for Atlantis at 44%, and higher for Melkbosstrand (48%). Of those indicated as economically active, who can be considered the actual and potential labour force, 31% in Atlantis are unemployed, slightly higher than the average for the City of Cape Town as a whole. Corresponding percentages are much lower for Atlantis non-urban (13%), and Melkbosstrand (7%).

**Figure 12: Work Status - Economically Active population**

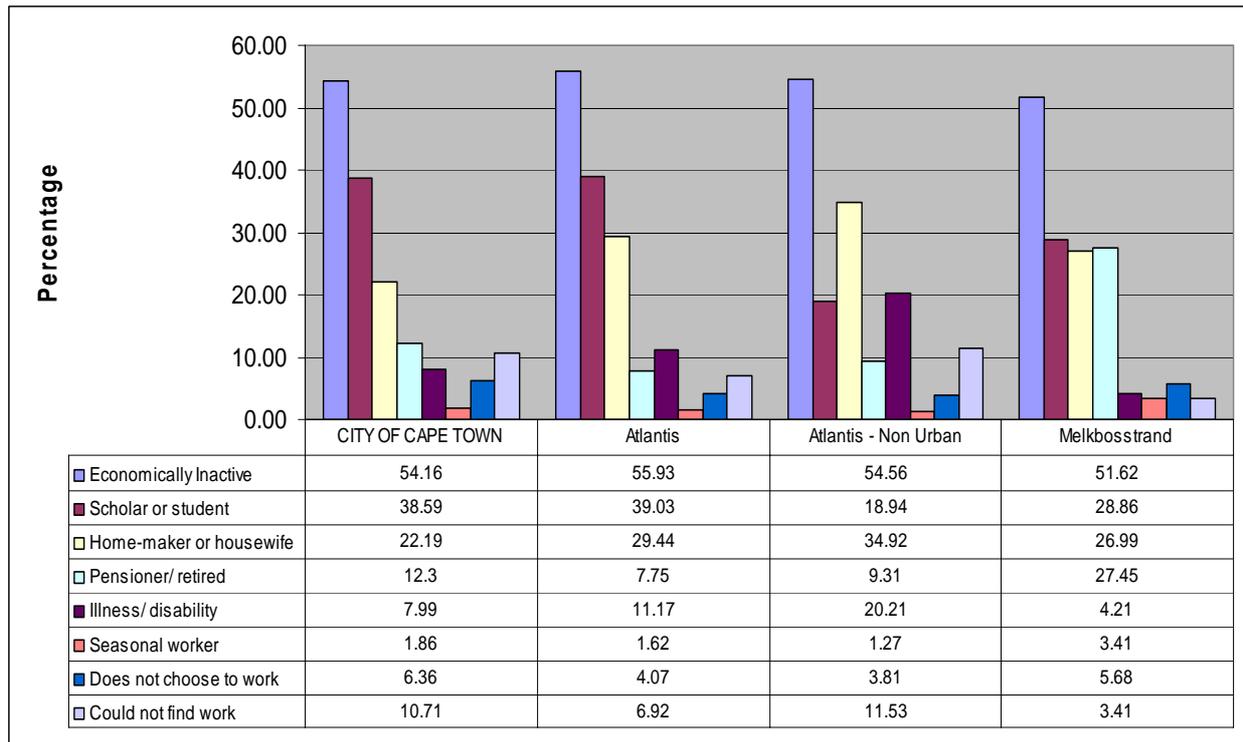


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

Of those indicated as economically inactive, almost 40% in Atlantis were cited as scholars or students, reflecting the youthful population structure. The corresponding percentage for Melkbosstrand was about 10% lower (29%). By contrast the percentage of pensioners in Melkbosstrand (27%) was about 20% higher than in Atlantis (7%). The most common reason for economic inactivity in Atlantis non-urban was cited as homemakers/ housewives (35%), followed by illness/ disability, cited by 20%, which is almost double than that for Atlantis (11%) and five times more than in Melkbosstrand (4%). The percentage who appear to have 'given up' looking for work, citing inactivity due to being unable to find work, was also higher in Atlantis non-urban at 12% compared to 7% in Atlantis and 3% in Melkbosstrand.

<sup>3</sup> A person of working age (15–65 years) who is available for work, and is either *employed* or *unemployed*.

**Figure 13: Work Status - Economically Inactive**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.5.2 Occupational status

Of the economically active residents of Atlantis that are employed, approximately 12% commute to jobs outside Atlantis. Another 25% are employed by local industries, and 5% are employed by small- medium- and micro-enterprises (SMMEs). A significant number of jobs in Atlantis (2700) are held by outsiders who commute to the area. These jobs generally fall in the educational and other professional occupational categories (Afrosearch 2005).

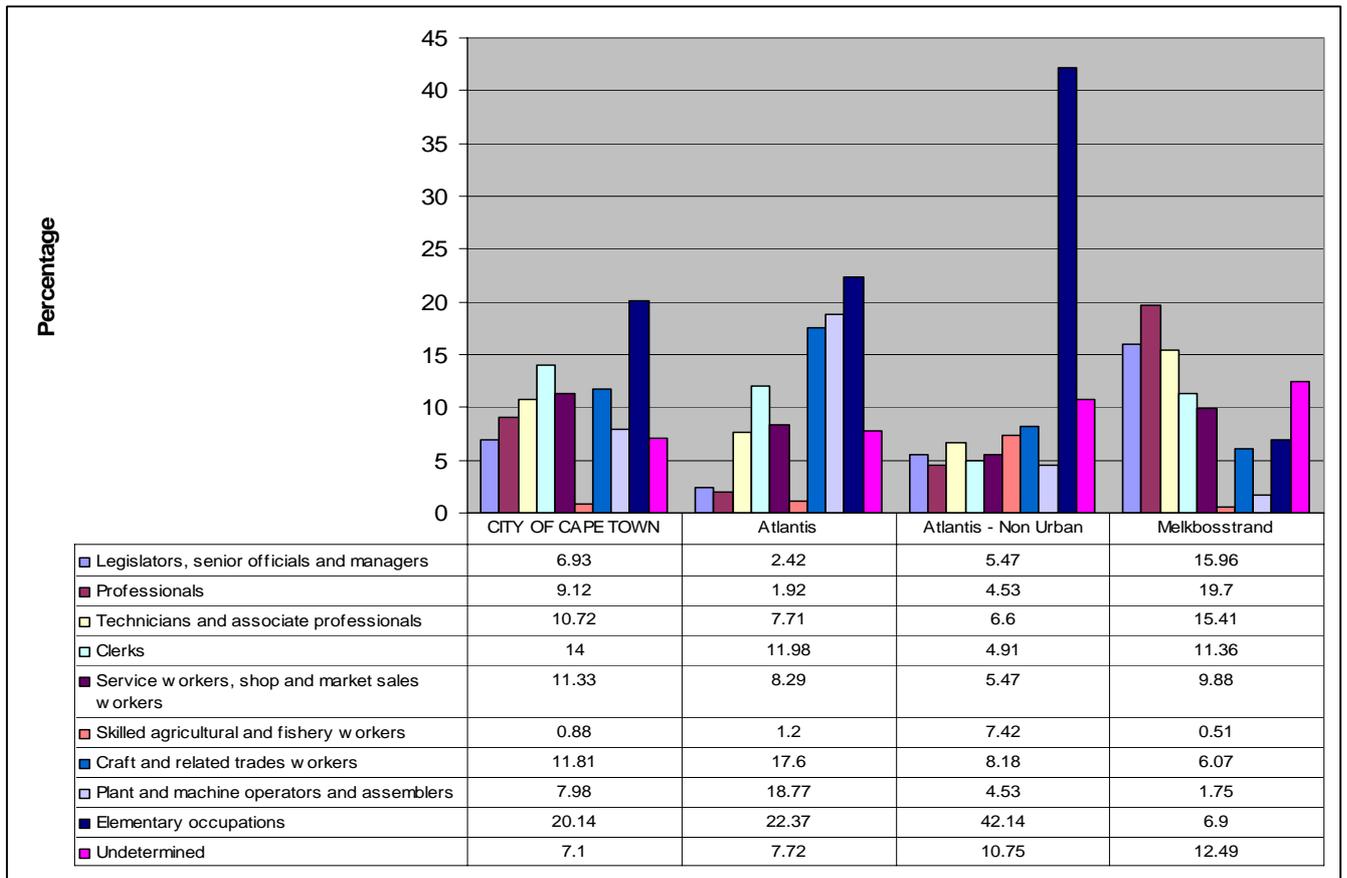
Over 40% of those employed in the Atlantis non-urban area in 2001 were engaged in elementary occupations<sup>4</sup> (presumably largely farm labour). By comparison only 22% of employed Atlantis residents were cited in such elementary occupations, although this was still the predominant occupation. Also common however were plant and machine operators and assemblers (19%) as well as craft and related trade workers<sup>5</sup> (18%), while 12% were cited as clerks.

<sup>4</sup> Elementary occupations include: Street vendors and related workers; Shoe cleaning and other street services' elementary occupation; Domestic and related helpers and related workers; Garbage collectors and related labourers; Mining and construction labourers; Manufacturing labourers; Transport labourers and freight handlers (International Labour Organization (2003)

<sup>5</sup> Craft- and trade-related occupations include: Miners, shot-firers, stonecutters and carvers; Building frame and related trades workers; Painters, building structure cleaners and related trade workers; Metal moulders, welders, sheet-metalworkers, structural-metal preparers and related trades workers; Blacksmiths, toolmakers and related trades workers; Machinery mechanics and fitters; Electrical and

The presence of these skills should be considered with regards to possible employment opportunities that the proposed development may offer.

**Figure 14: Occupation of Labour Force**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.5.3 Sectors of employment

Manufacturing represents the largest source of employment in the area (37% in Ward 1 and 27% in Ward 2) (Afrosearch 2005). A total of 107 Manufacturers are listed in a database of Red Door, an organisation concerned with promoting Local Economic Development in the area.

The area experienced increases in employment in the construction, financial, real estate, business and wholesale sectors between 1996 and 2001 (Afrosearch 2005). The Red Door Database lists a total of 59 SMMEs concerned with construction and building activities. Other SMMEs listed include Automotives (4), Bed and Breakfasts (9), Manufacturing (6), Catering (5), Cleaning services (4), Engineering (8), Information Technologies (2), Labour Consultants (4),

---

electronic equipment mechanics and fitters; Precision workers in metal and related materials; Potters, glass-makers and related trades workers; Handicraft workers in wood, textile, leather and related materials; Printing and related trades workers; Food processing and related trades workers; Wood treaters, cabinet-makers and related trades workers; Textile, garment and related trades workers; Felt, leather and shoemaking trades workers. (International Labour Organization (2003)

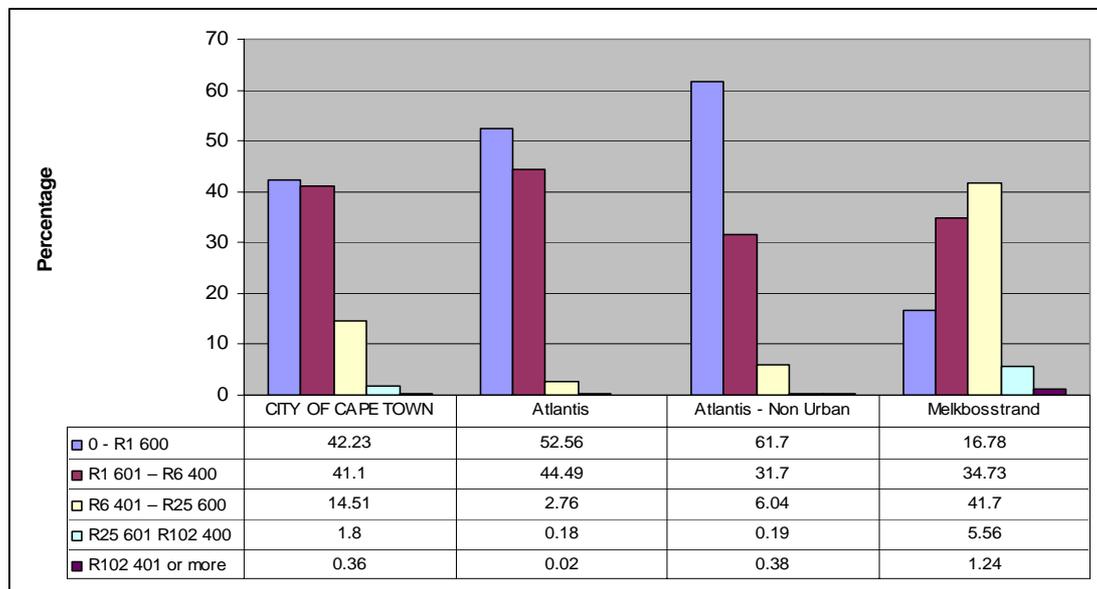
Maintenance (18), Retain Suppliers (5), Security Services (5), Services (19), and Transport (11) (Red Door Database, 2007).

Sectors which experienced the largest setback in terms of growth includes the mining industry (a decrease of 32%) and, to a much smaller extent electricity, gas and water services (a decrease of 10%) (Afrosearch 2005).

### 3.5.4 Income

Over half of those employed in Atlantis, and 62% in Atlantis non-urban earned less than R1 600 per month in 2001, with almost all the remainder (45% in Atlantis and 32% in Atlantis non-urban) earning between R1 600 and R6 400 per month. Income of Melkbosstrand residents was notably higher, with about half earning over R6 400 per month.

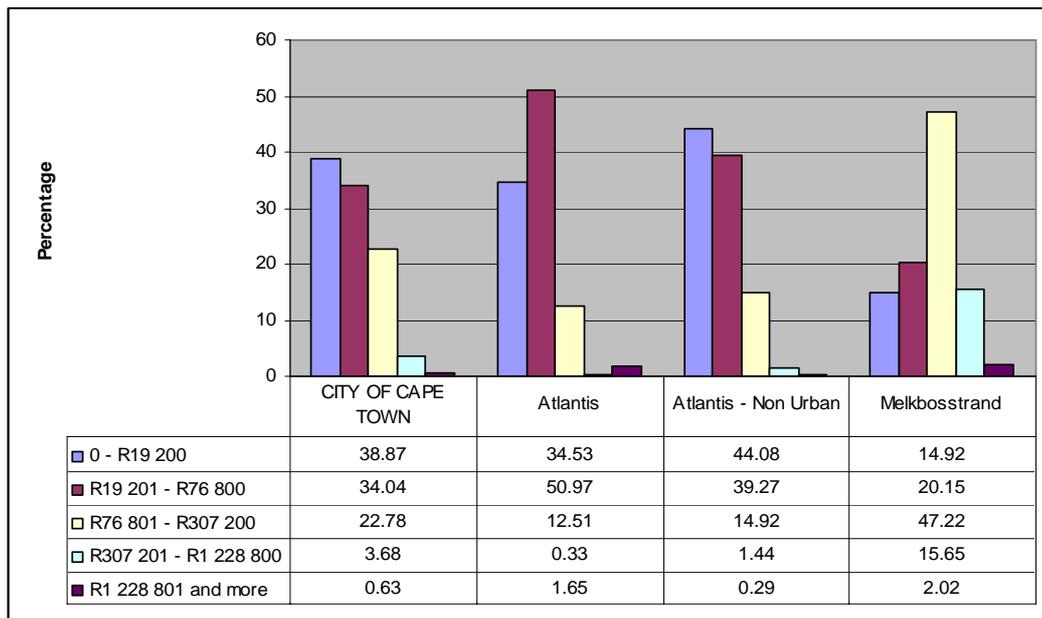
**Figure 15: Monthly income of earners**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

Over a third of Atlantis households lived on less than R19 200 per annum in 2001, with a further 50% citing an annual household income of between R19 200 and R76 800. The corresponding percentage for the lowest income group in Atlantis non-urban was 10% higher, with 44% with an annual household income of less than R19 200, with a further 40% in the group between R19 200 and R76 800. By contrast Melkbosstrand only had 14% and 20% of households in these lower income brackets, with about 65% of households citing an income of greater than R76 800 per annum. (See Figure 16)

**Figure 16: Annual Household Income**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.6 Housing and Services

Access to housing and basic infrastructure and services including energy, as well as water provision and sanitation may be considered as a general measure of well-being indicating households' level of living as well as potential vulnerability status. These are discussed below. Access to energy is particularly highlighted also at National level as this will be directly impacted by the proposed development.

#### 3.6.1 Housing

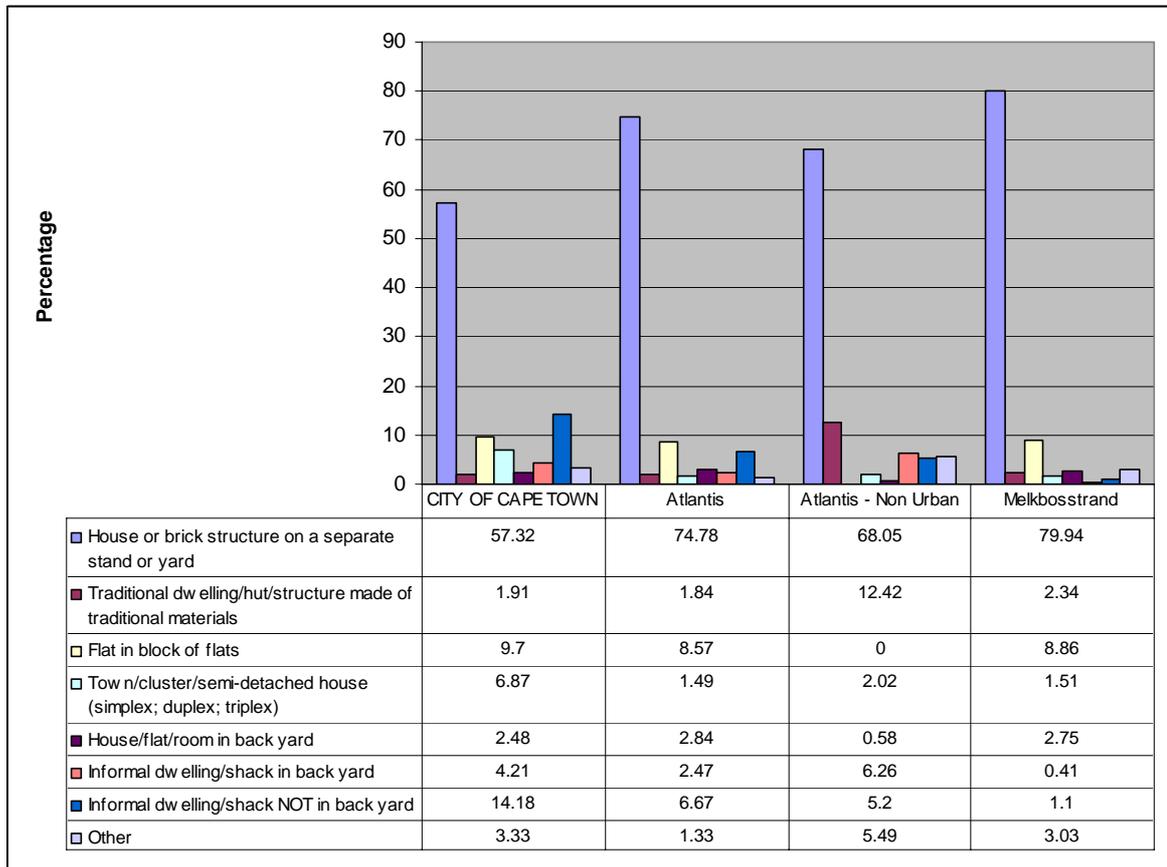
Atlantis has experienced land invasions and the growth of informal settlements, especially in the area that has become known as Witsand. These informal settlements are home to locals who have lost their homes as a result of rising unemployment, farm labourers who are no longer able to secure work and accommodation on the surrounding farms and smallholdings, and job seekers attracted to the area by the prospect of finding work (Afrosearch 2005).

The percentage of households residing in a 'house or brick structure on a separate stand or yard' is higher across the study area than in the City of Cape Town as a whole, but most so in Melkbosstrand (80%), followed by Atlantis at 75%, and least in Atlantis non-urban (68%). Atlantis non-urban has the greatest percentage residing in traditional dwellings<sup>6</sup> (12%), while Atlantis and Melkbosstrand both have around 9% residing in flats. The percentage in informal dwellings is lower than that for the broader Cape Town (18%) in all parts of the

<sup>6</sup> A dwelling made of clay, mud, reeds or other locally available materials. This is a general term which includes huts, rondavels, etc. Such dwellings can be found as single units or in clusters.

study area, but notably higher in Atlantis non urban (11% - mostly shacks in back yards) and Atlantis (9%- predominantly *NOT* in back yards, which would include residents of the Witsand settlement) than in Melkbosstrand (1%). The potential impact of the proposed development on informal settlements resulting from a population influx is discussed in Section 4.2.2.

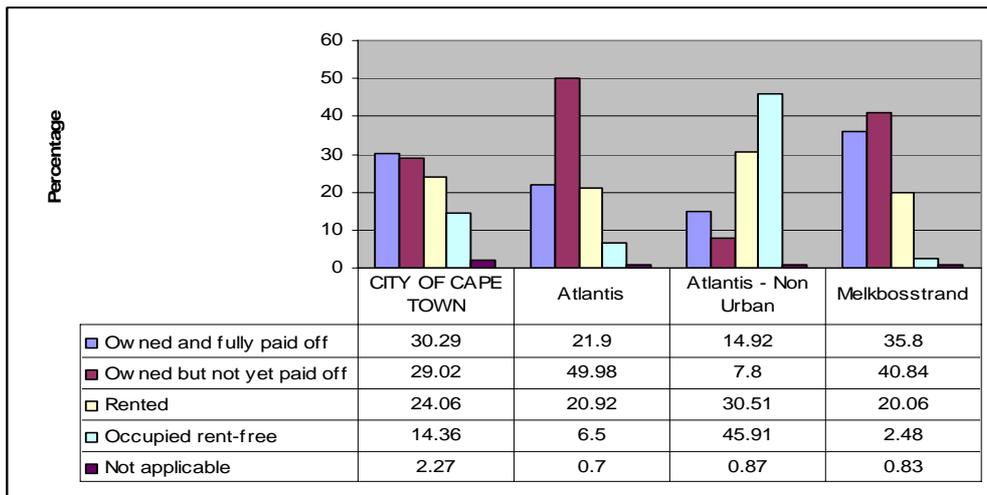
**Figure 17: Dwelling Type**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

While over 70% of Atlantis households live in dwellings which they own, only 22% have fully paid these off. Half of all household are living in houses they are paying off. This represents a significant expense in a community with low income levels as shown above. By comparison, 36% of Melkbosstrand households live in houses that are owned and fully paid, and a further 40% in houses they are paying off. In Atlantis non-urban the majority of households either reside rent-free (46%, possibly referring to farm labourers), or rented housing (31%). Housing ownership is relevant to consider when assessing potential impact on people's sense of and attachment to place and personal investment in the area.

