SOCIAL IMPACT ASSESSMENT

ESKOM ANKERLIG 132 KV POWER LINE DEVIATION

WESTERN CAPE PROVINCE

March 2015

Prepared for

SAVANNAH ENVIRONMENTAL (Pty) Ltd

By

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EXECUTIVE SUMMARY

INTRODUCTION AND LOCATION

Savannah Environmental (Pty) Ltd was appointed by Eskom Holdings SOC Limited (Eskom) as the lead consultant to manage the Basic Assessment (BA) process for the proposed deviation of a portion of an existing 132kV power line between Koeberg Nuclear Power Station (NPS) and the Ankerlig power station and Dassenberg substation. The proposed deviation would feed into the Ankerlig power station. All facilities are located in the Atlantis area in the north-western part of the City of Cape Town (CCT), Western Cape Province.

Tony Barbour was appointed by Savannah Environmental to undertake a specialist Social Impact Assessment (SIA) as part of the BA process. This report contains the findings of the SIA undertaken as part of the BA process.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

In 2009 Eskom obtained authorisation for the relocation of the turbine units at Acacia power station (CCT) to Ankerlig power station located on the outskirts of the Atlantis industrial area. These units provide a dedicated off-site power supply to Koeberg nuclear power station. Authorisation also included a new 132 kV power line linking Ankerlig to Koeberg.

However, during the detailed planning process, and through discussions with the National Nuclear Regulator (NNR), it has was established that the authorised power line route is no longer technically viable, as the NNR requires that power lines should not be crossed by other power lines (operational safety), as would have been the case (Savannah, March 2014).

Eskom is therefore proposing to reroute a portion of the existing 132kV power line between Koeberg and the Dassenberg substation stations, approximately 14 km in length. The existing line follows the alignment of two existing lines from Koeberg to the Ankerlig power station and Dassensberg substation.

APPROACH TO THE STUDY

The approach to the SIA study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). These guidelines have been endorsed by the national Department of Environmental Affairs (DEA), and are based on international best practice. The key activities in the SIA process embodied in the guidelines include:

- Describing and obtaining an understanding of the proposed intervention (type, scale, location), the communities likely to be affected and determining the need and scope of the SIA;
- Collecting baseline data on the current social environment and historical social trends;
- Identifying and collecting data on the key social issues related to the proposed development. This requires consultation with affected individuals and communities;

- Assessing and documenting the significance of social impacts associated with the proposed intervention;
- Identifying alternatives and mitigation measures.

In this regard the study involved:

- Review of demographic data from the 2001 and 2011 Census;
- Review of relevant planning and policy frameworks for the area;
- Site specific information collected during the site visit to the area and interviews with key stakeholders;
- Review of information from similar projects;
- Identification of social issues associated with the proposed project.

SUMMARY OF KEY FINDINGS

The key findings of the study are summarised under the following sections:

- Fit with policy and planning
- Construction phase impacts
- Operational phase impacts
- Cumulative Impacts
- No-development option

Given the long term nature of housing developments, the SIA does not include an assessment of the potential impacts associated with the decommissioning phase. In addition, given the shortage of housing stock in Postmasburg, the need to demolish the housing units associated with the proposed Transnet housing development is unlikely in the medium to long term.

POLICY AND PLANNING ISSUES

The review of the relevant planning and policy documents was undertaken as a part of the SIA. The key documents reviewed included:

- Western Cape Spatial Development Framework (PSDF) (2009);
- City of Cape Town 2013/ 2014 Integrated Development Plan (IDP) Review;
- City of Cape Town: Blaauwberg District Plan (2012).

The Western Cape Spatial Development Framework notes under that "*transmission lines should be aligned along existing and proposed transport corridors rather than along point to point cross-country routes*" (HR 26, Mandatory directive).

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Ankerlig power station and Dassenberf substation.

The Blaauwberg Sub-District Plan for the area indicates that the existing line and the bulk of the proposed deviation are aligned across land designated Core 1. The portion north of the R307 traverses an area designated Buffer 1. While portions of

the proposed deviation would traverse Core 1 areas and portions of the Witzand Aquifer Conservation Area (WACA), only the outer margins would be affected. The infrastructure guidelines contained in the Blaauwberg District Plan also note that power line construction may be considered in Core 1 areas, subject to EIA approval. The plan also indicates that the proposed crossing of R307 is not located at a designated gateway to Atlantis or the dune fields. In this regard, the designated dune field's gateway is indicated ~2 km to the east, near Avondale.