**Figure 18: Dwelling Ownership**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

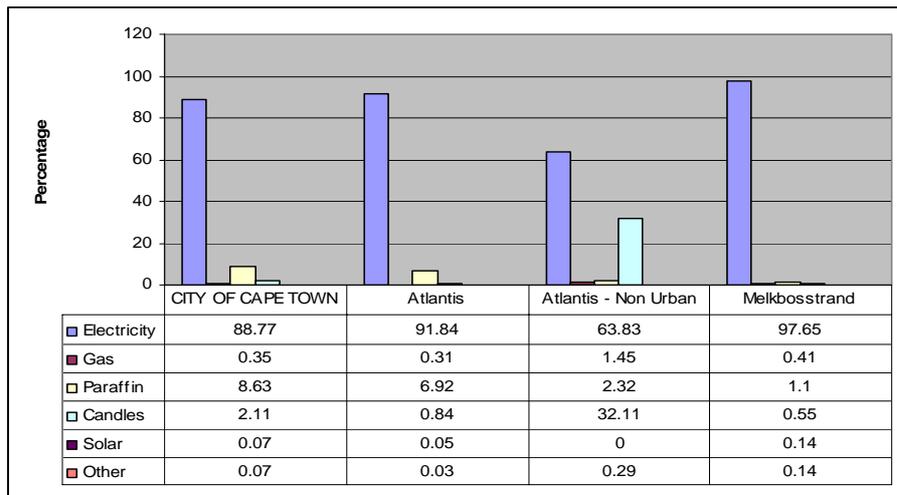
The City of Cape Town’s Blaauwberg Sub-council has earmarked R1.9million for a Melkbos Housing Project, while the Koeberg sub-council has earmarked R3million for Phase 2 of the Witsand Housing Project and R2million for the Atlantis Housing Project respectively between 2007 and 2010. Section 3.8 provides more information on planned capital expenditure over this period.

### 3.6.2 Energy

According to the 2001 Census, 70% of South Africa’s population used electricity as primary source of energy for lighting. The corresponding figure in the Western Cape was significantly higher at 88%, with that in the City of Cape Town being 89%. The current project is intended to provide additional capacity to the National grid, which will thus have a National impact affecting the South African population of close to 50 million people belonging to about 12 million households according to the 2001 Census.

Within the study area electricity use for lighting is almost universal in Melkbosstrand (98% of households) and only slightly less common in Atlantis (92%) where paraffin is the other form most cited (7%). Atlantis non-urban noted this to be less common at only 64% of households using electricity for lighting, with a 32% relying on candles, and smaller percentages on gas, paraffin and other sources of energy. (It is understood that access to electricity to much of these areas has improved over the past decade since the Census findings reported here.)

**Figure 19: Sources of Energy for lighting**

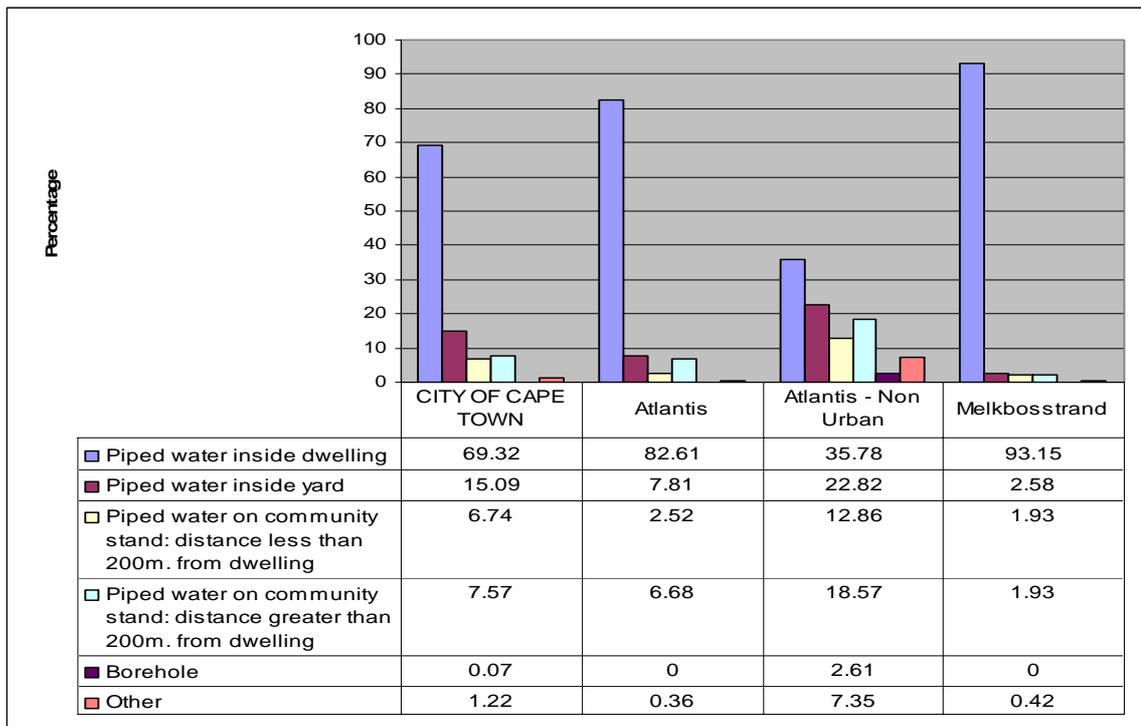


Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

### 3.6.3 Water

Atlantis receives the bulk of its water supply from the Atlantis aquifer. Access to piped water inside dwellings is higher in Atlantis (83%) and Melkbosstrand (93%) than in the broader Cape Town (69%). This percentage is significantly lower in Atlantis non-urban at only 36%, with 23% citing piped water in the yard, and over 30% piped water on a community stand, mostly over 200m from the dwelling.

**Figure 20: Access to Water**



Source: Based on 2001 Census Statistics as presented in City of Cape Town Suburb Profiles 2006

#### **3.6.4 Sanitation**

The comparatively lower levels of living prevalent in the Atlantis non-urban area is highlighted in terms of access to sanitation facilities, with only half of all households having access to flush toilets (including both sewerage and septic tanks), compared to over 90% in Atlantis and Melkbosstrand. About a fifth of Atlantis non-urban households have no sanitation facilities, while 17% rely on bucket latrines. The remainder use chemical toilets and pit latrines.

#### **3.6.5 Refuse removal**

While almost all households in Atlantis and Melkbosstrand had refuse removed by the local authority in 2001, this was true for less than a quarter of households in Atlantis non-urban, the majority (65%) of whom use their own refuse dumps. The potential impact of the proposed transmission line on a proposed municipal landfill site planned for the area needs to be considered in selecting a preferred corridor. Figure 21 below shows the location of a proposed municipal landfill site to be developed south of Atlantis in close proximity to the proposed transmission line.

**Figure 21: Proposed location of municipal landfill site**



Source: CCA (2007) EIA for proposed landfill site

### 3.6.6 Transport

Travelling by foot is the dominant mode of transport to work or school in Wards 1 and 2, followed by minibus taxis. The use of buses is somewhat less frequent. Due to the absence of passenger train services in the area, very little use is made of this form of transport (Afrosearch, 2005).

### 3.7 City Development Index

The City Development Index (CDI) is an average of the following indices: infrastructure (water, sewerage, telephone and electricity) health (life expectancy, divided by infant mortality), education (adult literacy and gross

enrolment ratio) and income (mean household income). Overall, the City of Cape Town has a higher CDI of 0,88 compared to 0,81 for the rest of the Western Cape Province (see Table 2 below). Cape Town out-performed the rest of the province in terms of infrastructure, income and waste disposal.

Atlantis rates slightly lower than the City average at 0.86, but still higher than the broader Western Cape Province. Its rating for health is however slightly lower than that for both City and Province. Melkbosstrand by contrast rates higher than the City of Cape Town at 0.92, scoring higher in all indices.

**Table 2: City of Cape Town CDI (Selected suburbs - sorted by CDI), May 2005**

Suburbs	Infrastructure	Waste	Health	Education	Income	CDI
Province	0.79	0.89	0.68	0.86	0.82	0.81
Cape Town	0.93	0.99	0.69	0.88	0.91	0.88
Atlantis	0.88	0.96	0.67	0.9	0.9	0.86
Melkbosstrand	0.96	0.97	0.71	0.94	1.01	0.92

*Source: Measuring the State of development in the Western Cape –May 2005, cited in City of Cape Town Socio-economic Profile, 2006.*

### 3.8 Plans for economic development

Despite its current problems, Atlantis offers significant potential for economic development. Its assets include proximity to the West Coast Biosphere, the historical settlements of Mamre and Pella and the expanding high-income housing developments on the West Coast. Large areas of land are currently services for industrial investment, and are available at very low cost. Because of this development potential, the Cape Town Metropolitan Municipality IDP (2004) identified Atlantis as one of the focal areas for residential upgrading. This upgrading process will involve (Afrosearch 2005):

- Upgrade of tenure
- The creation of public spaces
- An *in-situ* upgrade integrated into housing strategy
- Safety and security interventions in hotspot areas
- Community participation and conflict resolution processes
- Clustered public investment and economic development initiatives, and
- A Public Works programme in partnership with Provincial Government.

The City of Cape Town recently put 24 City-owned properties to tender, 16 of which have been sold to private investors for the establishment of industrial plants and commercial activities. Other City initiatives include the development of urban agriculture, assistance with the Mamre land reform project, management of the business hives in Atlantis and Mamre, and funding of the small business support voucher programme which is accessible through the Atlantis Red Door offices. (CoCT 2007 (1))

Other key attractions in the area include the annual Atlantis Arts and Crafts festival and Camphill Village - a working community farm that produces herbs, vegetables, nursery plants and dairy products. (CoCT 2007 (1))

Plans are in place to develop the potential of the Witsand housing development area - which currently only has spaza shops - to attract retailers to the area. The City is sub-contracting local residents to help install street signs to guide tourists to craft centres and bed and breakfast establishments. (CoCT 2007 (1))

The City is in the process of developing an economic development action plan for the area. *"The plan will look at the cross spectrum and sequence of activities that need to be pursued by government, private sector and communities in order to address deficiencies within the economic system of the area and to generate options which when put together will be able to shape an integrated local action plan to re-establish local economic cycles within the area."* Mansoor Mohamed, the City's Executive Director: Economic, Social Development and Tourism, cited in CoCT 2007 (1).

Table 3 provides a summary of capital expenditure planned within the respective wards forming part of the study area between 2007 and 2010.

**Table 3: Planned Capital Expenditure on projects in Project Area 2007 - 2010**

Directorate	Department	Project Description	2007/2008	2008/2009	2009/2010	TOTAL
<b>Blaauwberg Ward 23</b>						
Transport, Roads & Stormwater	Roads and Stormwater	R27: Addtl lanes and intersection impr	R 0	R 5,000,000	R 0	R 5,000,000
Safety & Security	Emergency Services	Major Additions : Refurbishment	R 1,438,596	R 2,438,596	R 2,500,000	R 6,377,192
Safety & Security	Emergency Services	Upgrade Melkbosstrand Fire Station	R 438,596	R 4,017,544	R 0	R 4,456,140
Transport, Roads & Stormwater	Transport	Table View Taxi Rank (Bay Side)	R 1,000,000	R 0	R 0	R 1,000,000
Integrated Human Settlement Services	New Settlements	Melkbos Housing Project	R 1,900,000	R 0	R 0	R 1,900,000
Strategy & Planning	Environmental Resource Management	Blaauwberg Conservation Area	R 614,035	R 1,052,632	R 877,193	R 2,543,860
Utility Services	Water Services	Melkbos Wastewater Treatment Works	R 740,000	R 15,000,000	R 20,100,000	R 35,840,000
<b>Ward Total :</b>			<b>R 6,131,227</b>	<b>R 27,508,772</b>	<b>R 23,477,193</b>	<b>R 57,117,192</b>
<b>Koeberg Ward 29</b>						
Strategy & Planning	Environmental Resource Management	Mamre Heritage Resources	R 438,596	R 526,316	R 438,596	R 1,403,508
Utility Services	Electricity Services	Atlantis Neutral Earth Resistors	R 1,600,000	R 0	R 0	R 1,600,000
Strategy & Planning	City Spatial Development	Atlantis Uluntu Plaza	R 438,596	R 2,105,263	R 438,596	R 2,982,455
Community Development	Parks Inf Settlements	Prov Of Parks Atlantis	R 57,018	R 87,719	R 0	R 144,737
Community Development	Sport, Recreation & Amenities	Irrigation: General Upgrade	R 0	R 877,193	R 0	R 877,193
Community Development	Parks	Forest Park Dev Atlantis	R 0	R 0	R 57,200	R 57,200
Community Development	Parks	Playpark Dev - Heathfield Court Atlantis	R 0	R 0	R 100,000	R 100,000
Community Development	Parks	Focal Point: Atlantis - Irrigation	R 0	R 0	R 40,000	R 40,000
<b>Ward Total</b>			<b>R 2,534,210</b>	<b>R 3,596,491</b>	<b>R 1,074,392</b>	<b>R 7,205,093</b>
<b>Koeberg Ward 32</b>						
Integrated Human Settlement Services	New Settlements	Witsand Housing Project - Phase 2	R 3,000,000	R 10,000,000	R 15,400,000	R 28,400,000
Integrated Human Settlement Services	New Settlements	Atlantis Housing Project	R 2,000,000	R 3,000,000	R 0	R 5,000,000
<b>Ward Total :</b>			<b>R 5,000,000</b>	<b>R 13,000,000</b>	<b>R 15,400,000</b>	<b>R 33,400,000</b>
<i>Source: City of Cape Town. 2007 (2). Service Delivery Budget Implementation Plan.</i>						

## **4 IMPACT ASSESSMENT**

This section will examine potential social impacts that may result from the proposed development. The section begins with an overview of potential social impacts identified during the scoping process. This is followed by an assessment of potential impacts associated with the Ankerlig Power Station Conversion during both the construction and operational phases, followed by an assessment of potential impacts related to the proposed transmission line, during construction and operation.

### **4.1 Summary of Potential Impacts identified in the Social Scoping Study**

Table 4 below provides a summary of potential social impacts identified in the social scoping study, noting the project component and phase for which impacts may be expected, anticipated significance of the impact, whether or not it will be assessed as part of the detailed Social Impact Assessment, and methods to be used for assessment of impacts.

**Table 4: Summary of Impacts identified during Scoping for assessment in SIA**

Impact	Ankerlig Conversion		Transmission Line		Anticipated Significance	To Assess in SIA	Method(s) of Assessment
	C	O	C	O			
Provision of electricity		X		X	Very High	N	<ul style="list-style-type: none"> <li>Significance already noted and assessed in previous EIA processes undertaken (2005 and 2007)</li> </ul>
Temporary Employment	X		X		Low to Medium	Y	<ul style="list-style-type: none"> <li>Obtain employment estimates from Eskom;</li> <li>Propose mitigation to optimise impact.</li> </ul>
Ongoing Employment		X			Low to Medium	Y	<ul style="list-style-type: none"> <li>Obtain employment estimates from Eskom;</li> <li>Propose mitigation to optimise impact.</li> </ul>
Social Investment	X	X	X	X	Low to High	Y	<ul style="list-style-type: none"> <li>Obtain information on current social investment in area;</li> <li>Propose mitigation to optimise impact.</li> </ul>
Population influx	X		X		Low to Medium	Y	<ul style="list-style-type: none"> <li>Consult with community representatives regarding experience in terms of impacts of influx and how to address;</li> <li>Propose mitigation to minimise social disruption.</li> </ul>
Increase in traffic	X	X	X		Low to High	Y	<ul style="list-style-type: none"> <li>To be assessed based on review of previous transport study.</li> </ul>
Impacts on health & safety		X		X	Low to Medium	Y	<ul style="list-style-type: none"> <li>Note key findings of relevant specialist studies.</li> </ul>
Interest group activity	X	X			Low to High	Y	<ul style="list-style-type: none"> <li>Consult with community representatives to determine current perceptions and concerns with project that may lead to interest group activity;</li> <li>Propose mitigation to minimise potential for interest group activity.</li> </ul>
Impact on current land-uses			X	X	Low to Medium	Y	<ul style="list-style-type: none"> <li>Impact of selected transmission power line alternative will be investigated based on specific land-uses to be impacted;</li> <li>Get information on current land-users;</li> <li>Propose mitigation to minimise potential impact on land-uses.</li> </ul>
Impact on sense of place	X	X	X	X	Low to Medium	Y	<ul style="list-style-type: none"> <li>Impact of selected transmission power line alternative will be investigated based on specific land-uses to be impacted;</li> <li>Note key findings of relevant specialist studies.</li> </ul>

The Scoping Assessment looked at three potential alignments for the transmission line, Options A, B, and C (see

Figure 22). Option A was selected as the preferred alternative, as this alignment closely follows the route of existing transmission lines, and appeared to have least impact on current land uses. It was noted, however, that residents of Klein Zoute River Agricultural Holdings would be impacted by this alternative, and that a more detailed assessment of the selected alignment would be conducted as part of the EIA phase. BID documents were dropped at houses in Klein Zoute River AH, but as no responses were received from landowners in this area, they were not registered as I&APs on the stakeholder database in the scoping phase. Option A was selected as the preferred option for detailed assessment in the EIA, with a sub-alternative more closely following existing lines. During consultation as part of this EIA it was decided to also include Option C for assessment from a social perspective as a potential alternative.



Based on the issues identified above, impacts to be assessed during the detailed SIA phase were identified as follows:

**Table 5: Potential social impacts of conversion and transmission line assessed in this SIA**

Impact	Ankerlig Conversion		Transmission Line	
	C	O	C	O
Temporary Employment	X		X	
Ongoing Employment		X		
Business opportunities	X		X	
Skills development	X		X	
Social Investment		X		
Social conflict/ disputes	X		X	
Influx of job-seekers	X		X	
Housing of temporary workers	X		X	
Increase in traffic	X	X	X	
Impacts on health & safety		X		X
Interest group activity	X	X		
Impact on current land-uses			X	X
Impact on sense of place		X		X

The impacts listed above are discussed in more detail in the sections below, dealing with specific project components and phases at which impacts may be expected. Where potential impacts are similar for the different components and project phases, this is noted with cross-references to the relevant sections where these are first described to avoid unnecessary duplication. The section concludes with recommendations on preferred alternatives for the Ankerlig Power Station conversion as well as transmission power line.

#### **4.2 Potential social impacts associated with construction phase for the proposed Ankerlig Power Station Conversion**

The proposed conversion of the existing OCGT plant to a CCGT plant is proposed to take place on the site as the existing OCGT development, situated in the Atlantis Industrial area and therefore no additional land take is required. Social impacts for the conversion can thus be expected to be similar to those that were identified for the initial OCGT development, which was assessed in 2005 (environmental authorisation received December 2005), as well as the expansion of the OCGT plant, which was assessed at the beginning of 2007 (environmental authorisation received July 2007). For this reason the social assessments conducted by Afrosearch (2005) and MasterQ (2007) were used as the basis of this assessment.

Construction of the power station conversion is expected to commence in early 2009, and last up to a maximum of approximately 32 months. The following sections describe the social impacts that are expected to arise during the construction phase. Issues relevant for the construction phase are as follows:

1. Creation of temporary employment opportunities;

2. Business opportunities
3. Skills development
4. Social investment;
5. Influx of job seekers and temporary workers;
6. Increase in traffic;
7. Visual and noise impacts.

#### **4.2.1 Temporary local employment opportunities**

##### *Nature of Impact*

Construction activities will create a number of temporary employment opportunities, resulting in a positive economic impact at a local level. In addition to creating job opportunities for construction workers, the project may also offer other sources of temporary employment. These include possible indirect employment creation in the informal sector, for instance catering for construction workers (Afrosearch, 2005).

An economic analysis by Global Insight (2005) indicated that the first Atlantis OCGT project with four units was likely to directly create and support 396 person-year<sup>7</sup> jobs per year over the construction period. They estimated that a further 11 167 jobs would be indirectly created and supported in the national economy, thus bringing the total to 11 563 person-year jobs (MasterQ, 2007).

According to a report compiled by Red Door (McCarthy, 2006), a number of jobs were created locally by the four main contractors Eskom appointed for the initial construction. In total the estimation is that the number of jobs created was:

- Start of the Project: 450 jobs (~45% local)
- Peak of the Project: 1046 jobs (*local percentage could not be confirmed*)
- Year end close: 950 jobs (*local percentage could not be confirmed*)

These were general workers, construction workers (private companies), administrative staff and technical workers (electricians, boilermakers) (MasterQ, 2007). Box 1 below provides a summary of local recruitment by the four main contractors used by Eskom in the construction phase of the first four OCGT units.

---

<sup>7</sup> One whole year, or fraction thereof, worked by an employee, including contracted manpower. Expressed as a quotient (to two decimal places) of the time units worked during a year (hours, weeks, or months) divided by the like total time units in a year. For example: 80 hours worked is 0.04 (rounded) of a person-year; 8 weeks worked is 0.15 (rounded) of a person-year; 12 months worked is 1.0 person-year. Contracted manpower includes survey crews, drilling crews, consultants, and other persons who worked under contract to support a firm's ongoing operations. (<http://www.babylon.com/definition/Person-year/All>)

The subsequent construction of a further five units as part of the expansion of the OCGT plant led to further job creation. The Red Door 2007-2008 report (McCarthy 2006) states that 290 workers were employed through Workforce (one of the labour brokers onsite). Of these, 90 (31%) were local (i.e. from Atlantis, Mamre, Witsand and Pella), and 200 (69%) recruited nationally (from Johannesburg and Durban). Capacity (the other labour broker working on site) claimed to employ 100 people, but this could not be verified by Red Door, and no indication could be given regarding the number of local workers.

#### **Box 1: Local Recruitment by Contractors during OCGT1**

The four main contractors were Roshcon, Lesedi, and Sawron.

**Roshcon**, an Eskom subsidiary company, was responsible for all the Civil Engineering works. Most of the SMMEs registered on the database were registered in this sector. According to Red Door, about 45% of Roshcon's labour force of 450 workers was recruited from the greater Atlantis community. Roshcon used 5 SMMEs to provide dairy services, and up to 27 sub-contractors. In return, these sub-contractors used one or two sub-sub contractors (about 54 in total) each. In addition, 45 youths were trained in the electrical field, and as shutter hands.

**Siemens** was responsible for the supply of turbines and generators, and contracted Murray and Roberts for the installations. Murray and Roberts contracted seven local SMMEs to assist. Overall, there seems to be a lack of technically skilled people locally, and it is not expected that the situation will be different for the conversion of the OCGT.

**Lesedi** was responsible for the building and engineering of the tank and fuel system. Lesedi sub - contracted Ankile engineering, a local engineering company. It is estimated that 20% of the 110 labourers needed by Lesedi was recruited locally.

**Sawron** was responsible for the construction of the transmission yard, and did not make use of local labour. It appears that skilled local labour was not available.

(MasterQ, 2007)

Local labour was also used in various social development projects initiated by Eskom and some of the building contractors during the construction phase. Social Investment is discussed in section 4.3.2.

It was recommended in previous assessments that local labour be used as far as possible. The MasterQ (2007) assessment noted that, although the use of local labour seemed to result in a more positive attitude towards the project, it seemed as if some community members were still dissatisfied with the process followed to employ local labour through a third party labour broker. It was recommended that the procurement process followed for the expansion be closely monitored by Eskom to ensure that the process was transparent and equal opportunities were afforded. While no such specific monitoring of procurement was undertaken, it was noted during consultation for this assessment that procurement opportunities are advertised through the Red Door office in Atlantis. To optimise opportunities for local procurement, Eskom also has a policy of price-matching in place whereby local BEE companies are given an opportunity to match the best price for

tenders advertised. If they are able to do so, such local companies are given preference in awarding of tenders.