The findings of the SIA therefore indicate that the proposed Ankerlig deviation is compatible with the provincial and local policy and planning requirements.

CONSTRUCTION PHASE
The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment opportunities

The construction related activities will create temporary employment opportunities which, in turn will create an opportunity for local economy.

Potential negative impacts
- Impacts associated with the presence of construction workers on site
- Impacts associated with movement of heavy vehicles during the construction phase.

The findings of the SIA indicate that the potential negative social impacts associated with the proposed project will be limited and can be affectively mitigated. Table 1 summarises the significance of the impacts associated with the construction phase.

Table 1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement / Mitigation
Creation of employment and business opportunities	Medium (Positive impact)	Medium (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole) Medium-High (Negative impact of individuals)	Low (Negative impact for community as a whole) Medium-High (Negative impact of individuals)
Impacts associated with construction vehicles	Low (Negative impact)	Low (Negative impact)

OPERATIONAL PHASE

The key social issues associated with the operational phase include:

Potential positive impacts
- Provision of energy infrastructure

Eskom have indicated that there a need to reroute a portion of the existing 132kV power line between Koeberg and the Dassenberg substation. The link between Koeberg NPS and the Ankerling power station / Dassenberg substation forms a key component of the energy grid for the Western Cape and CoCT.

Potential negative impacts
- Impact on tourism activities;
- Impact on sense of place and character of the area.

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation. These facilities are also visible from the existing hiking trails that are located in the Witzand Aquifer Conservation Area (WACA). The The potential impact on the areas sense of place and existing tourism activities is therefore likely to be negligible.

The significance of the impacts associated with the operational phase are summarised in Table 2.

Table 2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Provision of energy infrastructure	Medium (Positive impact)	Medium (Positive impact)
Impact on tourism	Low (Negative impact)	Low (Negative impact)
Impact on sense of place	Low (Negative impact)	Low (Negative impact)

CUMULATIVE IMPACTS

The power lines associated with the proposed Ankerlig deviation have the potential for cumulative impacts associated with Combined Visibility (more than one set of power lines visible from one location) and Sequential Visibility (e.g. the effect of seeing more than one set of power lines along a single journey, e.g. road or walking trail). However, as indicated above, this should be viewed within context is that of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation. The potential cumulative impact associated with an additional set of power lines on the areas sense of place is therefore likely to be negligible.

NO-DEVELOPMENT OPTION

The No-Development option would maintain the existing situation. Eskom have however indicated that the required Ankerlig deviation forms a key component of the energy grid for the Western Cape and CoCT. The No-Development Option is therefore not a viable alternative and would have a negative impact on the energy security of the region.

CONCLUSIONS AND RECOMMENDATIONS

The findings of the SIA indicate that the Ankerlig deviation forms a key component of the energy grid for the Western Cape and CoCT. The findings of the SIA also indicate that the potential negative social impacts associated with the proposed deviation are limited and can be mitigated. The proposed Ankerlig deviation is therefore supported.

IMPACT STATEMENT

The findings of the SIA also indicate that the potential negative social impacts associated with the proposed Ankerlig deviation are limited and can be mitigated. The proposed Ankerlig deviation is therefore supported.

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ACRONYMS

BDP	Blaauwbeeg District Plan
BPD	Blaauwbeeg Planning District
CCT	City of Cape Town
DEA	Department of Environmental Affairs (National)
DEA&DP	Department of Environmental Affairs and Development Planning (WCP)
DIS	Dassenbergrylaan Informal Settlement
DM	District Municipality
HD	Historically Disadvantaged
EIA	Environmental Impact Assessment
IDP	Integrated Development Plan
LED	Local Economic Development
LM	Local Municipality
NPS	Nuclear Power Station
PGDS	Provincial Growth and Development Strategy
PSDF	Provincial Spatial Development Framework
SDF	Spatial Development Framework
SIA	Social Impact Assessment
Tx	Transmission (lines)
WACA	Witzand Aquifer Conservation Area
WCP	Western Cape Province

SECTION 1: INTRODUCTION

1.1 INTRODUCTION

Savannah Environmental (Pty) Ltd was appointed by Eskom Holdings SOC Limited (Eskom) as the lead consultant to manage the Basic Assessment (BA) process for the proposed deviation of a portion of an existing 132kV power line between Koeberg Nuclear Power Station (NPS) and the Ankerlig power station and Dassenberg substation. The proposed deviation would feed into the Ankerlig power station. All facilities are located in the Atlantis area in the north-western part of the City of Cape Town (CCT), Western Cape Province.