The issue of local employment was raised again during Focus Group Meetings that were attended as part of this assessment, particularly with the Atlantis Residents' Association (ARA). Concerns were raised regarding local employment created during the construction of the initial OCGT facility, as well as the expansion, currently under construction. A member of ARA noted that the community had presented the then Project Manager with a list of concerns which had not yet been addressed. These related to:

1. Treatment of the community, particularly by labour brokers, whose presence is said to cause conflict between local workers and labour brought from outside the area.
2. No feedback was given to local workers who worked overtime.
3. It is thought that Eskom should provide training and capacity building opportunities to the local community and not rely only on outside expertise. This situation causes an economic justice concern for the local community.
4. Black Economic Empowerment is critical, as stipulated in the Broad-Based Black Economic Empowerment Act (53 of 2003)
5. It was noted that Eskom should procure services and source accommodation from the local community where possible.
6. Favouritism and preferential treatment of workers who are not local: Noted that workers from elsewhere were provided with accommodation as well as transport, while local labourers were responsible for their own transport.
7. Hire and Fire: Instantaneous decision-making that contradicts the Labour Relations Act.

Current issues and concerns relating to labour issues that could result in potential social impacts are discussed in more detail in Section 4.2.6.

Although it can be expected that some labour will be sourced from outside areas (mainly as a result of the limited skilled local labour available), the impact measured emphasises creation of *local* labour, and is thus rated local in extent.

Parties affected will include:

- Successful job seekers
- Workers' households

*Impact Summary:*

<b>Nature:</b> Economic/ Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Very short (1)	Short-term (2)
<b>Magnitude</b>	Moderate (6)	High (8)
<b>Probability</b>	Probable (3)	Highly probable (4)
<b>Significance</b>	$(2+1+6)3 = 27 = \text{Low}$	$(2+2+8)4 = 48 = \text{Medium}$
<b>Status</b>	Positive	Positive
<b>Reversibility</b>	Positive impact lasts only as long as employment.	Positive impact can be augmented through skills development and on-the-job training. (See 4.2.3)
<b>Can impacts be mitigated?</b>	Yes - effective mitigation can maximise this potential positive impact.	
<p><b>Mitigation:</b></p> <p>Make use of local labour where possible. Means to achieve this are suggested below:</p> <ul style="list-style-type: none"> <li>• Identify types and levels of employment that the development could offer.</li> <li>• Appoint a local labour broker, to be identified in consultation with local community stakeholders.</li> <li>• Refer contractors to jobseeker's databases kept by local community structures (e.g. local council, Red Door, Residents' Association) when sourcing local labour.</li> <li>• Identify targets for BEE &amp; local employment. Criteria for 'local' to be agreed in consultation with local community stakeholders.</li> <li>• Reserve agreed percentage of higher level positions for local employment.</li> <li>• Skills training to be undertaken where viable to facilitate employment (See Skills Development, 4.2.3).</li> <li>• Location of appropriate transport providers who would be available to assist contractors in transporting workers from these sites.</li> <li>• Younger people tend to have higher levels of education and may stand in line for higher levels of employment. Opportunities for the employment of younger people should be maximised.</li> <li>• Investigate opportunities to maximise employment of women.</li> <li>• Mitigation measures should be supplemented by lessons learnt from the construction of the first OCGT units and the expansion. These should preferably be workshopped. These workshops should be attended, either together or in different workshops, by Red Door, the LED Forum, Eskom, Contractors, and any other relevant representatives. Aspects to be addressed should, amongst others, include the procurement process, procurement criteria, salaries, transparency, and community expectations.</li> </ul>		
<p><b>Cumulative Impacts:</b></p> <ul style="list-style-type: none"> <li>• The impact of ongoing employment through ongoing construction activities at the Ankerlig Power Station site can be considered cumulative to previous construction processes and other project components, as well as other developments in the area, with Atlantis currently being targeted for increased industrial developments (See 3.8). The longer duration of impacts present ongoing economic opportunities for the local Atlantis community.</li> </ul>		

**Residual Impacts:**

- The families of those who secure work will benefit and this will impact on their health and well-being for the duration of employment.
- Local businesses benefit indirectly as a result of increased local spending by those who are employed. This also impacts on the health and well-being of their families.

Although the impact on employment will be temporary, due to high levels of poverty and unemployment in the area, any impact on job creation in the area will have some positive impact and thus will be of positive significance. This impact can be optimised by focusing on local employment creation where possible, and addressing current community concerns (as listed see above).

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact on temporary employment and associated benefits
Conversion as proposed	Impact as described. Can be optimised through a focus on local labour. Current community concerns regarding employment issues should be considered.

**4.2.2 Business opportunities**

*Nature of Impact*

In addition to (mostly unskilled) employment created during construction, the Atlantis community has also benefited from business opportunities for local contractors and service providers.

The Red Door Report (McCarthy 2006) estimates that Atlantis received an economic boost of R55+million as a result of the existing OCGT power station (first four units). When comparing the 2005 turnover with 2006 turnover of local small businesses, it is estimated that the income of small businesses increased with 5% to 7%. Capitec Bank opened 139 new bank accounts for people of the community working on the site. The use of local labour also impacted on the project itself. Problems experienced were (MasterQ, 2007):

- Sub-contractors were unable to source material on time, and the Eskom contractors had to supply materials to ensure that work was completed in the set timeframes.
- Sub-contractors were not always able to complete their work on time. Reasons listed were financial constraints and lack of project management skills.

Activities surrounding the subsequent handover of the initial 4 units at the Ankerlig site, and initial construction activities for the expansion are estimated to have contributed a further R10 million to the Atlantis economy through salaries

and contracts to local suppliers (McCarthy, 2008). Roschcon released a total of 12 tenders for which local companies were invited. By March 2008 one of these tenders for the construction of the Central Control Building was awarded to two local companies, namely Imvusa trading in Mamre, and Steve's Electrical in Melkbosstrand.

Additional job opportunities created during construction of the initial OCGT units included provision of catering and security services, as well as the provision of accommodation facilities. According to Red Door, problems experienced were (MasterQ, 2007):

1. Catering was done off-site, by means of take-away food stalls. Anybody could supply catering services. Workers had to exit the construction site to purchase these take-away meals. Supply was erratic and not always sufficient. Workers often had to supplement their meals by going to suppliers in Atlantis. The MasterQ (2007) SIA recommended that catering should be provided in a more structured manner, for example by contracting catering companies to provide meals on site, and that the feasibility of a canteen on site should be assessed. A canteen area was established on-site for the expansion process, but meals are not provided on-site for construction workers.
2. Accommodation in the Atlantis community was not used to its full capacity and the immediate community hardly benefited. Local Bed and Breakfasts (B&B) are mostly 100% black-owned, and managed by local women. Those who needed short-term accommodation used facilities in more upmarket areas such as Melkbosstrand. According to the Red Door report (McCarthy, 2006), the only significant booking made in the community was when labourers were trained at the Atlantis Education and Training Institute and the trainers stayed in Atlantis for a period of four weeks. Housing of outside workers is discussed in more detail in section 4.2.3 below.

The LED Forum representative consulted as part of this study indicated that communication between themselves and Eskom was very good for the first phase of construction of the initial units, during which 75 local small businesses were empowered. It was indicated that interaction has declined significantly during more recent phases, possibly due to shared communication systems with Red Door. The forum assists small businesses to register as close corporations or private companies, and to comply with tender requirements. The forum is also closely linked to the Multi-purpose community centre where computer training is currently offered, and which could be utilised for more comprehensive training and skills development for small businesses.

Parties affected:

- Local businesses securing contracts through Eskom
- Employees of local businesses
- Employees' households

*Impact Summary:*

<b>Nature:</b> Economic/ Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Very short (1)	Medium-term (3)
<b>Magnitude</b>	Low (4)	Moderate (6)
<b>Probability</b>	Improbable (2)	Highly probable (4)
<b>Significance</b>	$(2+1+6)2 = 18 = \text{Low}$	$(2+2+8)4 = 48 = \text{Medium}$
<b>Status</b>	Positive	Positive
<b>Reversibility</b>	Positive impact for limited contracts.	Positive impact can be augmented through skills development leading to future opportunities. (See 4.2.3)
<b>Can impacts be mitigated?</b>	Yes - effective mitigation can maximise this potential positive impact.	
<p><b>Mitigation:</b>            Make use of local suppliers of goods and services where possible. Means to achieve this are suggested below:</p> <ul style="list-style-type: none"> <li>• Open tender processes – improved communication of tender opportunities through advertising in local community media, including Radio Atlantis.</li> <li>• Expedite process of registering local service providers on Eskom's procurement database.</li> <li>• Provide information regarding the types of business opportunities and economic spin-offs that may arise from the proposed development.</li> <li>• Identify targets for BEE &amp; local procurement. Criteria for 'local' to be agreed in consultation with local community stakeholders.</li> <li>• Include basic business and entrepreneurial skills as part of a skills development component of the development.</li> <li>• Participatory workshops in which interested members of local communities can be guided with regards to types of business opportunities that could arise.</li> <li>• Investigate ways of enabling potential subcontractors from low-income areas to tender.</li> <li>• Set up linkages for small business loans, as well as small business skills training. In this regard, the role that partnership with other role-players who could assist in these matters should be considered.</li> <li>• Closer interaction with institutions that could assist with provision of support to small businesses, including the possible identification of agencies that could assist with the provision of seed finance and entrepreneurial counselling (Red Door, LED Forum, Local Council).</li> <li>• Mitigation measures should be supplemented by lessons learnt from the construction of the first OCGT units and the expansion. These should preferably be workshopped. These workshops should be attended, either together or in different workshops, by Red Door, the LED Forum, Eskom, Contractors, and any other relevant representatives. Aspects to be addressed should, amongst others, include the procurement process, procurement criteria, salaries, transparency, and community expectations.</li> </ul>		

**Cumulative Impacts:**

- The impact of ongoing business opportunities through ongoing construction activities at the Ankerlig Power Station site can be considered cumulative to previous construction processes and other project components, as well as other developments in the area. The longer duration of impacts present ongoing economic opportunities for the local Atlantis community.
- Learning from the past presents the opportunity for more effective local procurement, and for more businesses to potentially benefit for a longer period.

**Residual Impacts:**

- The families of those who secure work will benefit and this will impact on their health and well-being.
- Local businesses benefit, and this also impacts on the health and well-being of their families.

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact on temporary employment and associated benefits
Conversion as proposed	Impact as described. Can be optimised through a focus on local labour. Current community concerns regarding employment issues should be considered.

**4.2.3 Skills Development**

*Nature of Impact*

Lack of suitable skills was highlighted by McCarthy (2006) as a key constraint to recruiting local labour, as well as procuring contracts and services from local companies in Atlantis. The ongoing nature of developments at Ankerlig (starting with OCGT 1, followed by the expansion project, and now potentially extending to the conversion) provides ongoing opportunities for development of local skills in construction. Skills development has been occurring throughout the development process to date. During construction of the initial units, the Red Door Report (McCarthy, 2006) noted that Roschcon trained 45 youth in various skills. Through procurement of services from a local engineering company (Ankile), another contractor, Lesedi, provided opportunities for skills development within Ankile engineering.

Skills development during the expansion project has so far involved the training of 91 workers recruited by Workforce, in various skills including shutter hands, steel fixing, pipe layers, and earth works. A total of 19 local SMMEs (out of 24 that tendered) were furthermore assisted by Roschcon in preparing health and safety regulations required for tendering for Eskom contracts (McCarthy 2007).

*Impact Summary:*

<b>Nature:</b> Economic/ Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Very short (1)	Medium-term (3)
<b>Magnitude</b>	Low (4)	Moderate (6)
<b>Probability</b>	Improbable (2)	Highly probable (4)
<b>Significance</b>	$(2+1+6)2 = 18 = \text{Low}$	$(2+2+8)4 = 48 = \text{Medium}$
<b>Status</b>	Positive	Positive
<b>Reversibility</b>	Positive impact for limited contracts.	Skills can be used beyond the project to improve future employability
<b>Can impacts be mitigated?</b>	Yes - effective mitigation can maximise this potential positive impact.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Provide an indication of skills requirements for the Proposed Development. To include Construction as well as long-term Operational phase employment and skills requirements.</li> <li>• Identify specific focus areas for targeted intervention based on identification of skills requirements and existing skills within local communities.</li> <li>• Appoint appropriate service providers to design skills development programmes and conduct necessary training.</li> <li>• Recognition for Prior Learning (RPL) – assess existing skills and provide training as appropriate.</li> <li>• Liaise closely with community and business representatives with regards to targeting of employment and skills development initiatives.</li> <li>• Consider involvement of suitable candidates in project management activities in a process of skills transfer and mentorship.</li> <li>• Implement a supplier development programme as is currently under consideration at Gourikwa Power Station in Mossel Bay to assist local businesses with registration on Eskom's database, to include assistance in meeting compliance standards and understanding tender requirements.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Ongoing developments at the Ankerlig Power Station site, provide further opportunities for skills development of locals, which can contribute to improved employability in other developments happening in the area.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Improved skills will assist in increasing the future employability of local labourers.</li> <li>• Local businesses can benefit from skills development opportunities provided to prepare them for possible future developments in and around the Atlantis and surrounding areas.</li> </ul>		

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	Current skills development opportunities cease after construction of additional units.
Conversion as proposed	Ongoing opportunities for skills development.

#### 4.2.4 Housing of temporary workers

##### *Nature of Impact*

If construction workers are not sourced locally, but are housed close to the site, this may lead to conflict with locals (Afrosearch 2005). Conversely the presence of temporary workers could provide a small stimulus to the local economy if accommodation for such workers could be procured locally. During a Focus Group Meeting held with the Atlantis Residents' Association on 21 November 2007 concerns were raised regarding housing of temporary workers brought from other areas during the construction phases for the initial OCGT as well as the expansion currently underway.

The 2008 Red Door Report (McCarthy, 2008) notes two types of accommodation used by workers coming from other areas, notably:

- Labourers – general labourers that only need a place to stay. These commonly use bulk accommodation, catering for groups of 15 -60 people, and
- Management and administration - people that only came for short periods to render services for their companies.

Accommodation used by Roschcon workers in early 2008 included hostel housing at the School of Skills, housing 93 workers, and 7 private houses across Atlantis, housing approximately 100 workers.

While housing of temporary workers in Atlantis provided some injection into the local economy through rentals paid, local stakeholders consulted all noted such inputs to be minimal, as such workers spent the salaries they earn back in their home towns with their own families.

The presence of outside labourers in the local community can create numerous social problems, including

- Added emphasis on jobs locals could do that are given to outsiders, thus resulting in increased resentment of the project by the local community.
- Potential conflict between outside workers and the local community, enhanced by a feeling of competition for scarce resources, notably much needed employment opportunities.
- Social integrity: The presence of construction workers from elsewhere could aggravate existing social problems, particularly alcohol and drug abuse. An influx of construction workers often leads to the development of relationships between local women and workers from elsewhere. Often these men stay behind, or leave the women with children. Although men who enter local communities in this way are tolerated, this phenomenon is regarded as problematic for the maintenance of community ethos. Concerns over single men staying with households in the community were raised during consultation with Atlantis residents as part of this

assessment, who specifically fear increased risk of HIV as well as pregnancies and fatherless children as specific.

*Impact Summary:*

<b>Nature:</b> Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Long (4)	Short (2)
<b>Magnitude</b>	Moderate (6)	Minor (2)
<b>Probability</b>	Highly probable (4)	Improbable (2)
<b>Significance</b>	$(2+4+3)4 = 36 = \text{Medium}$	$(2+2+2)2 = 12 = \text{Low}$
<b>Status</b>	Negative	Positive/ Negative
<b>Reversibility</b>	Housing only required for duration of contracts. Social problems created may endure.	Positive impacts (e.g. business opportunities for B&Bs) only for duration of construction work. Social problems created may endure.
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Maximise local employment to minimise the need for housing of temporary workers which could lead to social problems of integration with the local community.</li> <li>• Ensure that no temporary workers' quarters are allowed for the development. Note that the SIA for the first OCGT development specifically suggested that workers be housed in a construction camp. This was shown to create significant social problems in the Mamre area where workers were housed, and also deprived the local Atlantis community from benefiting from potential business that could be created housing temporary workers. While the current arrangement provides some increased opportunities for income generation from workers staying in Atlantis, this is already starting to raise concerns regarding workers' conduct, particularly in relation to local women and girls.</li> <li>• Meetings should be arranged with residents' associations of neighbouring residential areas, as well as with the local Community Policing Forum to discuss the contractor's plans, procedures, schedules and possible difficulties and safety and security concerns.</li> <li>• Workshops with relevant parties (Red Door, Contractors, sub contractors, Eskom, municipality) should be held to discuss and implement relevant lessons learnt from the first OCGT. Other mitigation suggested in the MasterQ assessment for the OCGT expansion included the following: <ul style="list-style-type: none"> <li>• All construction activities should be restricted to working areas.</li> <li>• Construction workers should wear name tags and clothing to ensure that they can be readily identified as belonging to the construction workforce. This should be applicable to all construction workers, including those who are locally recruited.</li> <li>• What workers bring on site should be monitored. The provision of catering on-site will reduce the chances that substances such as alcohol are brought on-site or used during working hours, reducing the likelihood of alcohol-related conflict and disturbances.</li> </ul> </li> </ul> <p><i>Note that these measures can only be enforced on the construction site, and would</i></p>		

<i>have little impact on workers' interactions with the local community outside working hours.</i>
<p><b>Cumulative Impacts:</b></p> <ul style="list-style-type: none"> <li>• Additional impacts of outside workers in local communities, whether positive or negative, can be considered cumulative to those experienced from Eskom's previous and other involvement in the area, as well as other developments taking place in and around Atlantis.</li> </ul>
<p><b>Residual Impacts:</b></p> <ul style="list-style-type: none"> <li>• Conflict could lead to social mobilisation.</li> <li>• Limited economic benefits to the community if handled appropriately.</li> </ul>

#### *Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Conversion as proposed	Impact as described

#### **4.2.5 Influx of job seekers**

##### *Nature of Impact*

As news regarding the proposed project spreads, expectations regarding possible employment opportunities may take root. Consequently, the area surrounding the site could experience an influx of job seekers. This can result in an increase in informal settlement, which could lead to social problems such as alcohol abuse, and prostitution (Afrosearch 2005).

If the area experiences an influx of job seekers, competition over scarce employment opportunities may give rise to conflict between local residents and newcomers. An influx of newcomers might also be accompanied by an increase in crime. Even if particular instances of crime are not as a result of the newcomers, they may still be attributed to them by local communities (Afrosearch 2005).

Consultation with local councillors in Atlantis as part of this assessment, particularly Councillor Yiba who is responsible for Ward 32, including the Atlantis Industrial area and surrounding neighbourhoods, as well as the Witsand settlement, indicated that, although immigration to the area in search of work is on the increase, squatting is not considered a serious problem at the moment as measures are in place to deal with this issue. Eskom's project furthermore should be seen in the broader development context for Atlantis, where the local Council recently released a number of properties for development particularly to draw investors in a drive to create employment in the area. The majority of those coming to the area in search for work come through family connections, who assist them with housing.

##### Parties affected

- Atlantis residents.

- Residents of Witsand informal settlement, which can be expected to grow with an influx of newcomers.

*Impact Summary:*

<b>Nature:</b> Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Short (2)	Very short (1)
<b>Magnitude</b>	Moderate (6)	Minor (2)
<b>Probability</b>	Improbable (2)	Improbable (2)
<b>Significance</b>	$(2+2+6)^2 = 20 = \text{Low}$	$(2+1+2)^2 = 10 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Once construction and employment cease this would no longer be seen as an attraction for further job-seekers, but those who have come in search of jobs remain in the area.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Maximise local employment according to strategies outlined previously, ensuring appropriate criteria to determine 'local' (see mitigation for employment creation and influx of labourers above).</li> <li>• Access to the building site should be controlled.</li> <li>• Meetings with the local municipality should be held to discuss the management of informal settlement as a result of the project.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Possible population influx that may be caused by additional developments at and around the power station site can be considered a <i>cumulative</i> impact related to general development in the area. The extent to which Eskom's operations will specifically add to this impact cannot easily be quantified, but measures can be put in place to minimise possible social disruption caused by such influx.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Conflict could lead to social mobilisation.</li> </ul>		

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Conversion as proposed	Impact as described

**4.2.6 Social Conflicts/disputes**

*Nature of Impact*

Local community representatives have raised numerous issues and concerns during this assessment about the use of labour brokers by Eskom's main contractors during the construction of the initial OCGT project, and again during current construction of the additional units. Concerns have also been raised over

treatment of workers on-site by labour brokers as well as contractors. Concerns particularly relate to:

- *Payment of workers* - it is felt that current labour brokers take large percentages of wages that would be paid for workers. This concern was raised by local councillors, reporting numerous concerns raised by workers at the Ankerlig site. It was also a major contributing factor to labour strikes at the site in March 2008.

Local stakeholders feel that a local body could provide a similar service to Capacity and Workforce (current labour brokers used by Eskom's major contractors, Roschcon and Lesedi) in assisting contractors to recruit workers. Such a body would charge significantly less (a 1% per worker fee for administration costs was suggested by a member of the Atlantis Residents' Association), thus leaving a more significant portion to workers, who would in turn have greater spending power in the Atlantis community, thus keeping more of the project's economic benefits in the host community. A suggestion was made that local Ward Councillors, Residents' Associations and Red Door - who all have databases of job-seekers in Atlantis - could form a joint body that could assist contractors in recruiting local labour. These organisations have a closer relationship to the local community, and would thus provide a more trusted link between contractors and workers.

- *Perceived racism in handling of labour disputes* - a recent labour dispute became perceived as a race incident by members of the local Atlantis community. While this is strictly a labour relations concern, falling outside the scope of this social impact assessment, it is important to note that perceptions of working conditions on-site impact on the local community's perception of the project.

It should be understood that the Atlantis community can be considered an extremely sensitive social environment, still suffering the consequences of Apartheid segregation. Interracial issues and disputes should be treated with sensitivity that may need to exceed that which would be required in a less delicate environment. Failure to do so could result in significant social upheaval which would be to the detriment of Eskom and the surrounding communities, fed by and adding to the increasingly riotous atmosphere currently evident around South Africa.

*Impact Summary:*

<b>Nature:</b> Economic/ Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Long (4)	Short-term (2)
<b>Magnitude</b>	High (8)	Low (4)
<b>Probability</b>	Highly probably (4)	Improbable (2)
<b>Significance</b>	$(2+4+8)^4 = 56 =$ Medium	$(2+2+4)^2 = 16 =$ Low

<b>Status</b>	Negative	Negative/ positive
<b>Reversibility</b>	Unlikely	Possible
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Establish a community stakeholders' forum where labour-related issues can be addressed in consultation with local community representatives on a regular basis throughout ongoing construction phases, to improve relationships and build trust.</li> <li>• Emphasis on strategies to make use of local labour where possible. Means to achieve this are discussed in Section 4.2.1: Impact Summary: Mitigation.</li> <li>• Specific emphasis should be placed on the use of local labour brokers. The local ward councils, Residents Associations, and Red Door all have databases of job-seekers that can be used for this purpose. Local communities as well as workers at the Ankerlig site have expressed serious concerns with current labour brokers appointed by contractors on-site. These issues are likely to escalate if not addressed appropriately.</li> <li>• Ensure utmost sensitivity in the treatment of workers on-site, particularly regarding potential racial issues that may be implicated. This particularly applies to the manner in which labour disputes, when they occur, are handled by contractors and, when necessary, Eskom Project Managers. The social environment around Atlantis should be considered as <i>extremely sensitive</i> and needs to be treated accordingly.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• The longer construction activities continue while labour related issues remain unresolved, the greater the cumulative impact of potential conflict builds, and the greater the likelihood for increased tension and resentment between Eskom, contractors, labour brokers, workers, and the Atlantis community.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Appropriate mitigation could improve Eskom's standing within the local community, and Eskom and contractors' relationships with workers.</li> <li>• Failure of mitigation could lead to social mobilisation.</li> </ul>		

#### *Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	Community concerns relate to current activities around the OCGT and expansion projects on the Ankerlig site. Issues can be expected to escalate, at least for the duration of the current construction phase, if not appropriately addressed.
Conversion as proposed	Potential for ongoing social tension with local communities for the duration of construction (and possibly into operational phases) of the proposed conversion.

#### **4.2.7 Increase in traffic**

A separate transport study was conducted to assess the impact of construction activities on traffic as part of the EIA for the initial OCGT. Similar impacts are expected during construction as was previously the case.

### *Nature of Impact*

Increase in traffic can result in the disruption of daily movement patterns. Depending on access routes that are used, construction vehicles could impact on safety and daily movement patterns of residents in surrounding communities. The magnitude of this impact will depend on current traffic volumes, traffic volumes that will be associated with construction activities, as well as construction schedules (Afrosearch 2005), but is expected to be similar to that experienced during the construction phases associated with the OCGT power station (initial 4 units) and the current expansion activities (additional 5 units).

The Traffic Assessment undertaken for the initial OCGT construction (GMKS, 2005) found the traffic impact during construction to be of low significance, although noting some pavement loading impact which would accelerate the need for rehabilitation, particularly on roads in the industrial area of Atlantis which, unlike the provincial R27 and R307, are local roads not designed for such heavy loads. Traffic impacts during construction for the OCGT expansion (SSI, 2007) were anticipated to be similar to those associated with the initial phase of construction, with cumulative intensity of impacts on the roads hastening the need for rehabilitation, particularly on the Neil Hare Road in Atlantis.

During the public participation process and focus group meetings held as part of the assessment for the OCGT expansion, no mention was made of disruption of daily movement patterns because of construction activities associated with the initial OCGT units. It was also noted that, as the site is removed from the community, trucks do not move through the communities or residential areas. The presence of trucks on main roads would impact slightly on local traffic movement patterns, but this impact was shown to be minimal during previous traffic studies undertaken.

Consultation with Atlantis councillors as part of this assessment revealed some concerns over the impact of construction traffic on the R307 intersection from the R27, noting this to be the main entrance into Atlantis. Concerns were also raised regarding the impact of construction vehicles on road conditions going into Atlantis.

The impact of fuel trucks to the site during the operational phase is discussed in Section 4.3.3.

#### Parties affected

- Residents of Atlantis
- Residents of Melkbosstrand and Duynefontein
- Road users

As this impact may be felt along access routes between the supply point of the power station components (possibly Cape Town harbour) and the Ankerlig Power Station site, and not only within communities adjoining the site, the extent of the impact may be widespread rather than concentrated in the study area (Afrosearch 2005), and is therefore rated as a regional impact.

Arup (Pty) LTD undertook a traffic assessment of the study area; the findings were based on the review and update of two previous transport impact studies produced by GOBA (2005) and SSI (2007). Various statements and information was extracted from these reports and updates were done where necessary. The following intersections were re-analysed:

- R27 West Coast Road / R307 Dassenberg Road
- R307 Dassenberg Road / Neil Hare Road
- R307 Dassenberg Road / Charel Uys Drive
- Charel Uys Drive / Neil Hare Road

The transportation issues identified in the traffic assessment are:

- Construction transport related to the transport of very large Power Station components such as 250 ton turbines, which need to be transported from a harbour that can accommodate bulk carriers. As such, components could be landed at either Cape Town or Saldanha Bay Harbours and will be transported to site from there.
- Construction traffic (employees and heavy construction vehicles) related to the construction phase of the project.
- Traffic Impact of permanent employees upon commissioning.
- Road based transport of fuel to supply the power station on a daily / weekly basis from the Caltex Refinery on Platteklouf Road, Milnerton.

### **Construction Plant and Delivery of Materials**

No significant impact on intersections and traffic operations.

### **Pavement Loading Impact during Construction**

The axle loading on the existing road pavements can be described as negative but there would have been a similar construction traffic impact for the development of any of the industrial sites in Atlantis. The damaging effect of construction vehicle loading is mitigated by the on-going routine maintenance by the responsible Road Authority and covered by the licensing and fuel levies paid by the transport operator for his fleet of vehicles.

### **Transporting Abnormal Loads**

A number of Power Station components need to be transported to the site from the local harbours. There are recognised abnormal haul routes along the R27 and permits (with conditions) will need to be obtained prior to transporting. There will be no significant impact on the existing road pavement and the duration of the impact is per trip.

### **Construction Employees**

- Using both public and private transport, the impact is not significant.

- Underground and Overhead Powerlines

Depending on the route selected, there may be the need to negotiate access to the proposed power line servitudes across private property. Construction vehicles will need to access each tower for the erection phase and during cable installation, thereafter the no further affect apart from routine maintenance about twice a year.

*Impact Summary:*

<b>Nature:</b> Social - safety and convenience		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Regional (3)	Regional (3)
<b>Duration</b>	Short (2)	Short (2)
<b>Magnitude</b>	Low (4)	Low (4)
<b>Probability</b>	Probable (3)	Improbable (2)
<b>Significance</b>	$(3+2+4)3 = 27 = \text{Low}$	$(3+2+4)2 = 18 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Impacts on road conditions would last til beyond construction.	Impacts on roads minimised; traffic impacts only related to construction.
<b>Can impacts be mitigated?</b>	Yes - see traffic assessment.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Construction activities should be planned to minimise added disruption of traffic, especially during peak hours.</li> <li>• Workshops with relevant parties (Red Door, Contractors, sub contractors, Eskom, Municipality, Community Liaison Forum) should be held to discuss and implement relevant lessons learnt from the initial construction phases of the power station.</li> <li>• Mitigation measures listed in the traffic impact assessment should be implemented and monitored by the Environmental Control Officer.</li> <li>• The initial traffic study (GMKS, 2005) recommended that impacts on pavement loading should be mitigated after completion of construction by possible contribution to the roads rehabilitation programme by Eskom.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Accidents could result in injury and death, which will affect families and friends.</li> </ul>		
<b>Residual Impacts:</b>		
None?		

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Conversion as proposed	Impact as described

#### 4.2.8 Intrusive impacts

##### *Nature of impact*

Potential intrusive impacts relate to impacts such as visual and noise impacts, as well as increase in dust, that may be experienced during construction. Visual and noise as well as air quality impacts that would be considered as 'intrusive' in this regard are assessed in separate specialist studies. They are noted here for social significance, based on a review of the respective specialist assessments.

##### Parties affected

- Atlantis residents
- Users of Dassenberg road

##### Visual Impact

The potential visual impact and location of likely impact was indicated by a visual impact index that was comprised of the following spatial criteria:

- Visual exposure (visibility) of the infrastructure
- Proximity to the project infrastructure (visual distance)
- Viewer incidence/perception

The proposed OCGT to CCGT conversion and additional infrastructure have the greatest potential to visually impact. Each new development, expansion or increase in dimensions of the power station infrastructure attributes to the accumulation of the visual impact of the facility along the Dassenberg Road.

Each new power line in close proximity of this settlement contributes to the potential visual impact experienced by its residents. This is due to the observer's short distance (and high frequency) experience of the power station infrastructure.

Additional issues related to the visual impact are; land use character, visually sensitive features, potential impact of project infrastructure on tourism and eco-tourism, visual impact of lighting. These are discussed in more detail in the relevant specialist studies.

##### *Impact Summary:*

**Low to medium.** Also see findings from visual, noise, air quality and (previous) traffic assessments.

<b>Nature:</b> Visual, Noise		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Short (2)	Short (2)
<b>Magnitude</b>	Low (4)	Small (0)
<b>Probability</b>	Probable (3)	Very improbable (1)
<b>Significance</b>	$(2+2+4)3 = 24 = \text{Low}$	$(2+2+0)1 = 4 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>		
<b>Can impacts be mitigated?</b>	See noise, visual, air quality and traffic assessments.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>▪ Mitigation and compensation for directly affected parties to be negotiated with affected landowners and residents.</li> <li>▪ Mitigation for impacts in broader region to consider recommendations made in visual and air quality specialist studies.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>▪ Impacts can be considered cumulative to existing transmission lines</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>▪ Extent of impact could require affected residents to relocate, resulting in inconvenience and possible material loss. This is discussed with regard to the operational phase impacts.</li> </ul>		

#### Comparison of Alternatives

Alternative	Impact
No go option	No impact
Conversion as proposed	Impact as described

### 4.3 Potential social impacts associated with operation of Ankerlig CCGT power station

Current indications are that the CCGT units of the power station will commence operation in early 2011. These units will have a lifetime of up to 25 years with the option to extend, as is typical for gas turbines. The following sections describe the social impacts that are expected to arise during this operational phase:

1. Ongoing employment opportunities for locals;
2. Social investment;
3. Increase in traffic;
4. Impacts on health and safety;
5. Impact on Sense of Place
6. Possible interest group activity.

### 4.3.1 Ongoing Employment, business opportunities and skills development for locals

#### *Nature of Impact*

It was noted in the MasterQ assessment that for the operational staff component of less than 30, Eskom recruited people from the local community to be trained during the construction of the first OCGT. Some local people have also been trained as operators and maintainers, which also indicates areas of potential benefit. The 2008 Red Door Report (McCarthy, 2008) noted 4 local people to have been permanently employed by Roschcon.

Consultation with the Operations Manager at Ankerlig as part of this assessment indicated that 7 local people are currently employed, five as utility men, one as learner operator and one in admin. The plant is currently recruiting operators. Three local candidates have been identified, and it is hoped to recruit another five locally. It is estimated that an additional 10 local employment opportunities would be created as part of the conversion process.

#### Parties affected

- Successful job seekers
- Workers' households

#### *Impact Summary:*

<b>Nature:</b> Economic, Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Very short (1)	Medium (3)
<b>Magnitude</b>	Small (0)	Minor (2)
<b>Probability</b>	Improbable (2)	Probable (3)
<b>Significance</b>	$(2+1+0)2 = 6 = \text{Low}$	$(2+3+2)3 = 21 = \text{Low}$
<b>Status</b>	Positive	Positive
<b>Reversibility</b>	Positive impact for duration of employment.	Ongoing positive impact.
<b>Can impacts be mitigated?</b>	Yes - can be optimised.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Local labour and suppliers should be used as far as possible for maintenance, service provision and any additional opportunities arising during the operational phase.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Any additional permanent opportunities created would be a positive cumulative impact to existing developments. Longer involvement in the area provides additional opportunity to identify and train local people for possible employment, as well as maintenance and provision of general services required.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• The families of those who secure work will benefit and this will impact on their health and well-being. Impacts on these households will be significant as these are permanent job opportunities created.</li> </ul>		

- Local businesses benefit, and this also impacts on the health and well-being of their families.

### *Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Conversion as proposed	Limited opportunities for additional ongoing employment and business opportunities for locals. This impact can be optimised by targeting local employment and procurement of services as far as possible, and providing the necessary training to augment skills.

### **4.3.2 Social Investment**

#### *Nature of Impact*

As the number of employment opportunities that will be created during the operational phase of the project will be limited, it will be necessary to augment the benefits for surrounding communities by implementing appropriate social investment activities.

Social development initiatives implemented by Eskom and the contractors involved during construction of the initial OCGT units in addition to those of ESDEF are discussed in the MasterQ assessment (2007). These included Upgrading of the Multi-Purpose Community Centre (MPCC); extra curricular classes for sixteen (16) Grade 11 students of four (4) high schools; and building of a children's ward at the Wesfleur hospital. Local labour was used for control, labour, maintenance and service delivery as part of these projects.

#### *Eskom*

Social development is implemented through the Eskom Development Foundation (ESDEF). Eskom Development Foundation is a Section 21 company and a wholly owned subsidiary of Eskom Holdings Ltd ("Eskom"). The Development Foundation is responsible for: initiating and evaluating CSI related projects; coordinating and integrating Eskom's corporate social investment (CSI) activities, and developing grants and donations in South Africa. Table 6 below provides a summary of current and future social and economic Projects funded by the Eskom Development Foundation in Atlantis over the period 2006-2008. Additional projects, particularly in the agriculture sector, are currently being investigated for potential future funding.

**Table 6: Current and Future Projects in Atlantis**

<b>DATE APPR.</b>	<b>PROJECT NAME</b>	<b>R GRANTED</b>		<b>Benefic. TOT</b>
07/04/2006	City Sq Trading 33	R 281,688.24	Econ	26
14/01/2008	Orion Organisation	R123 678.29	Soc	219
	Ebenezer Village- Awaiting PEC	On hold	Soc	82
	Atlantis Women's Movement for the Abused	Pipeline	Soc	16

The Afrosearch assessment (2005) recommended that Eskom undertake a Community Needs Analysis and consult with local community leaders to identify the most appropriate social investment activities. When consulted as part of this assessment, Eskom's Social and Economic Development Advisor indicated that projects funded as part of Eskom's Corporate Social Investment (CSI) initiative were identified based on recommendations from individual community members who formerly worked for Eskom. This indicates that no such community needs assessment was undertaken. An alternate approach to improving accountability would be a more transparent process to disseminate information about the types of assistance offered and invite community initiatives to apply. *The effective implementation of Eskom's CSI policy through ESDEF necessitates efficient communication and dissemination of information on opportunities available with local communities.*

#### *Contractors*

In addition to social investment by Eskom, initiatives sponsored by contractors included:

**Roschcon** focused on the Moravian School and spent R500 000.00 to renovate the school and an additional income of R 90 000 from rental will allow for future development after the project. Four contracts were awarded to local businesses (Building, Plumbing, Electrical & Fencing), two (2) people were employed for 18 months for cleaning, and a 12-month contract was awarded to a local security company, employing eight (8) people in total. Eskom & Siemens invested R1 million in the Wesfleur hospital, to add a children's ward and an ambulance station. Three contracts were awarded (Building, plumbing and electrical) to local businesses.

**Lesedi** has been intensely involved in Atlantis over a number of years. In order to respond positively to the dire need for specialized industry skills in the Atlantis area, Lesedi established a Welding & Fabrication Services business unit in early 2007. While also aimed at strengthening the company's service offering in the construction industry, the Welding & Fabrication Services business unit also created much needed job opportunities for local residents with the required skills potential. Today, the unit employs over 70 people (over 65% of the people are from the area of Atlantis) , including welders, pipe fitters, boiler makers and semi-skilled workers, all of whom play an integral role in providing Lesedi with the means to support many of its projects fabrication requirements.

Lesedi has also contributed to a number of important community projects in Atlantis over the last few years. These include Wilge Special Day Care and Emmanuel Day Care. They have been particularly involved in sports development, having earmarked R150 000.00 towards the upliftment of sport in the community, with contributions to Jomos Power Football Club and Hamlets Rugby Club (Mamre)

**Ankile Engineering** also focuses on sports development through its sponsoring of the Atlantis Cricket Club.

Parties affected

- Atlantis community
- Beneficiaries of Social Investment initiatives.

*Impact Summary:*

**Low to High:** The significance of this positive impact can be maximised through appropriate targeting of Social Investment.

<b>Nature:</b> Economic, Social		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (3)
<b>Duration</b>	Short (2)	Medium (3)
<b>Magnitude</b>	Minor (2)	High (8)
<b>Probability</b>	Probable (3)	Highly probable (4)
<b>Significance</b>	$(2+2+2)3 = 18 = \text{Low}$	$(3+3+8)4 = 56 = \text{Medium}$
<b>Status</b>	Positive	Positive
<b>Reversibility</b>	Sustainability of social development initiatives will depend on the manner in which these are identified and implemented.	
<b>Can impacts be mitigated?</b>	Yes - this impact can be optimised.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Main contractors should continue to support Social development initiatives.</li> <li>• Ensure appropriate communication channels to disseminate information about the types of assistance available through ESDEF in the community, through initiatives such as Red Door, the LED forum, and Local Council.</li> <li>• Eskom to take a more pro-active stance in assisting community members to take advantage of its assistance through effective consultation with stakeholders on opportunities for assistance and how to access it.</li> </ul>		
<b>Cumulative Impacts:</b> Any increased emphasis on social investment due to ongoing developments in the area would have a positive impact on surrounding communities benefiting.		
<b>Residual Impacts:</b> Improved relationship between Eskom and local communities.		

### *Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	Eskom's current involvement in the area would mean continued involvement in terms of Social Investment.
Conversion as proposed	Eskom could place special emphasis on Social Investment to show its commitment to the host community of Atlantis where it has been involved for a number of years already, and will be into the future. The additional development could motivate additional social investment spending, and an opportunity to more appropriately liaise with local community representative structures in determining social needs and priorities which may be addressed.

#### **4.3.3 Increase in traffic**

##### *Nature of Impact*

Concerns were raised during Focus Group Meetings held in November 2007 regarding the potential impact that road transport of fuel to the Ankerlig site will have on traffic. This was again raised as serious concern during consultation with local councillors and representatives of residents' associations during this social assessment.

The CCGT units proposed would utilise the same amount of liquid fuel (i.e. diesel) as is currently the case for the OCGT units (i.e. approximately 40 tons of diesel/unit/hour) for the same operating regime. However, in order to meet the electricity supply demand in the medium-term, the plant will have to operate for more hours per day than was anticipated for the OCGT plant (i.e. higher than anticipated load factors). This higher load factor would require higher fuel consumption. Therefore, Eskom are proposing the storage of additional fuel on the site to the west of the existing Ankerlig Power Station. The installation of a liquid fuel pipeline to the Ankerlig Power Station, as well as transport of fuel by rail is currently being investigated as part of a separate EIA application.

Fuel for the existing OCGT plant is currently obtained from the Caltex refinery in Milnerton. The Transport Studies that were undertaken for the first OCGT project (GMKS, 2005) estimated fuel transport to require a maximum of 50 fuel tankers per week, or 10 per weekday. A subsequent study undertaken for the capacity expansion project (SSI, 2007) showed that additional fuel requirements for the additional five units would translate to a maximum of 80 tankers per week, or 14 per weekday. Impacts associated with this additional load included impacts on intersections and pavement loading impacts. The initial (GMKS) study found fuel supply impacts on traffic to be 'moderate' Impacts on intersections were considered "acceptable" and no intersection upgrading was recommended, while pavement loading impact was thought to be covered by fleet licensing fees paid by transport operators. (SSI, 2007).

Both GMKS (2005) and SSI (2007) noted that additional traffic impacts would increase the risk for road accidents, but both indicated this additional risk to be

outside the scope of their study. Potential health and safety impacts associated with fuel transport as well as storage of fuel on site are discussed in Section 4.3.4 below.

Parties potentially affected

- Residents of Melkbosstrand and Duynefontein
- Residents of Atlantis
- Road users

**Wide-spread** - Because this impact may be felt along access routes between the fuel supply point and the power station, and not only within communities adjoining the site, its extent may be widespread rather than concentrated in the study area (Afrosearch 2005).

*Impact Summary:*

**Low to High** - The significance of this impact may be amended based on findings of the Traffic Report findings that was conducted for the OCGT project and the traffic assessment undertaken as part of this EIA.

<b>Nature:</b> Social - safety, convenience		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Widespread (3)	Local (2)
<b>Duration</b>	Long (4)	Medium (3)
<b>Magnitude</b>	Moderate (6)	Minor (2)
<b>Probability</b>	Highly probable (4)	Probable (3)
<b>Significance</b>	$(3+4+6)4 = 52 = \text{Medium}$	$(2+3+2)3 = 21 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Impacts on road conditions and safety would extend and worsen	Impacts on roads and traffic minimised
<b>Can impacts be mitigated?</b>	Yes - also see Traffic Impact Study	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Alternate fuel transportation - notably rail or fuel pipeline- should be considered.</li> <li>• long-term impact could be mitigated by using alternative means of transporting the fuel</li> <li>• transporting the fuel via rail or pipeline between the Caltex Refinery and the Power Station, and this road based option could be used for emergencies only.</li> <li>• permit issuing authority to impose conditions that will need to be met during the transportation of the components</li> <li>• Upgrading and widening of R27 to accommodate additional traffic (assist to motivate Provincial Government to make this a priority).</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Impacts on road conditions and road safety can already be felt by residents of Melkbosstrand and surrounding areas as these areas experience increasing</li> </ul>		

<p>population growth, without concurrent development of public infrastructure (notably the R27). The impact of additional fuel trucks may be regarded as the potential “straw to break the camel’s back” (Raymond Williamson, MRA) adding to already heightened levels of tension and insecurity.</p>
<p><b>Residual Impacts:</b></p> <ul style="list-style-type: none"> <li>• Worsening road conditions, economic impacts of future upgrading.</li> <li>• Road accidents, heightened death toll and injuries, pressure on local healthcare facilities, economic impacts.</li> </ul>

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No increased impact
Conversion as proposed	The significance of this impact will be determined based on findings of the Transport Study that was conducted for the OCGT project.

**4.3.4 Impacts on Health and Safety**

*Nature of Impact*

Concern has been expressed throughout previous Public Participation processes, and again reiterated during Focus Group Meetings attended as part of this assessment, regarding potential health and safety implications that may result from:

- Transportation of fuel
- Storage of fuel
- Impacts on air quality during operation
- Potential impacts on water availability and quality of water

During the public participation process forming part of the initial OCGT process, concerns were raised regarding the impact of **fuel transport** on the safety of local communities. The issue of road safety being impacted by the increased presence of 40 tonne fuel trucks was highlighted as a serious concern by members of the Melkbosstrand Residents Association as well as local ward councillors. It was noted during consultation as part of this assessment that the R27 which is currently used for transporting fuel is a single carriageway road already experiencing pressure from rapidly increasing traffic volumes. Residents have commented about the “convoys of fuel trucks” on the way to the existing OCGT plant are regularly encountered along this road, and hence any additional trucks will certainly be noticed. The potential safety impact of fuel transport on increased accident rates was *not* considered within the scope of previous traffic assessments undertaken for the OCGT plant, but can be considered a significant *social* impact that needs to be taken cognisance of.

Another potential source of risk to surrounding communities relates to storage of fuel on-site. The initial OCGT station required ~5 million litres of fuel to be stored on-site, while the expansion required an additional ~11 million litres. Additional **fuel storage** facilities will be required at the Ankerlig Power Station to cater for the increased fuel requirements associated with the higher load factor associated with the conversion process. An additional 43.2 million litres of fuel to be stored in 8 x 5400 cubic meter tanks will bring the total volume of fuel stored on site to 59.4 million litres. The risk assessment which was undertaken for the initial OCGT plant showed that fuel storage on site would pose negligible risks to anyone off the Ankerlig site. This finding has however been queried during the Public Participation process, particularly noting the difference in findings for Ankerlig and Gourikwa in Mossel Bay (where potential risks were identified). Potential impacts of additional fuel required for longer hours of operation should be considered in a separate risk assessment.

During the public participation process that took place as part of the initial OCGT Power Station development in 2005, several stakeholders expressed the concern that the project would have a negative impact on health and well-being as it will be associated with the deterioration of local **air quality**. Concerns were raised about the possible effects of air pollution on asthmatic children and aged persons (Afrosearch 2005). Several stakeholders consulted during Focus Group Meetings held with local community representative groups in November 2007 noted “black plumes of smoke” emitted from the existing OCGT station, particularly during start-up. This causes general concern amongst Atlantis residents for potential health impacts that may be associated with the existing and potential future developments at Ankerlig. Potential impacts on Air Quality are addressed in a separate assessment.

It was highlighted during focus group discussions attended as part of this assessment that **impacts on groundwater** should be investigated. Both availability and quality of water were emphasised, noting Atlantis to rely entirely on the Atlantis Aquifer for its water supply. An extensive groundwater study was undertaken as part of the original study. Activities considered to have a potential ‘medium’ significance impact included storage of kerosene, storage and disposal of brine, and management of storm water runoff. Mitigation measures were suggested and a groundwater monitoring plan proposed and implemented. Adherence to such a monitoring plan has been emphasised in the EMP.

#### Parties affected

- Residents of Atlantis and surrounding areas
- Residents of Melkbosstrand and Duynefontein
- Road users

While impacts on safety and daily movement patterns as a result of fuel transport may be distributed along access routes, those associated with fuel storage and plant operation will be localised.

## **Risk assessment**

The study was limited to the hazards posed by the fuel oil storage and did not cover mechanical failures such as turbines.

The aim of the investigation was to determine the extent of impact from accidental fires with regards to the proposed CCGT conversion and storage tanks to the Ankerlig Power Station.

Risk calculations were not precise. The accuracy of the predictions was determined by the quality of base data and expert judgements. The risk assessment was done on the assumption that the site will be maintained to an acceptable level and that all-statutory regulations will be applied. It was also assumed that competent people will perform the detailed engineering designs and that the plant requirements will be correctly specified for the intended duty.

A number of incident scenarios were considered and the following conclusions were reached:

### *Pool fires*

Large bund fires and pool fires from spillages from road and rail offloading operations were calculated for the Ankerlig Power Station and the proposed CCGT conversion. The study concluded that Ankerlig Power Station and the proposed CCGT conversion could have impacts a short distance beyond the site boundary.

### *Jet fires*

Jet fires from a release of pressurized propane would form a maximum flame length of 20.4m. This flame would not extend beyond the site's boundary but could injure people and damage equipment within the flame.

### *Explosions*

As a result in additional structures for the CCGT conversion, a large lease of propane could result in a partial confined explosion that could extend beyond the site's boundary. However the risks for offsite are considered acceptable.

### *Major Hazardous installation*

The investigation concluded that the CCGT conversion would have risk excessive  $1 \times 10^{-6}$  fatalities per person per year at the site boundary and would classify the facility as a Major Hazardous Installation. As off-site consequences are possible, a quantitative risk assessment would be required in terms of the Major Hazardous Installation (MHI) Regulations (July 2001) prior to project construction. The risk assessment must be done by an Approved Inspection Authority, as recognized by the Department of Labour, with final designs and layouts.

As a result of the risk assessment study conducted for the proposed CCGT conversion project, no fatal flaws were apparent that could prevent the project proceeding. It is thus recommended that the project proceed into the detailed phase of the design with some provisions, as detailed in the risk assessment.

## Traffic assessment

(See 4.2.7)

## Air Quality Assessment

See Air Quality Assessment.

*Impact Summary:*

<b>Nature:</b> Health, safety		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Long (4)	Long (4)
<b>Magnitude</b>	Moderate (6)	Small (0)
<b>Probability</b>	Probable (3)	Improbable (2)
<b>Significance</b>	$(2+4+6)3 = 36 = \text{Medium}$	$(2+4+0)2 = 12 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	See relevant specialist studies	See relevant specialist studies
<b>Can impacts be mitigated?</b>	Yes - see air quality, risk, groundwater, traffic assessments.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Implement mitigation proposed in the Risk, Air Quality and Traffic Assessments</li> <li>• Results of the Risk, Air Quality, and Traffic assessments should be disseminated to assuage unsubstantiated public fears.</li> <li>• The contingency safety plan outlined in the EMP to be adhered to.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Potential cumulative impacts of additional fuel storage and emission above what was anticipated as assessed in specialist studies.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• If mitigation measures and safety plans are not successfully implemented, Eskom will be seen as a "bad neighbour", and negative attitude towards future projects could jeopardise these.</li> </ul>		

### Comparison of Alternatives

Alternative	Impact
No go option	No increased impact
Conversion as proposed	To be assessed based on findings from relevant specialist studies.

### 4.3.5 Impacts on Sense of Place

#### *Nature of Impact*

The term **sense of place** has been defined and utilised in different ways by different people. To some, it is a characteristic some geographic places have and some do not, while to others it is a feeling or perception held by people (not by

the place itself). It is often used in relation to those characteristics that make a place special or unique, as well as to those that foster a sense of authentic human attachment and belonging.

As the proposed Ankerlig Power Station Conversion would take place in the Atlantis Industrial Area, on a site currently occupied by the Ankerlig Power Station, impact on sense-of place can be expected to be limited. It is however worth noting that the tallest of the new components (i.e. the smokestacks) will be 60 m tall whereas the existing tallest structures (exhaust stacks) are 30 m tall. Eskom are also planning additional fuel storage on the site. This may have an impact as a result of cumulative visual impacts (assessed as part of a separate specialist study). It is also important to note that the Atlantis community already perceives itself as vulnerable to a variety of developments which many feel are being 'dumped' on them. The impact on sense of place can thus be regarded as a cumulative psychological impact, whereby Atlantis residents increasingly feel victim to broader developments in which they have no say or control potentially impacting on them.

To the extent that such impacts may occur, their significance would relate partly to other impacts, notably visual and noise impacts, as well as impacts on air quality and traffic volumes, which need to be taken into consideration in assessing this impact. Potential visual and noise impacts that may be associated with the operational phase of the Conversion Project have been addressed in separate specialist assessments.

Also contributing to this impact will be the degree to which the local Atlantis community feels recognised as a host community that should benefit from the development as much as possible. Increasing perceptions of being a 'dumping ground', particularly for Eskom's energy generation projects would contribute to the impact more power developments have on people's 'sense of place'. The importance of good relations with local communities was discussed in more detail in section 4.2.6 relating to social conflicts and disputes.

Conversely, if Eskom's presence can be seen to have visible benefits to local communities in terms of job creation, business opportunities, skills development and social investment, perceptions of the area as an 'energy hub' for South Africa may acquire a positive connotation which could change the status of this impact.

### **Visual Impact**

The potential visual impact and location of likely impact was indicated by a visual impact index that was comprised of the following spatial criteria:

- Visual exposure (visibility) of the infrastructure
- Proximity to the project infrastructure (visual distance)
- Viewer incidence/perception

The proposed OCGT to CCGT conversion and additional infrastructure have the greatest potential to visually impact

- Dassenberg road (R307)

Each new development, expansion or increase in dimensions of the power station infrastructure attributes to the accumulation of the visual impact of the facility along the Dassenberg Road. Setting the new power lines further apart spreads the visual impact over a larger distance.

- Residents of the Klein Zoute River

Each new power line in close proximity of this settlement contributes to the potential visual impact experienced by its residents.

This is due to the observer's short distance (and high frequency) experience of the power station infrastructure.

Additional issues related to the visual impact are; land use character, visually sensitive features, potential impact of project infrastructure on tourism and eco-tourism, visual impact of lighting.

### **Traffic assessment**

(See 4.2.7)

### **Noise and Air Quality Assessments**

See Air Quality Assessment.

Parties affected

- Atlantis residents
- Road users along the Dassenberg Road
- Klein Zoute River residents

### *Impact Summary:*

The overall significance of this impact is dependent on findings from visual, noise, air quality and traffic assessments.

<b>Nature:</b> Impacts on Sense of Place		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Medium (3)	Short (1)
<b>Magnitude</b>	Moderate (6)	Minor (2)
<b>Probability</b>	Probable (3)	Very improbable (2)
<b>Significance</b>	$(2+3+6)3 = 33 = \text{Medium}$	$(2+1+2)2 = 10 = \text{Low}$
<b>Status</b>	Negative	Negative/ Positive
<b>Reversibility</b>	"Sense of place" essentially alters over time. Ankerlig is situated in an industrial area in a region increasingly characterised by industrial and power developments (Atlantis Industria, Gas turbines and areas located near the site like Koeberg, Nuclear, PBMR etc.) This eventually becomes part of the area's 'sense of place'	
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Minimise noise, visual, air quality, traffic impacts through appropriate mitigation.</li> <li>• Maintain good relationships with local communities through regular, inclusive stakeholder engagement and consultation processes.</li> <li>• Maximise local benefit through specific focus on employment, business opportunities, skills development and social investment.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Impacts related to the Ankerlig site can be considered cumulative to numerous other industrial and other developments in the area such as the proposed municipal landfill site, all combining to create a sense of becoming a 'dumping ground' for such developments.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Perceiving one's home to be a 'dumping ground' for developments can have detrimental psychological impacts on the local population, particularly if they do not feel appropriately known in these developments through effective public engagement processes.</li> </ul>		

#### Comparison of Alternatives

Alternative	Impact
No go option	No (additional) impact
Conversion as proposed	Increased perception of Atlantis residents that the area is used as an industrial 'dump', which could lead to resentment and possibly result in interest group activity (see below).

#### 4.3.6 Possible interest group activity

##### Nature of Impact

The effects of exposure to risk (whether real or perceived) are among the most significant potential social impacts of the project. Apart from psychological effects such as increased stress and psychosomatic symptoms, it may lead to interest

group activity and social mobilisation against the project. Some interest group activity was already evident at the time of the Afrosearch (2005) assessment undertaken for the initial OCGT development (i.e. initial 4 units).

The MasterQ (2007) Assessment undertaken for the expansion project (i.e. additional 5 units) noted that some interest group activity was still evident. Potential interest group activity is linked to potential health and safety impacts (see above). Objections by members of the Atlantis community against industrial developments in the area were made during public/focus group meetings: "*Atlantis has become a convenient dumping ground for these kinds of projects*" (MasterQ 2007).

Eskom attempted to establish a Community Monitoring Committee (CMC) to liaise between the project and the local community, but it was noted during Focus Group Meetings attended as part of this assessment that this committee is no longer functioning. Concerns were raised concerning the way the committee, which was not considered representative of the broader Atlantis community, was elected.

Parties affected

- Atlantis community
- Eskom and Project Staff

**Low to High:** This can be considered a potential *indirect* impact as it relates to people's perceptions of other impacts (such as air quality and perceived exposure to risk.)

*Impact Summary:*

<b>Nature:</b> Interest Group Activity		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Widespread (3)	Local (2)
<b>Duration</b>	Long (4)	Very short (1)
<b>Magnitude</b>	Moderate (6)	Minor (2)
<b>Probability</b>	Probable (3)	Very Improbable (1)
<b>Significance</b>	$(3+4+6)3 = 39 = \text{Medium}$	$(2+1+2)1 = 5 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Appropriate mitigation can reduce fears and improve Eskom's reputation.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>The potential for such interest group activity can be minimised through effective and inclusive Public Participation and Community Liaison to disseminate project information, specifically addressing concerns regarding potential risks and seeking to build a shared vision with the local community.</li> <li>Results of the Risk, Air Quality, and Traffic assessments should be disseminated to assuage unsubstantiated public fears.</li> <li>Social investment activities initiated by contractors should be assessed in consultation with stakeholders.</li> <li>Local procurement and recruitment should be conducted in consultation with local stakeholders to improve Eskom's relationship with the local community.</li> <li>The reports of the Environmental Control Officer (ECO) should be disseminated to the relevant officials on local and provincial level.</li> <li>Eskom should inform the community via local media about their initiatives as well as the levels of health and safety achieved during the operation of the OCGT.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>This can be considered a <i>cumulative</i> impact as people's perceptions are built on a combination of effects of various developments. During the November 2007 Focus Group Meetings, for example, questions often concerned Eskom's nuclear (PBMR and Nuclear 1) developments, with which many associate the proposed conversion process.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>If mitigation measures and safety plans are not successfully implemented, Eskom will be seen as a "bad neighbour", and negative attitude towards future projects could jeopardise these.</li> </ul>		

*Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No (additional) impact
Conversion as proposed	Increased perception of Atlantis residents that the area is used as an industrial 'dump', which could lead to resentment and possibly result in interest group activity. Concerns over potential health and safety impacts as discussed above could result in heightened sensitivity leading to possible interest group activity.

**4.4 Potential social impacts associated with construction of transmission power line**

Construction of the transmission line is expected to commence in early 2010, with a construction timeframe of approximately 9 months, including tests. The following sections describe the social impacts that are expected to arise during the construction phase. Issues relevant for the construction phase are as follows:

- Creation of temporary employment opportunities;
- Influx of job seekers and temporary workers;
- Increase in traffic;
- Impact on current land-uses;
- Impact on sense of place.

**4.4.1 Temporary local employment opportunities, business opportunities and skills development**

Also see 4.2.1, 4.2.2 and 4.2.3 above.

*Nature of Impact*

Construction of the transmission power line will create a number of temporary employment opportunities in construction. Sourcing of construction workers from the local labour pool is likely to be limited to unskilled and semi-skilled workers due to the highly technical nature of the work to be undertaken. This could have some economic benefits for surrounding communities, although only of a temporary nature (Afrosearch 2005).

In addition to creating job opportunities for construction workers, the project may also offer indirect employment creation for entrepreneurs in the informal sector, for instance food stalls for the convenience of construction workers (Afrosearch 2005).

Parties affected

- Successful job-seekers and entrepreneurs
- Workers' families.

*Impact Summary:*

**Low to medium:** The magnitude of this impact will depend on the number of construction workers to be employed, either by Eskom itself or by contractors.

<b>Nature:</b> Social, Economic		
	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Very short (1)	Short-term (2)
<b>Magnitude</b>	Low (4)	High (8)
<b>Probability</b>	Probable (3)	Highly probable (4)
<b>Significance</b>	$(2+1+4)3 = 21 = \text{Low}$	$(2+2+8)4 = 48 = \text{Medium}$
<b>Status</b>	Positive	Positive
<b>Reversibility</b>	see 4.2.1	see 4.2.1
<b>Can impacts be mitigated?</b>	Yes - effective mitigation can maximise this potential positive impact.	
<b>Mitigation:</b> see 4.2.1		
<b>Cumulative Impacts:</b> see 4.2.1		
<b>Residual Impacts:</b> see 4.2.1		

*Comparison of Alternatives*

This impact can be expected of similar significance for all three alternatives under consideration.

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Preferred alternative	Impact as described.
Sub alternative	Impact as described.

**4.4.2 Housing of temporary workers**

See 4.2.4 above

**4.4.3 Influx of job seekers**

See 4.2.5 above

**4.4.4 Increase in traffic**

See 4.2.7 above and findings of Traffic Assessment for conversion.

**4.4.5 Impact on current and planned land-users**

*Nature of Impact*

Existing land users that may be impacted by construction (and subsequent operation of) the proposed transmission power line are summarised in Table 7

below, noting which options would impact on respective land-uses, as well as potential impacts that can be expected.

Surrounding residents noted severe concerns at the construction of a potential transmission line in close proximity to their homes. The preferred alternative would impact severely on the Bantjes, Gerber, De Nekker, Viljoen, Schutte, and Theron households, some (if not all) of whom would need to be relocated due to the proximity of the servitude to their houses. The sub-alternative would impact severely on the Gerber household, who would need to be relocated as an additional servitude for another transmission line to the east of current lines running across the property would pass across their house.

Residents' concerns regarding the proposed alignments are discussed in further detail with regard to the operational phase in Sections 4.5.1, 4.5.2, and 4.5.3.

**Table 7: Potential Social Impacts on Current Land Users Along Proposed Alternative Alignments during Construction**

<b>Current Land-use</b>	<b>Project Alternatives:</b>	<b>Potential Impacts</b>
<ul style="list-style-type: none"> <li>• Klein Zoute Rivier Agricultural Holdings. See below:</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	See below:
<ul style="list-style-type: none"> <li>• Part 1, of 1063 - Kobus Bantjies - residential</li> <li>• Part 2 of 1063 - Frans De Nekker; Anya Van Wyk- residential</li> <li>• Part 3 of 1063 - Ruan Theron; Shawn Schutte; Shawn Viljoen - residential, workshop, rehabilitation of fynbos, small farming</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of construction vehicles and workers in close proximity to residences.</li> </ul>
<ul style="list-style-type: none"> <li>• Portion 4 - formerly owned by Taljaard, but recently sold. No info on current owner</li> <li>• Portion 5 - Suzie Langer - sand mine contract</li> <li>• Portion 18 - Joseph Jenkinson - residential, planned sand mine</li> <li>• Portion 19 - Clive Spolander</li> <li>• Portion 20 - Paul &amp; Ronel Gerber - Residential, small farming (small stock &amp; poultry)</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Presence of construction vehicles and workers in close proximity to residences.</li> </ul>
<ul style="list-style-type: none"> <li>• Portions of Farms falling within the Malmesbury non-urban (classified as part of Atlantis non-urban for suburb population profiles) area between Atlantis and Klein Zoute River AH. - predominantly fallow land.</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Limited impact - largely fallow land and no residences noted.</li> </ul>

<ul style="list-style-type: none"> <li>Die Anker (Keert de Koe) - Phil Stofberg <ul style="list-style-type: none"> <li>Households of manager</li> <li>3 tenant households</li> <li>28 labourers' households</li> <li>250 Cattle, mainly Dairy production</li> <li>Crop cultivation (grains)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Option C</li> </ul>	<ul style="list-style-type: none"> <li>Dairy production - construction impact on grazing</li> <li>Impact on farm buildings</li> <li>Potential of leaving gates open</li> <li>Overhead spraying of crops</li> </ul>
<ul style="list-style-type: none"> <li>Vaaitjie - Nico Stofberg (manage the farm trust) <ul style="list-style-type: none"> <li>Household of owner's daughter</li> <li>3 labourers' households</li> <li>Agriculture (cattle, crops)</li> <li>Sandmine</li> <li>Planned game farm development</li> <li>Planned multi-stakeholder tourism development.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Option C</li> </ul>	<ul style="list-style-type: none"> <li>Impact on current agricultural land-uses</li> <li>Impact on residents</li> <li>Impact on proposed game farm and tourism developments.</li> </ul>
<ul style="list-style-type: none"> <li>Vaaitjie School - approximately 100 children of labourers of surrounding farms.</li> </ul>	<ul style="list-style-type: none"> <li>Option C</li> </ul>	<ul style="list-style-type: none"> <li>Disruptive impact of construction on school.</li> </ul>
<ul style="list-style-type: none"> <li>Omega Bricks</li> </ul>	<ul style="list-style-type: none"> <li>Option C</li> </ul>	<ul style="list-style-type: none"> <li>Disruption during construction</li> <li>Impact on expansion plans.</li> </ul>
<ul style="list-style-type: none"> <li>Atlantis foundries</li> </ul>	<ul style="list-style-type: none"> <li>Option C</li> </ul>	<ul style="list-style-type: none"> <li>Disruption during construction.</li> </ul>
<ul style="list-style-type: none"> <li>Proposed Municipal landfill site</li> </ul>	<ul style="list-style-type: none"> <li>Option C</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development could impact on a proposed municipal landfill site that is planned to be constructed in close proximity to Option C.</li> </ul>
<ul style="list-style-type: none"> <li>Cape West Coast Biosphere Reserve (see <b>Error! Reference source not found.</b> below.)</li> </ul>	<ul style="list-style-type: none"> <li>Option A <ul style="list-style-type: none"> <li>Limited impact</li> </ul> </li> <li>Sub-alternative <ul style="list-style-type: none"> <li>Limited impact</li> </ul> </li> <li>Option C <ul style="list-style-type: none"> <li>Potentially significant impact in lieu of potential tourism development.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Cumulative impacts of developments in a biosphere reserve.</li> <li>Impacts on potential tourism development.</li> </ul>

#### Parties affected

- Current land users (see above)

*Impact Summary:*

**Low to Medium** - significance would depend on the alignment selected as different land uses would be impacted - see below:

<b>Nature:</b> Social, Economic		
<b>Option A</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Short (2)	Short (2)
<b>Magnitude</b>	High (8)	Low (4)
<b>Probability</b>	Definite (5)	Definite (5)
<b>Significance</b>	$(1+2+8)5 = 55 = \text{Medium}$	$(1+2+4)5 = 30 = \text{Low//Medium}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Rehabilitation of construction areas would be required as part of EMP.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>Mitigation and compensation to be negotiated with neighbouring land owners and residents.</li> </ul>		
<b>Option A Sub-alternative</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Short (2)	Short (2)
<b>Magnitude</b>	Moderate (6)	Minor (2)
<b>Probability</b>	Definite (5)	Definite (5)
<b>Significance</b>	$(1+2+6)5 = 45 = \text{Medium}$	$(1+2+2)5 = 25 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Rehabilitation of construction areas would be required as part of EMP.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>Mitigation and compensation to be negotiated with neighbouring land owners and residents.</li> </ul>		
<b>Option A Sub-alternative</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Short (2)	Short (2)
<b>Magnitude</b>	High (8)	Moderate (6)
<b>Probability</b>	Definite (5)	Definite (5)
<b>Significance</b>	$(1+2+8)5 = 55 = \text{Medium}$	$(1+2+6)5 = 35 = \text{Medium}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Rehabilitation of construction areas would be required as part of EMP.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>Mitigation and compensation to be negotiated with neighbouring land owners and residents.</li> </ul>		

<p><b>Cumulative Impacts:</b></p> <ul style="list-style-type: none"> <li>• Impacts can be considered cumulative to existing transmission lines</li> </ul>
<p><b>Residual Impacts:</b></p> <ul style="list-style-type: none"> <li>• As mitigation may require relocation of neighbouring residents, real impacts can be considered long-term although this section refers only to the construction phase. Impacts associated with the proposed transmission line are discussed in more detail below with respect to the operational phase.</li> </ul>

*Comparison of Alternatives*

The proposed sub alternative is preferred from a social perspective, posing the least potential impact as indicated below:

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Option A	Impact on households of: <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> <li>• Frans De Nekker</li> <li>• Anya van Wyk</li> <li>• Shawn Schutte</li> <li>• Shawn Viljoen</li> <li>• Ruan Theron</li> </ul>
Sub alternative	Impact on households of: <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> </ul>
Option C	Impact on: <ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - 32 resident families- Phil Stofberg</li> <li>• Vaaitjie - 4 resident families - Nico Stofberg (manage the farm trust)</li> <li>• Potential tourism development</li> <li>• Vaaitjie school (~100 learners)</li> <li>• Omega Bricks (~ 250 workers on site)</li> <li>• Atlantis Foundries (~1800 workers on site)</li> </ul>

**4.4.6 Intrusive impacts - visual and dust**

*Nature of impact*

Visual impacts and impacts on air quality related to an increase of dust during construction are assessed in separate specialist studies. Construction noise impacts associated with the transmission line are expected to be of low significance and of short duration and thus will not be assessed in detail. Impacts will be particularly severe for residents immediately adjacent to the proposed alignment. These include Klein Zoute Rive residents (proposed & sub-alternatives), or residents on Vaaitjie and Die Anker, as well as workers at Omega Bricks and Atlantis Foundries (Option C).

Also see findings from the Visual and Air quality Impact Assessments.

Parties affected

- Klein Zoute Rive residents, particularly land users along selected transmission power line route (proposed & sub-alternative)
- Residents of Melkbosstrand, Duynefontein and Van Riebeeckstrand (proposed & sub-alternative)
- Residents on Vaaitjie and Die Anker (Option C)
- Workers at Omega Bricks and Atlantis Foundries (Option C)
- Visitors to Cape West Coast Biosphere Reserve (see **Error! Reference source not found.** in Section 3.1.2 above - potential visual impacts) (proposed Option A & sub-alternative & Option C)

*Impact Summary:*

<b>Nature:</b> Visual and dust		
<b>Option A</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Short (2)	Very short (1)
<b>Magnitude</b>	High (8)	Low (4)
<b>Probability</b>	Probable (3)	Improbable (2)
<b>Significance</b>	$(2+2+8)3 = 36 = \text{Medium}$	$(2+1+4)2=14 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Rehabilitation of construction areas would be required as part of EMP.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Option A Sub alternative</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Short (2)	Very short (1)
<b>Magnitude</b>	Moderate (6)	Low (4)
<b>Probability</b>	Probable (3)	Improbable (2)
<b>Significance</b>	$(2+2+6)3 = 30 = \text{Low/Medium}$	$(2+1+4)2=14 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Rehabilitation of construction areas would be required as part of EMP.	
<b>Can impacts be mitigated?</b>	Yes	
<b>Option C</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Short (2)	Very short (1)
<b>Magnitude</b>	High (8)	Low (4)
<b>Probability</b>	Very Probable (4)	Improbable (2)
<b>Significance</b>	$(2+2+8)4 = 48 = \text{Medium}$	$(2+1+4)2=14 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Rehabilitation of construction areas would be required as part of EMP.	

<b>Can impacts be mitigated?</b>	Yes
<b>Mitigation:</b>	
<ul style="list-style-type: none"> <li>• Mitigation and compensation for directly affected parties to be negotiated with affected landowners and residents.</li> <li>• Mitigation for impacts in broader region to consider recommendations made in visual and air quality specialist studies.</li> </ul>	
<b>Cumulative Impacts:</b>	
<ul style="list-style-type: none"> <li>• Impacts can be considered cumulative to existing transmission lines</li> </ul>	
<b>Residual Impacts:</b>	
<ul style="list-style-type: none"> <li>• Extent of impact could require affected residents to relocate, resulting in inconvenience and possible material loss. This is discussed with regard to the operational phase impacts.</li> </ul>	

#### *Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Option A	Impact on households of: <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> <li>• Frans De Nekker</li> <li>• Anya van Wyk</li> <li>• Shawn Schutte</li> <li>• Shawn Viljoen</li> <li>• Ruan Theron</li> </ul>
Sub alternative	Impact on households of: <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> </ul>
Option C	Impact on: <ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - 32 resident families- Phil Stofberg</li> <li>• Vaaitjie - 4 resident families - Nico Stofberg (manage the farm trust)</li> <li>• Potential tourism development</li> <li>• Vaaitjie school (~100 learners)</li> <li>• Omega Bricks (~ 250 workers on site)</li> <li>• Atlantis Foundries (~1800 workers on site)</li> </ul>

#### **4.5 Potential social impacts associated with operation of transmission power line**

The power line will need to be erected and commissioned in order to allow the evacuation of the additional power to be generated at the power station. It is expected that this power line would be commissioned by the end of 2010 to early 2011. The power line will have an expected lifespan of between 35 and 40 years. The following sections describe the social impacts that are expected to arise during this operational phase:

- impacts on current land uses
- impacts on health and safety
- impacts on sense-of-place

#### **4.5.1 Impact on current land-users and neighbouring residents**

##### *Nature of Impact*

A representative of Melkbosstrand Residents' Association noted during the Key Stakeholders' Meeting held as part of the Public Participation Process undertaken as part of this assessment that the preferred alternative would cut off a piece of land which would effectively be rendered worthless to any future development. When probed on this matter during SIA consultation he emphasised the value of land as more important than power lines, expressing a desire to consider future generations in current planning by minimising such unnecessary loss of land. Existing land uses that will be impacted by the operation of the proposed transmission power line are summarised in Table 8 below, noting which options would impact on respective land-uses.

Impacts on current land users will include:

- permanent loss of land to the servitude;
- loss of income from land (notably existing and planned sand mining operations);
- decrease in property value; (Wimpie Henning, Eskom's Transmission Negotiator, confirmed that property value in the project area can be expected to decrease significantly as a result of additional transmission lines.)
- impacts on health and safety of neighbouring residents (see 4.5.2 below); and
- impacts on sense of place (see 4.5.3 below), which are primarily related to visual and noise impacts in an area selected by residents for its peace and solitude and quiet rural character.

The severity of impacts on affected residents could require purchasing of entire properties if households can no longer reside in such close proximity to the lines. This would need to be negotiated between affected landowners and Eskom. Landowners expressed mixed feelings about the prospect of selling their land during consultation, ranging from "Eskom will not put a power line across my property!", "we will blow the lines up"/ "bulldoze the lines", to more amenable comments such as 'everything has a price'.

- Kobus Bantjes, Frans De Nekker, Shawn Viljoen, Shawn Schutte, and Ruan Theron initially all indicated unwillingness to sell all or part of their properties, and are severely opposed to living in close proximity to a transmission line. These landowners would all be impacted by the preferred alignment, and propose that the sub-alternative be selected.
- The Gerbers, who would be most severely affected regardless of the alignment selected, expressed a sense of powerlessness in the face of

whatever Eskom decides to do, indicating that they may be prepared to sell the property in its entirety, although unwillingly, and that the price would have to be right, as their entire livelihoods are invested in it.

- Joseph Jenkinson and Anya van Wyk were not entirely opposed to the proposed development, indicating that they would be willing to negotiate for a price. Joseph Jenkinson would potentially be equally impacted by either alternative, and Anya van Wyk would be impacted by the preferred alternative.
- Landowners Clive Spolander and Suzie Langer (represented by her son-in-law Henry Kruger), who are not resident on the affected properties, also indicated willingness to negotiate. These would both be impacted by the sub-alternative.

During a Focus Group Meeting held with potentially affected landowners on 17 June 2007 the possibility of Eskom acquiring all the potentially affected properties was discussed. Eskom's Transmission Negotiator was present at this meeting and agreed that this would be considered as compensation, confirming that Eskom will pay market related rates for the properties.

Landowners were informed of potential future developments from Koeberg Power Station that would also affect properties impacted by Option A and the sub-alternative. In light of this all agreed on the potential inevitability of the development, indicating willingness to negotiate.

**Table 8: Potential Social Impacts on Current Land Users Along Proposed Alternative Alignments during Operation**

Current Land-use	Project Alternatives:	Potential Impacts
<ul style="list-style-type: none"> <li>• Klein Zoute Rivier Agricultural Holdings. See below:</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	See below:
<ul style="list-style-type: none"> <li>• Part 1, of 1063 - Kobus Bantjies</li> <li>• Part 2 of 1063 - Frans De Nekker; Anya Van Wyk- residential</li> <li>• Part 3 of 1063 - Ruan Theron; Shawn Schutte; Shawn Viljoen - residential, workshop, rehabilitation of fynbos, small farming</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of land to servitude</li> <li>• Loss of income from land</li> <li>• Health impacts from proximity to line (see 4.5.2 below)</li> <li>• Impact on sense of place (see 4.5.3 below)</li> <li>• Visual and noise impacts</li> <li>• Potential relocation if land is purchased by Eskom</li> </ul>
<ul style="list-style-type: none"> <li>• Portion 4 - formerly owned by Taljaard, but recently sold. No info on current owner</li> <li>• Portion 5 - Suzie Langer - sand mine contract (Mphoweni sands)</li> <li>• Portion 18 - Joseph Jenkinson - residential, planned sand mine</li> <li>• Portion 19 - Clive Spolander</li> <li>• Portion 20 - Paul&amp; Ronel Gerber - Residential, small farming (small stock &amp; poultry)</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of land to servitude</li> <li>• Loss of income from land</li> <li>• Health impacts from proximity to line (see 4.5.2 below)</li> <li>• Impact on sense of place (see 4.5.3 below)</li> <li>• Visual and noise impacts</li> <li>• Potential relocation if land is purchased by Eskom</li> </ul>
<ul style="list-style-type: none"> <li>• Portions of Farms falling within the Malmesbury non-urban (classified as part of Atlantis non-urban for suburb population profiles) area between Altantis and Klein Zoute River AH. - predominantly fallow land.</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Limited impact - largely fallow land and no residences noted.</li> </ul>
<ul style="list-style-type: none"> <li>• Cape West Coast Biosphere Reserve (see <b>Error! Reference source not found.</b> below.)</li> </ul>	<ul style="list-style-type: none"> <li>• Option A</li> <li>• Sub-alternative</li> </ul>	<ul style="list-style-type: none"> <li>• Cumulative impacts of developments in a biosphere reserve.</li> </ul>
<ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe?) - Phil Stofberg <ul style="list-style-type: none"> <li>○ Households of manager</li> <li>○ 3 tenant households</li> <li>○ 28 labourers' households</li> <li>○ 250 Cattle, mainly Dairy production</li> <li>○ Crop cultivation (grains)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Dairy production - construction impact on grazing</li> <li>• Impact on farm buildings</li> <li>• Potential of leaving gates open</li> <li>• Overhead spraying of crops</li> </ul>
<ul style="list-style-type: none"> <li>• Vaaitjie - Nico Stofberg (manage the farm trust) <ul style="list-style-type: none"> <li>○ Household of owner's daughter</li> <li>○ 3 labourers' households</li> <li>○ Agriculture (cattle, crops)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on current agricultural land-uses</li> <li>• Impact on residents</li> <li>• Impact on proposed game farm and tourism</li> </ul>

Current Land-use	Project Alternatives:	Potential Impacts
<ul style="list-style-type: none"> <li>○ Sandmine</li> <li>○ Planned game farm development</li> <li>○ Planned multi-stakeholder tourism development.</li> </ul>		developments.
<ul style="list-style-type: none"> <li>• Vaaitjie School - approximately 100 children of labourers of surrounding farms.</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Disruptive impact of construction on school.</li> </ul>
<ul style="list-style-type: none"> <li>• Omega Bricks</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption during construction</li> <li>• Impact on expansion plans.</li> </ul>
<ul style="list-style-type: none"> <li>• Atlantis foundries</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption during construction.</li> </ul>
<ul style="list-style-type: none"> <li>• Cape West Coast Biosphere Reserve (see <b>Error! Reference source not found.</b> below.)</li> </ul>	<ul style="list-style-type: none"> <li>• Option A <ul style="list-style-type: none"> <li>○ Limited impact</li> </ul> </li> <li>• Sub-alternative <ul style="list-style-type: none"> <li>○ Limited impact</li> </ul> </li> <li>• Option C <ul style="list-style-type: none"> <li>○ Potentially significant impact in lieu of potential tourism development.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Cumulative impacts of developments in a biosphere reserve.</li> <li>• Impacts on potential tourism development.</li> </ul>
<ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - Phil Stofberg <ul style="list-style-type: none"> <li>○ Households of manager</li> <li>○ 3 tenant households</li> <li>○ Cattle, mainly Dairy production</li> <li>○ Crop cultivation (grains)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Dairy production - EMF impacts on milk (whether real or perceived)</li> <li>• Impact on residents</li> <li>• Impact on farm buildings</li> <li>• Overhead spraying of crops</li> </ul>
<ul style="list-style-type: none"> <li>• Vaaitjie - Nico Stofberg (manage the farm trust) <ul style="list-style-type: none"> <li>○ Residents</li> <li>○ Agriculture (cattle, crops)</li> <li>○ Sandmine</li> <li>○ Planned game farm development</li> <li>○ Planned multi-stakeholder tourism development.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on current agricultural land-uses</li> <li>• Impact on residents</li> <li>• Impact on proposed game farm and tourism developments.</li> </ul>
<ul style="list-style-type: none"> <li>• Vaaitjie School - approximately 100 children of labourers of surrounding farms.</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Potential health impacts on children in close proximity to transmission line.</li> </ul>
<ul style="list-style-type: none"> <li>• Omega Bricks</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Impact on expansion plans.</li> </ul>
<ul style="list-style-type: none"> <li>• Atlantis foundries</li> </ul>	<ul style="list-style-type: none"> <li>• Option C</li> </ul>	<ul style="list-style-type: none"> <li>• Disruption during construction.</li> </ul>
<ul style="list-style-type: none"> <li>• Cape West Coast Biosphere Reserve</li> </ul>	<ul style="list-style-type: none"> <li>• Option A <ul style="list-style-type: none"> <li>○ Limited impact</li> </ul> </li> <li>• Sub-alternative <ul style="list-style-type: none"> <li>○ Limited impact</li> </ul> </li> <li>• Option C <ul style="list-style-type: none"> <li>○ Potentially</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Cumulative impacts of developments in a biosphere reserve.</li> <li>• Impacts on potential tourism development.</li> </ul>

Current Land-use	Project Alternatives:	Potential Impacts
	significant impact in lieu of potential tourism development.	

Parties affected

- Current land-users (see above)

*Impact Summary:*

(Note that this rating refers specifically to land uses of affected landowners impacted, and not to impacts on fallow land currently crossed by existing lines, or to the Cape West Coast Biosphere Reserve)

<b>Nature:</b> Social, Economic		
<b>Option A</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Very high (10)	Moderate (6)
<b>Probability</b>	Definite (5)	Probable (3)
<b>Significance</b>	$(1+5+10)5 = 80 = \text{High}$	$(1+5+6)3 = 45 = \text{Medium}$
<b>Status</b>	Negative	Negative
<b>Option A sub-alternative</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Moderate (6)	Low (4)
<b>Probability</b>	Definite (5)	Probable (3)
<b>Significance</b>	$(1+5+6)5 = 60 = \text{Medium/High}$	$(1+5+6)3 = 45 = \text{Medium}$
<b>Status</b>	Negative	Negative
<b>Option C</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Very high (10)	Moderate (6)
<b>Probability</b>	Definite (5)	Probable (3)
<b>Significance</b>	$(1+5+8)5 = 80 = \text{High}$	$(1+5+6)3 = 45 = \text{Medium}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Yes – landowners can still use the land for certain activities such as crop planting, but they cannot erect any permanent structures or use centre pivot irrigation systems. Landowners have noted potential impacts on livestock that do not graze under power lines. Although not directly verifiable, this perception should be taken into account as it affects landowners' perception of the development	
<b>Irreplaceable loss of resources</b>	Yes - Land under lines cannot be used for future development.	Yes - Land under lines cannot be used for future development.
<b>Can impacts be mitigated?</b>	Yes - to be negotiated with affected landowners.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Purchase land of landowners affected by alignment selected.</li> <li>• Mitigation and compensation to be negotiated with landowners</li> <li>• Detailed planning of alignment should consider current landowners and land uses.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Impacts will be cumulative to those with existing transmission lines on their properties.</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Material loss if compensation for land acquired by Eskom does not compensate for investments in property.</li> <li>• Permanent loss of land to servitude.</li> <li>• Decrease in property value. (Confirmed by Eskom Transmission Negotiator)</li> <li>• Impacts on health (see 4.5.2).</li> <li>• Impact on sense of place, resulting from visual impacts and noise from the corona associated with power line operation. (see 4.5.3)</li> </ul>		

- Potential relocation of current households if entire property is to be purchased by Eskom.
- Loss of income from sand mining operations.

### Comparison of Alternatives

Alternative	Impact
No go option	No impact
Option A	<p>This impact would be cumulative as the proposed alignment is parallel to existing transmission lines. Parties affected will include:</p> <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> <li>• Clive Spolander</li> <li>• Suzie Lander</li> <li>• Mphoweni Sands contractors</li> <li>• Frans De Nekker</li> <li>• Anya van Wyk</li> <li>• Shawn Schutte</li> <li>• Shawn Viljoen</li> <li>• Ruan Theron</li> </ul> <p><i>Significance: <b>Medium</b></i></p>
Sub alternative	<p>This impact would be cumulative as the proposed alignment is parallel to existing transmission lines. Parties directly affected will include:</p> <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> <li>• Clive Spolander</li> <li>• Suzie Lander</li> </ul> <p><i>Significance: <b>Low</b></i></p>
Option C	<p>Impact on:</p> <ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - 32 resident families- Phil Stofberg</li> <li>• Vaaitjie - 4 resident families - Nico Stofberg (manage the farm trust)</li> <li>• Potential tourism development</li> <li>• Vaaitjie school (~100 learners)</li> <li>• Omega Bricks (~ 250 workers on site)</li> <li>• Atlantis Foundries (~1800 workers on site)</li> </ul>

### 4.5.2 Impact on Health and Safety

#### Nature of Impact

Neighbouring residents expressed severe concerns over potential health impacts of living in close proximity to a transmission line, particularly noting increased risk to cancer and other diseases. Frans De Nekker, who was previously employed by Eskom and worked on existing transmission lines, emphasised the impact of constant exposure to static on health and well-being, particularly in windy conditions.

Potential health impacts related to exposure to Electro-Magnetic Fields (EMFs) from 400kV power lines have received much international publicity over the past decade. Potential impacts that have been cited in opposition to such lines include increased risks of childhood leukaemia, adult brain cancer, Lou Gehrigs disease and miscarriage (EMF Facts, 2005; Power Line Task Force, 2008) By contrast specialists such as radiobiologist Eric van Rongen and biophysicist Andrew Wood cited by Ihaka (2008) believe evidence of such health risks to be inconclusive.

Keikko et al (1999) showed measured electric field values of 400kV transmission lines to exceed the 5 kV/m exposure guideline set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The highest measured electric field was 9.32 kV/m.

The potential impact of Electro-Magnetic Fields (EMFs) on the health and safety of those residing in proximity to the proposed transmission line will not be assessed as a potential risk as such impacts are considered minimal according to information provided by Eskom based on a study conducted by Empetus in 2006, as summarised below:

### ***ELECTRO-MAGNETIC FIELDS***

#### **Effects on Humans**

The Empetus (2006) study noted the following in terms of present knowledge on the possible health effects of EMF:

- The main focus of research has been on a possible association between long term exposure to magnetic fields and childhood leukaemia
- Based on the epidemiological findings, the risk of EMF being a health hazard is small
- Based on current understandings of the topic, EMF is regarded a possible but not proven cause of cancer.
- The suggestion for this health outcome stems mainly from a fairly consistent pattern of the increased but small risk observed from some epidemiological studies. This findings has not been confirmed by (notably all) controlled laboratory studies.
- No evidence of a causal relationship between magnetic field exposure and childhood leukaemia has been found and no dose-response relationship has been shown to exist between EMF exposure and biological effects.
- A possible explanation for the epidemiological findings may be confounding (a factor other than EMF) or bias (subjects studies are not representative of the target population about which conclusions are drawn) which render the data inconclusive and prevent resolution of the inconsistencies in the epidemiological data.

#### **Effects on Animals**

In general, studies of animal reproductive performance, behaviour, milk production, meat production, health and navigation have found minimal or no

effects of EMF. Literature published to date has shown little evidence of adverse effects of EMF from overhead power lines on farm animals and wildlife.

Parties affected

Users of land within close proximity of the proposed transmission line, including:

- Residents of Klein Zoute Rivier Agricultural Holdings (Option A and sub-alternative)
- Residents of Die Anker and Vaaitjie (Option C)
- Scholars at Vaaitjie School (Option C)

*Impact Summary:*

<b>Nature:</b> Health		
<b>Option A</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site only (1)	Site only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	High (8)	Small (0)
<b>Probability</b>	Highly probable (4)	Improbable (2)
<b>Significance</b>	$(2+5+8)4 = 60 =$ Medium/High	$(2+5+0)2 = 14 =$ Low
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Can impacts be mitigated?</b>	Ensure minimal exposure	
<b>Option A sub-alternative</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site only (1)	Site only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Moderate (6)	Small (0)
<b>Probability</b>	Highly probable (4)	Improbable (2)
<b>Significance</b>	$(2+5+6)4 = 52 =$ Medium	$(2+5+0)2 = 14 =$ Low
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Can impacts be mitigated?</b>	Ensure minimal exposure	
<b>Option C</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site only (1)	Site only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	High (8)	Small (0)
<b>Probability</b>	Highly probable (4)	Improbable (2)
<b>Significance</b>	$(2+5+8)4 = 60 =$ Medium/High	$(2+5+0)2 = 14 =$ Low
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Can impacts be mitigated?</b>	Ensure minimal exposure	
<b>Mitigation</b>		
<ul style="list-style-type: none"> <li>• Select the sub alternative which would have the lowest impact on residents.</li> <li>• Buy out directly affected landowners to ensure minimal exposure.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• Potential cumulative impacts due to presence of existing transmission lines on affected properties</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Perception of risk. While power line servitude and design may be technically considered as sufficient mitigation to limit health impacts that are only deemed to affect the area situated directly under the power line, people's perceptions of the health risks of exposure to EMFs are firmly entrenched. Surrounding residents will thus continue to perceive this as a significant potential social impact, despite studies by Eskom indicating the actual impact to be limited.</li> </ul>		

### Comparison of Alternatives

Alternative	Impact
No go option	No impact
Option A	This impact would be cumulative as the proposed alignment is parallel to existing transmission lines. Parties affected will include: <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> <li>• Frans De Nekker</li> <li>• Anya van Wyk</li> <li>• Shawn Schutte</li> <li>• Shawn Viljoen</li> <li>• Ruan Theron</li> </ul>
Sub alternative	This impact would be cumulative as the proposed alignment is parallel to existing transmission lines. Parties directly affected will include: <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> </ul> (Note that depending on extent of potential impact other households listed above may also be impacted).
Option C	Impact on: <ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - 32 resident families- Phil Stofberg</li> <li>• Vaaitjie - 4 resident families - Nico Stofberg (manage the farm trust)</li> <li>• Potential tourism development</li> <li>• Vaaitjie school (~100 learners)</li> <li>• Omega Bricks (~ 250 workers on site)</li> <li>• Atlantis Foundries (~1800 workers on site)</li> </ul>

#### 4.5.3 Impact on sense of place

##### *Nature of impact*

The proposed transmission power line across rural countryside may be expected to have an impact on the currently semi-rural character of the area (described by residents consulted in this process as a place they came “to get away of the city”), thus affect surrounding residents’ ‘sense of place’.

A number of residents potentially affected by the proposed and sub alternatives consulted indicated that they (and their neighbours) chose to live “in the bush” to get away from people and noise, expressing great alarm at the prospect of their chosen isolation being disturbed by the presence of a transmission line right on their doorstep.

Option C would impact significantly on the rural character of an area still used predominantly for agriculture, where game farm and tourism developments are currently planned.

Parties affected

- Klein Zoute Rivier residents (proposed and sub alternatives)
- Visitors to Cape West Coast Biosphere Reserve (visual impacts - see separate visual impact assessment)
- Land owners and residents on Die Anker and Vaaitjie (Option C)
- Potential game farm and tourism developments (Option C)

*Impact Summary:*

The impact rating below refers specifically to impacts on immediately neighbouring residents, should these remain resident on their current land.

*Impacts on sense of place for the broader Cape West Coast Biosphere Reserve would relate primarily to visual impacts, which have been assessed in a separate study, key findings of which have been noted in reference to the broader impact.*

<b>Nature:</b> Impact on sense of place		
<b>Option A</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Very high (10)	Moderate (6)
<b>Probability</b>	Definite (5)	Probable (3)
<b>Significance</b>	$(1+5+10)5 = 80 = \text{High}$	$(1+5+6)2=24 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Irreplaceable loss of resources</b>	Irreplaceable loss of peace and tranquillity which motivated current landowners to move to this area.	
<b>Can impacts be mitigated?</b>	Not if affected landowners remain resident on properties.	
<b>Option A sub-alternative</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Moderate (6)	Low (4)
<b>Probability</b>	Definite (5)	Probable (3)
<b>Significance</b>	$(1+5+6)5 = 60 = \text{Medium/High}$	$(1+5+4)2=20 = \text{Low}$
<b>Status</b>	Negative	Negative
<b>Reversibility</b>	Irreversible	Irreversible
<b>Irreplaceable loss of resources</b>	Irreplaceable loss of peace and tranquillity which motivated current landowners to move to this area.	
<b>Can impacts be mitigated?</b>	Not if affected landowners remain resident on properties.	
<b>Option C</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>
<b>Extent</b>	Site-only (1)	Site-only (1)
<b>Duration</b>	Permanent (5)	Permanent (5)
<b>Magnitude</b>	Very high (10)	Moderate (6)
<b>Probability</b>	Definite (5)	Probable (3)
<b>Significance</b>	$(1+5+10)5 = 80 = \text{High}$	$(1+5+6)2=24 = \text{Low}$
<b>Status</b>	Negative	Negative

<b>Reversibility</b>	Irreversible	Irreversible
<b>Irreplaceable loss of resources</b>	Irreplaceable loss of peace and tranquillity which motivated current landowners to move to this area.	
<b>Can impacts be mitigated?</b>	Not if affected landowners remain resident on properties.	
<b>Mitigation:</b>		
<ul style="list-style-type: none"> <li>• Land along selected alignment would need to be purchased by Eskom at market related rates, as residents consider impacts on neighbouring residents unacceptable.</li> <li>• Recommendations made by visual assessments should be taken into consideration to mitigate impacts on the rural character of the region, particularly noting its location within the Cape West Coast Biosphere Reserve, which is a potential tourist destination.</li> </ul>		
<b>Cumulative Impacts:</b>		
<ul style="list-style-type: none"> <li>• The impact of additional power lines through the Cape West Coast Biosphere Reserve can be considered cumulative, particularly to neighbouring residents</li> </ul>		
<b>Residual Impacts:</b>		
<ul style="list-style-type: none"> <li>• Visual and noise impacts</li> <li>• Loss of land to servitude</li> <li>• Potential relocation of current households if land is to be bought by Eskom.</li> </ul>		

#### *Comparison of Alternatives*

<b>Alternative</b>	<b>Impact</b>
No go option	No impact
Option A	<p>This impact would be cumulative as the proposed alignment is parallel to existing transmission lines. Parties affected will include:</p> <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson</li> <li>• Frans De Nekker</li> <li>• Anya van Wyk</li> <li>• Shawn Schutte</li> <li>• Shawn Viljoen</li> <li>• Ruan Theron</li> </ul>
Sub alternative	<p>This impact would be cumulative as the proposed alignment is parallel to existing transmission lines. Parties directly affected will include:</p> <ul style="list-style-type: none"> <li>• Paul &amp; Rolene Gerber</li> <li>• Joseph Jenkinson (limited impact as alignment would pass on the far side to the Jenkinson house over land he does not currently use)</li> </ul> <p>(Note that depending on extent of potential impact other households listed above may also be impacted).</p>
Option C	<p>Impact on:</p> <ul style="list-style-type: none"> <li>• Die Anker (Keert de Koe) - 32 resident families- Phil Stofberg</li> <li>• Vaaitjie - 4 resident families - Nico Stofberg (manage the farm trust)</li> <li>• Potential tourism development</li> </ul>

Alternative	Impact
	<ul style="list-style-type: none"> <li>• Vaaitjie school (~100 learners)</li> <li>• Omega Bricks (~ 250 workers on site)</li> <li>• Atlantis Foundries (~1800 workers on site)</li> </ul>

#### 4.6 Summary of Impact Ratings

Tables 9, 10, 11 and 12 below provide a summary of impact ratings as assessed in this report. Where different alternatives have different rankings (particularly for the transmission line component, the preferred alternative is indicated in italics.

**Table 9: Summary of Impacts anticipated during Construction for the proposed Conversion**

<b>Impact:</b>	<b>Mitigation</b>	<b>Extent</b>	<b>Duration</b>	<b>Magnitude</b>	<b>Probability</b>	<b>Significance</b>	<b>Status</b>
Temporary Employment	Without Mitigation	Local	Very short	Moderate	Probable	Low	Positive
	With Mitigation	Local	Short term	High	Highly probable	Medium	Positive
Business Opportunities	Without Mitigation	Local	Very short	Low	Improbable	Low	Positive
	With Mitigation	Local	Medium	Moderate	Highly probable	Medium	Positive
Skills Development	Without Mitigation	Local	Very short	Low	Improbable	Low	Positive
	With Mitigation	Local	Medium	Moderate	Highly probable	Medium	Positive
Housing of temporary workers	Without Mitigation	Local	Long	Moderate	Highly probable	Medium	Negative
	With Mitigation	Local	Short term	Minor	Improbable	Low	Negative/ Positive
Influx of job-seekers	Without Mitigation	Local	Short term	Moderate	Improbable	Low	Negative
	With Mitigation	Local	Very short	Minor	Improbable	Low	Negative
Social Conflict/ Disputes	Without Mitigation	Local	Short term	High	Highly probable	Medium	Negative
	With Mitigation	Local	Long	Low	Improbable	Low	Negative/ Positive
Increase in traffic	Without Mitigation	Regional	Short term	Low	Probable	Low	Negative
	With Mitigation	Local	Short term	Low	Improbable	Low	Negative
Visual and noise impacts	Without Mitigation	Local	Short term	Low	Probable	Low	Negative
	With Mitigation	Local	Short term	Small	Very improbable	Low	Negative

**Table 10: Summary of Impacts anticipated for Operation of the CCGT plant**

<b>Impact:</b>	<b>Mitigation</b>	<b>Extent</b>	<b>Duration</b>	<b>Magnitude</b>	<b>Probability</b>	<b>Significance</b>	<b>Status</b>
Ongoing Employment	Without Mitigation	Local	Very short	Minor	Improbable	Low	Positive
	With Mitigation	Local	Medium	Small	Probable	Low	Positive
Social Investment	Without Mitigation	Local	Short	Minor	Probable	Low	Positive
	With Mitigation	Local	Medium	High	Highly probable	Medium	Positive
Increase in traffic	Without Mitigation	Widespread	Long	Moderate	Highly probable	Medium	Negative
	With Mitigation	Local	Medium	Minor	Probable	Low	Negative
Impacts on health & safety	Without Mitigation	Local	Long	Moderate	Probable	Medium	Negative
	With Mitigation	Local	Long	Small	Improbable	Low	Negative
Impact on sense of place	Without Mitigation	Local	Medium	Moderate	Probable	Medium	Negative
	With Mitigation	Local	Short	Minor	Very improbable	Low	Negative/ Positive
Interest group activity	Without Mitigation	Widespread	Long	Moderate	Probable	Medium	Negative
	With Mitigation	Local	Very short	Minor	Very improbable	Low	Negative

**Table 11: Summary of Impacts anticipated during Construction of the proposed Transmission Line**

<b>Impact:</b>	<b>Mitigation</b>	<b>Extent</b>	<b>Duration</b>	<b>Magnitude</b>	<b>Probability</b>	<b>Significance</b>	<b>Status</b>
Temporary Employment	Without Mitigation	Local	Very short	Low	Probable	Low	Positive
	With Mitigation	Local	Short	High	Highly probable	Medium	Positive
Housing of temporary workers	Without Mitigation	Local	Long	Moderate	Highly probable	Medium	Negative
	With Mitigation	Local	Short term	Minor	Improbable	Low	Negative/ Positive
Population influx	Without Mitigation	Local	Short term	Moderate	Improbable	Low	Negative
	With Mitigation	Local	Very short	Minor	Improbable	Low	Negative
Increase in traffic	Without Mitigation	Widespread	Short term	Low	Probable	Low	Negative
	With Mitigation	Local	Short term	Low	Improbable	Low	Negative
Impact on current land-uses - Option A	Without Mitigation	Site-only	Short term	High	Definite	Low/Medium	Negative
	With Mitigation	Site-only	Short term	Low	Definite	Low	Negative
<i>Impact on current land-uses- Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Site-only</i>	<i>Short term</i>	<i>Moderate</i>	<i>Definite</i>	<i>Medium</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Site-only</i>	<i>Short term</i>	<i>Minor</i>	<i>Definite</i>	<i>Low</i>	<i>Negative</i>
Impact on current land-uses- Option C	Without Mitigation	Site-only	Short term	High	Definite	Medium	Negative
	With Mitigation	Site-only	Short term	Moderate	Definite	Medium	Negative
Intrusive impacts - Option A	Without Mitigation	Local	Short term	High	Very Probable	Medium	Negative
	With Mitigation	Local	Very short	Low	Improbable	Low	Negative
<i>Intrusive impacts - Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Local</i>	<i>Short term</i>	<i>Moderate</i>	<i>Probable</i>	<i>Medium</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Local</i>	<i>Very short</i>	<i>Low</i>	<i>Improbable</i>	<i>Low</i>	<i>Negative</i>
Intrusive impacts- Option C	Without Mitigation	Local	Short term	High	Probable	Medium	Negative
	With Mitigation	Local	Very short	Low	Improbable	Low	Negative

**Table 12: Summary of Impacts anticipated for Operation of the proposed Transmission Line**

<b>Impact:</b>	<b>Mitigation</b>	<b>Extent</b>	<b>Duration</b>	<b>Magnitude</b>	<b>Probability</b>	<b>Significance</b>	<b>Status</b>
Impact on current land-uses - Option A	Without Mitigation	Site-only	Permanent	Very high	Definite	High	Negative
	With Mitigation	Site-only	Permanent	Moderate	Probable	Medium	Negative
<i>Impact on current land-uses- Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Site-only</i>	<i>Permanent</i>	<i>Moderate</i>	<i>Definite</i>	<i>High</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Site-only</i>	<i>Permanent</i>	<i>Low</i>	<i>Probable</i>	<i>Medium</i>	<i>Negative</i>
Impact on current land-uses- Option C	Without Mitigation	Site-only	Permanent	Very high	Definite	High	Negative
	With Mitigation	Site-only	Permanent	Moderate	Probable	Medium	Negative
Impacts on health & safety Option A	Without Mitigation	Site-only	Permanent	High	Highly probable	Medium/High	Negative
	With Mitigation	Site-only	Permanent	Small	Improbable	Low	Negative
<i>Impacts on health &amp; safety Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Site-only</i>	<i>Permanent</i>	<i>Moderate</i>	<i>Highly probable</i>	<i>Medium</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Site-only</i>	<i>Permanent</i>	<i>Small</i>	<i>Improbable</i>	<i>Low</i>	<i>Negative</i>
Impacts on health & safety Option C	Without Mitigation	Local	Permanent	High	Highly probable	Medium/High	Negative
	With Mitigation	Local	Permanent	Small	Improbable	Low	Negative
Impact on sense of place Option A	Without Mitigation	Site-only	Permanent	Very high	Definite	High	Negative
	With Mitigation	Site-only	Permanent	Moderate	Probable	Low	Negative
<i>Impact on sense of place Option A sub-alternative</i>	<i>Without Mitigation</i>	<i>Site-only</i>	<i>Permanent</i>	<i>Moderate</i>	<i>Definite</i>	<i>Medium/High</i>	<i>Negative</i>
	<i>With Mitigation</i>	<i>Site-only</i>	<i>Permanent</i>	<i>Low</i>	<i>Probable</i>	<i>Low</i>	<i>Negative</i>
Impact on sense of place Option C	Without Mitigation	Site-only	Permanent	Very high	Definite	High	Negative
	With Mitigation	Site-only	Permanent	Moderate	Probable	Low	Negative

## **4.7 Recommendations regarding preferred alternatives**

The sections below provide recommendations on preferred alternatives for:

1. the proposed Ankerlig Conversion project
2. the proposed 400kV transmission power line from the Ankerlig Power Station to the Omega substation

### **4.7.1 Ankerlig Conversion**

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. Such negative impacts can be mitigated, while other potential positive impacts such as social investment and employment creation during construction can be optimised through appropriate management measures.

### **4.7.2 Transmission Power Line**

The Option A sub-alternative which directly follows existing transmission lines is considered the preferred alternative from a social perspective, as it would impact mainly on those landowners who already have servitudes for the existing transmission lines registered on their properties. The proposed sub-alternative alignment to the east of the existing alignments will impact on the Gerber's house on Portion 20 KZR AH as well as on sand mining operations of Mphoweni Sands on the land of Suzie Langer, and a proposed sand mining development on the land of Joseph Jenkinson (Portion 18 KZR AH). Acquisition of the Gerbers' property (portion 20 KZR AH) may be required as additional land lost to servitude will impact severely on this household as well as impacting on health and safety and viability of the Gerbers' current residence, and also further deteriorate the value of their property. This alternative would also impact on land of Joseph Jenkinson, Clive Spolander and Suzie Lander, who would have to be compensated accordingly.

Option A follows the existing transmission lines from Ankerlig to Koeberg, but continues in a straight line where the existing lines turn to the Koeberg power station, and meeting up again with lines from Koeberg to the Omega substation at a point situated in the Klein Zoute Rivier Agricultural Holdings. Although the distance covered by the new servitude required for the portion where the line continues straight instead of turning off to Koeberg is short, it would have significant impacts on the Gerber, Van Wyk, De Nekker, Schutte, Viljoen, and Theron households. This alternative could require acquisition of all the properties of affected households as land lost to the servitude, health and safety impacts associated with close proximity of lines, as well as impacts to 'sense of place', related to noise and visual impacts on these households would be considered unacceptable. This alternative would also impact on land of Joseph Jenkinson, Clive Spolander and Suzie Lander, who would have to be compensated accordingly.

Option C is considered unsuitable as this would have significant impacts on current land uses, including agriculture, households resident on Die Anker (32 households) and Vaaitjie (4 households) and operations of Apollo Bricks (~250 workers) and Atlantis Foundries (~1800 workers), as well as planned future land uses, including a game farm and proposed tourism developments, as well as the proposed municipal landfill site.

## 5 SUMMARY OF MITIGATION MEASURES FOR INCLUSION IN EMP

### 5.1 Potential social impacts associated with construction phase for the proposed Ankerlig Power Station Conversion

#### 5.1.1 Temporary local employment opportunities

<b>OBJECTIVE:</b> Promote economic benefits for host community of Atlantis by maximising the use of local labour and optimising labour conditions during construction.	
<b>Project component/s</b>	Construction of CCGT gas turbine units.
<b>Potential Impact</b>	Creation of temporary employment opportunities, with positive economic spin-offs for the Atlantis community for the duration of the construction period.
<b>Activity</b>	Construction
<b>Mitigation: Target/Objective</b>	Maximise local employment through pro-active targeting of local recruitment. Target 45% local labour to be used during construction

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Identify types and levels of employment that the development could offer. Disseminate this information through community representative organisations such as Red Door.	Eskom Main Contractors during construction	Pre Construction
Appoint a local labour broker, to be identified in consultation with local community stakeholders.	Eskom	Pre Construction
Refer contractors to jobseeker's databases kept by local community structures (e.g. local council, Red Door, Residents' Association) when sourcing local labour.	Eskom	Pre Construction
Identify targets for BEE & local employment. Criteria for 'local' to be agreed in consultation with local community stakeholders.	Eskom	Pre Construction
Reserve agreed percentage of higher level positions for local employment.	Eskom/ Contractors	Pre Construction/ Construction
Skills training to be undertaken where viable to facilitate employment (See Skills Development, 4.2.3).	Eskom/ Contractors	Pre Construction/ Construction
Location of appropriate transport providers who would be available to assist contractors in transporting workers from these sites.	Eskom/ Contractors	Pre Construction/ Construction
Younger people tend to have higher levels of education and may stand in line for higher levels of employment. Opportunities for the employment of younger people should be maximised.	Eskom/ Contractors	Construction
Investigate opportunities to maximise employment of women. Mitigation measures should be supplemented by lessons learnt from the construction of the first OCGT units and the expansion. These should preferably be workshopped. These workshops should be attended, either together or in different workshops, by Red Door, the LED Forum, Eskom, Contractors, and any other relevant representatives. Aspects to be addressed should, amongst others, include the procurement process, procurement criteria, salaries, transparency, and community expectations.	Eskom/ Contractors	Construction

<b>Performance Indicator</b>	Percentage use of local labour during construction. Number of local employment opportunities created during construction.
<b>Monitoring</b>	Eskom to monitor the use of local labour by main contractors during the construction period. Disseminate this information to local communities to show Eskom's commitment to social upliftment in the host community.

### 5.1.2 Business opportunities

<b>OBJECTIVE:</b> Promote economic benefits for host community of Atlantis by maximising local procurement during construction.	
<b>Project component/s</b>	Construction of CCGT gas turbine units.
<b>Potential Impact</b>	Creation of business opportunities through procurement of services, with positive economic spin-offs for the Atlantis community for the duration of the construction period.
<b>Activity/ risk source</b>	Construction
<b>Mitigation: Target/ Objective</b>	Maximise local procurement through pro-active targeting of local suppliers and service providers. Ensure open and transparent tender processes for all construction related activities.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Open tender processes – improved communication of tender opportunities through advertising in local community media, including Radio Atlantis.	Eskom Main Contractors	Pre-construction Construction
Expedite process of registering local service providers on Eskom's procurement database.	Eskom	Pre-construction Construction
Provide information regarding the types of business opportunities and economic spin-offs that may arise from the proposed development.		Pre-construction Construction
Identify targets for BEE & local procurement. Criteria for 'local' to be agreed in consultation with local community stakeholders.	Eskom	Pre-construction
Include basic business and entrepreneurial skills as part of a skills development component of the development.	Eskom	Pre-construction Construction
Participatory workshops in which interested members of local communities can be guided with regards to types of business opportunities that could arise.	Eskom	Pre-construction
Investigate ways of enabling potential subcontractors from low-income areas to tender.	Eskom	Pre-construction
Set up linkages for small business loans, as well as small business skills training. In this regard, the role that partnerships with other role-players who could assist in these matters should be considered.	Eskom	Pre-construction Construction
Closer interaction with institutions that could assist with provision of support to small businesses, including the possible identification of agencies that could assist with the provision of seed finance and entrepreneurial counselling (Red Door, LED Forum, Local Council).	Eskom	Pre-construction Construction
Mitigation measures should be supplemented by lessons learnt from the construction of the first OCGT units and the expansion. These should preferably be workshopped. These workshops should be attended, either together or in different workshops, by Red Door, the LED Forum, Eskom, Contractors, and any other relevant	Eskom	Pre-construction

representatives. Aspects to be addressed should, amongst others, include the procurement process, procurement criteria, salaries, transparency, and community expectations.		
---	--	--

<b>Performance Indicator</b>	Number and percentage of tenders awarded to local suppliers/ service providers
<b>Monitoring</b>	Monitor the number of business opportunities created during construction. Disseminate this information to local communities to show Eskom's commitment to social upliftment in the host community.

### 5.1.3 Skills Development

<b>OBJECTIVE:</b> Contribute to the local Atlantis community through skills development initiatives to optimise the potential for local labour to benefit from temporary employment dcreation from this project, and improve future employability.	
<b>Project component/s</b>	Construction of CCGT gas turbine units.
<b>Potential Impact</b>	Optimise the potential of local jobseekers to benefit from employment opportunities by developing local skills to meet contractors' requirements.
<b>Activity/ risk source</b>	Construction
<b>Mitigation: Target/ Objective</b>	Provide skills training to locals to benefit from employment creation during construction.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Provide an indication of skills requirements for the Proposed Development. To include Construction as well as long-term Operational phase employment and skills requirements.	Eskom Contractors	Pre construction Construction
Identify specific focus areas for targeted intervention based on identification of skills requirements and existing skills within local communities.	Eskom Contractors	Pre construction Construction
Appoint appropriate service provides to design skills development programmes and conduct necessary training. Recognition for Prior Learning (RPL) – assess existing skills and provide training as appropriate.	Eskom	Pre construction Construction
Liaise closely with community and business representatives with regards to targeting of employment and skills development initiatives.	Eskom Contractors	Pre construction Construction
Consider involvement of suitable candidates in project management activities in a process of skills transfer and mentorship.	Eskom Contractors	Pre construction Construction
Implement a supplier development programme as is currently under consideration at Gourikwa Power Station in Mossel Bay to assist local businesses with registration on Eskom's database, to include assistance in meeting compliance standards and understanding tender requirements.	Eskom	Pre construction

<b>Performance Indicator</b>	Number of locals trained during the construction period
<b>Monitoring</b>	Monitor the number of locals trained during construction. Disseminate this information to local communities to show Eskom's commitment to social upliftment in the host community.

### 5.1.4 Housing of temporary workers

<b>OBJECTIVE:</b> Minimise social disturbance created by housing of labourers from other areas in and around the host community of Atlantis. Optimise potential benefits to the local community that may result from housing of labourers through rental income.	
<b>Project component/s</b>	Construction
<b>Potential Impact</b>	Social conflict between the local community and labourers brought from other areas. Potential benefits for local providers of accommodation.
<b>Activity/ risk source</b>	Housing of outside labourers during the construction phase.
<b>Mitigation: Target/ Objective</b>	Decisions regarding housing of outside labourers are made in consultation with local community representatives.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Maximise local employment to minimise the need for housing of temporary workers which could lead to social problems of integration with the local community.	Eskom Contractors	Construction
Ensure that no temporary workers' quarters are allowed for the development.	Eskom	Construction
Meetings with residents' associations of neighbouring residential areas, as well as with the local Community Policing Forum to discuss the contractor's plans, procedures, schedules and possible difficulties and safety and security concerns.	Eskom Contractors	Pre-construction
Workshops with relevant parties (Red Door, Contractors, sub contractors, Eskom, municipality) should be held to discuss and implement relevant lessons learnt from the first OCGT.	Eskom Contractors	Pre-construction
Other mitigation suggested in the MasterQ assessment for the OCGT expansion included the following: <ul style="list-style-type: none"> <li>All construction activities should be restricted to working areas.</li> <li>Construction workers should wear name tags and clothing to ensure that they can be readily identified as belonging to the construction workforce. This should be applicable to all construction workers, including those who are locally recruited.</li> <li>What workers bring on site should be monitored. The provision of catering on-site will reduce the chances that substances such as alcohol are brought on-site or used during working hours, reducing the likelihood of alcohol-related conflict and disturbances.</li> </ul> <p><i>Note that these measures can only be enforced on the construction site, and would have little impact on workers' interactions with the local community outside working hours.</i></p>	Eskom Contractors	Construction

<b>Performance Indicator</b>	Extent to which local community representatives are consulted w.r.t. housing of outside labourers.
<b>Monitoring</b>	Social impacts of housing of temporary labourers should be monitored in collaboration with local community representatives, and appropriate measures considered to address impacts that are identified.

### 5.1.5 Influx of job seekers

<b>OBJECTIVE:</b> Minimise the influx of job seekers from other areas to the area in the hope of securing employment.	
<b>Project component/s</b>	Construction
<b>Potential Impact</b>	Influx of job seekers from other areas to the area in the hope of securing employment, thus adding to problems of informal settlement, employment, and pressure on existing resources and infrastructure in Atlantis.
<b>Activity/ risk source</b>	Employment created during construction phase.
<b>Mitigation: Target/ Objective</b>	Minimise potential social impacts that would result from an influx of job-seekers to the site in the hope of employment in collaboration with the local municipality.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Maximise local employment according to strategies outlined previously, ensuring appropriate criteria to determine 'local' (see mitigation for employment creation and influx of labourers above).	Eskom; Contractors	Construction
Access to the building site should be controlled.	Eskom; Contractors	Construction
Meetings with the local municipality should be held to discuss the management of informal settlement as a result of the project.	Eskom	Pre construction

<b>Performance Indicator</b>	Interaction with the local municipality to discuss potential impacts of developments at Ankerlig, including potential influx of job-seekers.
<b>Monitoring</b>	

### 5.1.6 Social Conflicts/disputes

<b>OBJECTIVE:</b> Minimise the potential for conflict with the host community resulting from ongoing developments at Ankerlig.	
<b>Project component/s</b>	Construction; Operation
<b>Potential Impact</b>	Conflict between Eskom and local communities resulting from negative perceptions of poor recruitment practices and treatment of workers, and not feeling acknowledged as host community.
<b>Activity/ risk source</b>	Employment created during construction.
<b>Mitigation: Target/ Objective</b>	Improve relations between Eskom, site staff, contractors, workers, and the local community, thus minimising potential for conflict.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Establish a community stakeholders' forum	Eskom	Pre construction
Emphasis on strategies to make use of local labour where possible. (See 'employment creation')	Eskom	Construction
Appoint local labour brokers. Approach local ward councils, Residents Associations, and Red Door.	Eskom Contractors	Pre construction
Use databases of job-seekers compiled by local organisations (see above).	Eskom Contractors	Construction
Ensure utmost sensitivity in dealing with labour disputes.	Eskom Contractors	Construction.

<b>Performance Indicator</b>	Establishment of a stakeholder liaison forum. Outcomes of labour disputes A pro-active approach to engaging with the host community, particularly regarding issues of employment.
<b>Monitoring</b>	Monitor establishment and functioning of a stakeholder liaison forum. Monitor the number of labour disputes and the manner in which these are resolved. Monitor local recruitment procedures and practices.

### 5.1.7 Increase in traffic (Traffic assessment)

<b>OBJECTIVE:</b> To minimise disruption caused to the road and road users, by the daily transportation of components to be used.	
<b>Project component/s</b>	Construction, Operation
<b>Potential Impact</b>	Heavy construction vehicles, construction traffic, traffic impact on permanent employees, transportation of fuel
<b>Activity/ risk source</b>	Ongoing transportation of components during the construction and operational phase
<b>Mitigation: Target/ Objective</b>	Minimise impacts on traffic and impacts anticipated during the transportation of components

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Construction activities should be planned to minimise added disruption of traffic, especially during peak hours.	Eskom	Construction
Workshops with relevant parties (Red Door, Contractors, sub contractors, Eskom, Municipality, Community Liaison Forum) should be held to discuss and implement relevant lessons learnt from the initial construction phases of the power station.	Eskom	Operation
Mitigation measures listed in the traffic impact assessment should be implemented and monitored by the Environmental Control Officer. The initial traffic study (GMKS, 2005) recommended that impacts on pavement loading should be mitigated after completion of construction by possible contribution to the roads rehabilitation programme by Eskom.	See traffic assessment	See traffic assessment

<b>Performance Indicator</b>	Number of Vehicles, number of loadings
<b>Monitoring</b>	Making use of Dimensional Limitations, Permits to impose conditions that will need to be met during the transportation of components

### 5.1.8 Intrusive impacts (See visual, noise and air quality assessments)

<b>OBJECTIVE:</b> Minimise intrusive impacts for neighbouring residents.	
<b>Project component/s</b>	Construction
<b>Potential Impact</b>	Visual and noise impacts. Impacts of dust - air quality
<b>Activity/ risk source</b>	Residents, Employees
<b>Mitigation: Target/ Objective</b>	To minimise intrusive by selecting sub-alternative. Also see visual & air quality assessments

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Mitigation for impacts in broader region to consider recommendations made in visual, noise and air quality specialist studies.	Eskom - Transmission negotiation	Pre construction

<b>Performance Indicator</b>	See Visual Noise and Air Quality Assessments
<b>Monitoring</b>	See Visual Noise and Air Quality Assessments

## 5.2 Potential social impacts associated with operation of Ankerlig CCGT power station

### 5.2.1 Ongoing Employment, business opportunities and skills development for locals

<b>OBJECTIVE:</b> Promote economic benefits for workers securing long-term employment at Ankerlig.	
<b>Project component/s</b>	Operation
<b>Potential Impact</b>	Positive impacts for an estimated 10 additional workers and their families.
<b>Activity/ risk source</b>	Ongoing employment during operation - operators, utility men, admin, other.
<b>Mitigation: Target/ Objective</b>	Maximise ongoing employment opportunities for locals.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Local labour and suppliers should be used as far as possible for maintenance, service provision and any additional opportunities arising during the operational phase.	Eskom	Operation

<b>Performance Indicator</b>	Number of local people securing ongoing employment during the construction phase.
<b>Monitoring</b>	Monitor the number of workers employed at Ankerlig on a permanent basis.

### 5.2.2 Social Investment

<b>OBJECTIVE:</b> To optimally fulfil Eskom's social obligation to the host community of Atlantis.	
<b>Project component/s</b>	Construction, Operation
<b>Potential Impact</b>	Investment social development and upliftment in the Atlantis community by Eskom and Contractors.
<b>Activity/ risk source</b>	Investment in host community during construction and operational phases.
<b>Mitigation: Target/ Objective</b>	Eskom and contractors contribute to the host community of Atlantis through appropriately targeted social development initiatives.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Main contractors should continue to support Social development initiatives.	Contractors	Construction
Ensure appropriate communication channels to disseminate information about the types of assistance available through ESDEF in the community, through initiatives such as Red Door, the LED forum, and Local Council.	Eskom (through ESDEF)	Construction Operation
Eskom to take a more pro-active stance in assisting community members to take advantage of its assistance through effective consultation with stakeholders on opportunities for assistance and how to access it.	Eskom (through ESDEF)	Construction Operation

<b>Performance Indicator</b>	Number of social development initiatives and activities funded through Eskom and Contractors; Nature of benefits; Number of beneficiaries; Sustainability of benefits.
<b>Monitoring</b>	Monitoring of Eskom and Contractors' Social Responsibility initiatives in Atlantis to determine impacts i.t.o. beneficiaries reached and nature and sustainability of benefits.

### 5.2.3 Increase in traffic

<b>OBJECTIVE:</b> To minimise disruption caused to road users by the daily transportation of fuel to the Ankerlig site.	
<b>Project component/s</b>	Operation
<b>Potential Impact</b>	Trucks transporting fuel to the site impacts on traffic flow past Melkbosstrand and Duynefontein into Atlantis, impacting on residents of these communities, as well as other road users.
<b>Activity/ risk source</b>	Transportation of fuel to site.
<b>Mitigation: Target/ Objective</b>	Minimise impacts on traffic.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Alternate fuel transportation - notably rail or fuel pipeline-should be considered.	Eskom	Pre construction to Operation
Upgrading and widening of R27 to accommodate additional traffic (assist to motivate Provincial Government to make this a priority).	Eskom	Pre construction to Operation
Mitigation as proposed in transport study.	Eskom	See transport study

<b>Performance Indicator</b>	Identification of alternate fuel transportation means to be actively pursued Also see transport study
<b>Monitoring</b>	Monitor progress with identification and securing of alternate fuel transportation. See transport study

#### 5.2.4 Impacts on Health and Safety

<b>OBJECTIVE:</b> Minimise potential impacts on health and safety resulting from impacts on air quality and risks associated with fuel storage on-site.	
<b>Project component/s</b>	Operation - Emissions; Fuel Storage
<b>Potential Impact</b>	Impacts on health - see air quality assessment Impacts on safety - see risk assessment.
<b>Activity/ risk source</b>	Emissions; Fuel Storage
<b>Mitigation: Target/ Objective</b>	Minimise impacts on health and safety.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Implement mitigation proposed in Air Quality, Traffic and Risk Assessments	Eskom	See relevant assessments
Results of the Risk, Air Quality, and Traffic assessments should be disseminated to assuage unsubstantiated public fears.	Eskom	Pre construction
The contingency safety plan outlined in the EMP to be adhered to.	Eskom	Pre construction

<b>Performance Indicator</b>	See air quality, traffic & risk assessments
<b>Monitoring</b>	See air quality, traffic & risk assessments

#### 5.2.5 Impacts on Sense of Place

<b>OBJECTIVE:</b> Minimise potential impacts on neighbouring communities' (Atlantis, Melkmosstrand & Duynfontein) 'sense of place'	
<b>Project component/s</b>	Operation of CCGT Gas Turbines
<b>Potential Impact</b>	Impacts on 'sense' of place' related to visual, noise and traffic impacts, and sense of Atlantis being a 'dump' for power developments without sufficient recognition of host community.
<b>Activity/ risk source</b>	Ongoing developments at Ankerlig
<b>Mitigation: Target/ Objective</b>	Alleviate impacts on 'sense of place' through mitigation of visual, noise and traffic impacts, and ensuring community buy-in.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
--------------------	-----------------------	------------------

Minimise noise, visual, air quality, traffic impacts through appropriate mitigation.	Eskom	See relevant assessments
Maintain good relationships with local communities through regular, inclusive stakeholder engagement and consultation processes. (Also see social conflict).	Eskom	Pre construction to Operation
Maximise local benefit through specific focus on employment, business opportunities, skills development and social investment.	Eskom	Pre construction to operation.

<b>Performance Indicator</b>	Perceptions of Ankerlig amongst the host community of Atlantis. Extent to which community's are recognised (number of consultations/ for a for public participation)
<b>Monitoring</b>	Monitoring local perceptions through stakeholder liaison forum. (Also see visual, noise, traffic and air quality assessments)

### 5.2.6 Possible interest group activity

<b>OBJECTIVE:</b> To avoid potential interest group activity.	
<b>Project component/s</b>	Construction and operation of CCGT units.
<b>Potential Impact</b>	Possible interest group activity due to perceptions of the area used as a 'dump' without sufficient recognition of host communities.
<b>Activity/ risk source</b>	Ongoing developments at Ankerlig.
<b>Mitigation: Target/ Objective</b>	Establish good relationship with local communities.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
The potential for such interest group activity can be minimised through effective and inclusive Public Participation and Community Liaison to disseminate project information, specifically addressing concerns regarding potential risks and seeking to build a shared vision with the local community.	Eskom	Pre construction to operation
Results of the Risk, Air Quality, and Traffic assessments should be disseminated to assuage unsubstantiated public fears.	Eskom	Pre construction
Social investment activities initiated by Eskom and contractors should be assessed in consultation with stakeholders.	Eskom; Contractors	Pre construction to operation
Local procurement and recruitment should be conducted in consultation with local stakeholders to improve Eskom's relationship with the local community.	Eskom; Contractors	Construction
The reports of the Environmental Control Officer (ECO) should be disseminated to the relevant officials on local and provincial level.	Eskom;	Pre construction
Eskom should inform the community via local media about their initiatives as well as the levels of health and safety achieved during the operation of the OCGT.	Eskom;	Pre construction to operation

<b>Performance Indicator</b>	See 'social conflict' and 'sense of place'.
<b>Monitoring</b>	See 'social conflict' and 'sense of place'.

### 5.3 Potential social impacts associated with construction of transmission power line

#### 5.3.1 Temporary local employment opportunities, business opportunities and skills development

See 4.2.1, 4.2.2 and 4.2.3 above.

#### 5.3.2 Housing of temporary workers

See 4.2.4 above

#### 5.3.3 Influx of job seekers

See 4.2.5 above

#### 5.3.4 Increase in traffic

See 4.2.6 above and findings of Traffic Assessment for conversion.

#### 5.3.5 Impact on current and planned land-users

<b>OBJECTIVE:</b> Minimise potential impacts on current and planned land uses	
<b>Project component/s</b>	Construction (and operation) of transmission lines.
<b>Potential Impact</b>	Impacts on Klein Zoute River residents (Proposed & sub alternatives); Impacts on Die Anker & Vaatjie residents & landuses (Option C)
<b>Activity/ risk source</b>	Proposed alternatives in close proximity to residents.
<b>Mitigation: Target/ Objective</b>	Minimise impacts on residents through selection of alternative with least impact (sub-alternative) and negotiation with landowners.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Mitigation and compensation to be negotiated with neighbouring land owners and residents.	Eskom Transmission negotiation	- Pre- construction

<b>Performance Indicator</b>	Suitable compensation agreed on with affected landowners.
<b>Monitoring</b>	Compensation settled as agreed.

#### 5.3.6 Intrusive impacts - visual and dust

<b>OBJECTIVE:</b> Minimise intrusive impacts for neighbouring residents.	
<b>Project component/s</b>	Construction of transmission lines.
<b>Potential Impact</b>	Disturbance created by visual impacts and an increase of dust during construction.
<b>Activity/ risk source</b>	Construction activities.
<b>Mitigation: Target/ Objective</b>	Minimise intrusive impacts by selecting sub-alternative. Also see visual & air quality assessments.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Mitigation and compensation for directly affected parties to be negotiated with affected landowners and residents.	Eskom Transmission negotiation	- Pre construction

Mitigation for impacts in broader region to consider recommendations made in visual and air quality specialist studies.	See visual & Air quality assessments	See visual & Air quality
---	--------------------------------------	--------------------------

<b>Performance Indicator</b>	See visual & Air quality
<b>Monitoring</b>	See visual & Air quality

## 5.4 Potential social impacts associated with operation of transmission power line

### 5.4.1 Impact on current land-users and neighbouring residents

<b>OBJECTIVE:</b> Minimise impacts on current and planned land uses and neighbouring residents.	
<b>Project component/s</b>	Operation of Transmission Line
<b>Potential Impact</b>	Impact of transmission lines on current land-users and neighbouring residents
<b>Activity/ risk source</b>	Transmission lines
<b>Mitigation: Target/ Objective</b>	Minimise impacts by selecting sub-alternative and suitable compensation for affected land-owners.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Purchase land of landowners affected by alignment selected.  Mitigation and compensation to be negotiated with landowners  Detailed planning of alignment should consider current landowners and land uses.	Eskom - Transmission negotiation	Pre construction

<b>Performance Indicator</b>	Number of land users/ residents impacted. Appropriate compensation agreed with landowners.
<b>Monitoring</b>	Compensation settled as agreed.

### 5.4.2 Impact on Health and Safety

<b>OBJECTIVE:</b> Minimise potential impacts on health	
<b>Project component/s</b>	Operation of transmission lines
<b>Potential Impact</b>	Potential impacts on health caused by EMFs
<b>Activity/ risk source</b>	EMFs from transmission lines
<b>Mitigation: Target/ Objective</b>	Minimise number of people potentially at risk of health impacts related to EMFs.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Select the sub alternative which would have the lowest impact on residents.	Eskom	Pre construction
Buy out directly affected landowners to ensure minimal exposure.	Eskom	Eskom

<b>Performance Indicator</b>	Number of land users/ residents impacted. Appropriate compensation agreed with landowners.
<b>Monitoring</b>	Compensation settled as agreed.

### 5.4.3 Impact on sense of place

<b>OBJECTIVE:</b>	
<b>Project component/s</b>	Operation of transmission lines
<b>Potential Impact</b>	Potential impacts on 'sense of place' resulting from proximity of transmission line
<b>Activity/ risk source</b>	Transmission lines
<b>Mitigation: Target/ Objective</b>	Minimise number of people potentially impacted.

<b>Mitigation:</b>	<b>Responsibility</b>	<b>Timeframe</b>
Eskom should purchase Land along selected alignment at market related rates, as residents consider impacts on neighbouring residents unacceptable.	Eskom	Pre construction
Recommendations made by visual assessments should be taken into consideration to mitigate impacts on the rural character of the region, particularly noting its location within the Cape West Coast Biosphere Reserve, which is a potential tourist destination.	See visual assessment	See visual assessment

<b>Performance Indicator</b>	Number of land users/ residents impacted. Appropriate compensation agreed with landowners.
<b>Monitoring</b>	Compensation settled as agreed.

## 6 CONCLUSION

This report has provided an overview of the social environment in and around Atlantis in the City of Cape Town, where Eskom proposes to convert nine OCGT units at its Ankerlig Power Station to CCGT units, and construct a transmission power line between the Ankerlig Power Station and the already approved Omega Substation. This was followed by an assessment of potential impacts of the proposed development on the surrounding community of Atlantis, residents along the proposed transmission line alignments, as well as the broader surrounding population, including areas of Melkbosstrand and Duynefontein.

The most significant positive social impact that may be associated with the proposed development is provision of electricity, and its related linkages to the broader national economy. The high significance of this potential positive impact was previously established, and is thus not assessed here again. Other potential positive impacts that can be optimised through appropriate mitigation include provision of temporary employment, local business opportunities, and possible skills development during construction and limited employment opportunities for locals during the operational phases for both the Ankerlig CCGT conversion and the proposed transmission power line. These impacts are worth considering in the context of high levels of poverty and unemployment characterising the social

environment in and around Atlantis. Possible Social Investment from Eskom can be another potential positive impact with significance depending on the extent and appropriateness of such investment to address social needs.

The extent to which local employment creation during construction can truly be considered positive depends on the extent to which local labour is used and capacitated during the construction process, as well as on ensuring optimal working conditions for labourers. Problems have been experienced with these aspects during previous and current phases of OCGT development at Ankerlig, resulting in social conflict. Further conflict and disputes between Eskom, contractors and the local community is considered under potential negative impacts of further developments if issues are not appropriately addressed. Another potential negative impacts that may result from the proposed development relates to housing temporary workers, particularly during the construction period. This can have a number of social impacts including conflict with local communities, apparent competition for employment, as well as problems of single men engaging in relations with local women, which could increase the risk of HIV as well as lead to pregnancy and fatherless children. The possibility of an influx of jobseekers is also noted, though Eskom's specific contribution to such population influx is regarded of limited significance. Potential impacts on Sense of Place during operation of the Power Plant will be limited as the site is already occupied by the existing OCGT plant, but is worth considering in the light of people's perceptions of their area being used as a 'dumping ground' for industrial developments. The possibility of interest group activity that may result from local perceptions of impacts on health and safety related to the Power Station, as well as discontent amongst the local communities about increasing energy developments from which they do not perceive significant benefits is considered as a separate impact with recommendations on means to minimise its likelihood.

The conversion process as proposed is considered the preferred alternative to the no-go alternative from a social perspective, as the positive impact of electricity provision outweighs potential negative impacts that may be associated with the development. The sub-alternative is considered the preferred alternative for the proposed Transmission Line from a social perspective, as impacts to current land-uses and sense of place will be less severe along this route.

The proposed transmission power line will impact severely on land users along the proposed alignments in Klein Zoute River Agricultural Holdings. Option C will impact significantly on current agricultural operations, residents on affected properties, learners at Vaaitjie school, proposed expansion plans of Apollo Bricks, and proposed game farm and tourism developments. The preferred alternative will have a severe impact, affecting nine landowners. The sub-alternative will only impact one household severely, while a further 3 (4, including portion 4) landowners in Klein Zoute River AH would lose the use of a portion of land to the servitude, but this should be possible to compensate for. The sub alternative is thus the preferred alignment from a social perspective.

## REFERENCES

- Afrosearch, 2005. *Social Impact Assessment for the proposed Open Cycle Gas Turbine Power Plant at Atlantis*. Prepared for: Bohlweki Environmental
- Barbour, T. 2007. *Guidelines for involving Social Specialists in an EIA*. Prepared for: Western Cape Department of Environmental Affairs and Development Planning
- Cape Biosphere Website: <http://www.capebiosphere.co.za/Topography.60.0.html>. Accessed January 2007.
- City of Cape Town Department of Health. 2004. *Blaauwberg District Health Statistics*. Retrieved from the World Wide Web: <http://www.capetown.gov.za/clusters/health.asp?IDPathString=1123-1374-3254&clusid=245&catparent=3254#Blaauw2004> on 26 December 2007.
- City of Cape Town, 2006. *Socio-economic profile: City of Cape Town*. Retrieved from the World Wide Web: [http://www.capegateway.gov.za/Text/2007/1/city\\_of\\_cape\\_town\\_se\\_profile\\_optimised.pdf](http://www.capegateway.gov.za/Text/2007/1/city_of_cape_town_se_profile_optimised.pdf) on 30 November 2007.
- City of Cape Town, 2006. *Suburb Profiles* Retrieved from the World Wide Web: <http://www.capetown.gov.za/> on 30 November 2007.
- City of Cape Town Department of Health. 2007. *Environmental Health*. Retrieved from the World Wide Web: <http://www.capetown.gov.za/clusters/health.asp?IDPathString=1123-1373-1422&clusid=257&catparent=1422> on 26 December 2007.
- City of Cape Town, 2007 (1) *Atlantis Poised for Economic Boom*. Published on <http://www.capegateway.gov.za/eng/pubs/news/2007/dec/164138> 29 December 2007
- City of Cape Town, 2007 (2) *Service Delivery Budget Implementation Plan. 2007-2008*.
- Ihaka, J. 2008. "Experts argue over health risks in pylons." *NZ Herald* 8 May 2008. Accessed on [http://www.nzherald.co.nz/section/1/story.cfm?c\\_id=1&objectid=10508745](http://www.nzherald.co.nz/section/1/story.cfm?c_id=1&objectid=10508745) 26 May 2008.
- Keikko, T. Isokorpi, J. Korpinen, L. 1999. "Electric Fields in 400 kV Transmission Lines" *International Conference on Electric Power Engineering*, 1999. PowerTech Budapest.
- International Labour Organization. 2003. *International Standard Classification for Occupations (ISCO-88)*. Cited in Afrosearch 2005.
- MasterQ, 2007. *Social Impact Assessment conducted for the Proposed capacity expansion of the existing open cycle gas turbine (OCGT) plant and associated transmission lines and substation at Atlantis, Western Cape Province*. Prepared for: Bohlweki Environmental

McCarthy, V (2006) Red Door Year End Report 2006: *Open Cycle Gas Turbine (OCGT) Atlantis. Eskom OCGT Project and the role to the Atlantis Red Door in partnership with the Local Economic Development Forum (LED)*. Red Door. Atlantis

McCarthy, V (2008) Red Door Year End Report 2007-2008: *Open Cycle Gas Turbine (OCGT) GAS 1 Atlantis*. Red Door. Atlantis

Romanovsky, P. 2006. *Population Projection for Cape Town 2001 – 2021* Information and Knowledge Management Department. Strategic Information Branch Retrieved from the World Wide Web: [http://web.capetown.gov.za/eDocuments/Population\\_Projection\\_for\\_Cape\\_Town\\_2001-2021\\_1992006151750\\_359.pdf](http://web.capetown.gov.za/eDocuments/Population_Projection_for_Cape_Town_2001-2021_1992006151750_359.pdf) on 30 November 2007.