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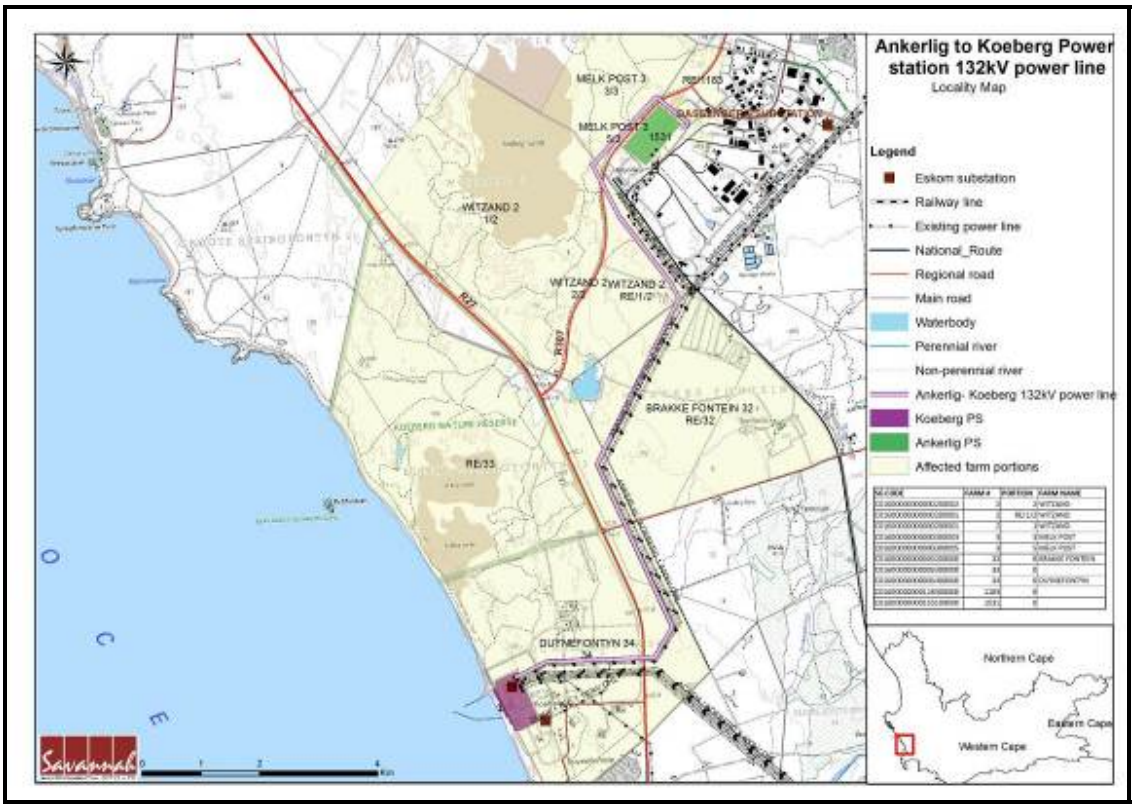

Figure 1.1: Location of the proposed Koeberg to Ankerlig line deviation

1.2 TERMS OF REFERENCE

The terms of reference for the SIA require:

- A description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed facility.
- A description and assessment of the potential social issues associated with the proposed facility.
- Identification of enhancement and mitigation aimed at maximizing opportunities and avoiding and or reducing negative impacts.

1.3 PROJECT DESCRIPTION

In 2009 Eskom obtained authorisation for the relocation of the turbine units at Acacia power station (CCT) to Ankerlig power station located on the outskirts of the Atlantis industrial area. These units provide a dedicated off-site power supply to Koeberg nuclear power station. Authorisation also included a new 132 kV power line linking Ankerlig to Koeberg.

However, during the detailed planning process, and through discussions with the National Nuclear Regulator (NNR), it has was established that the authorised power line route is no longer technically viable, as the NNR requires that power lines should not be crossed by other power lines (operational safety), as would have been the case (Savannah, March 2014).

Eskom is therefore proposing to reroute a portion of the existing 132kV power line between Koeberg and the Dassenberg substation stations, approximately 14 km in length. The existing line follows the alignment of two existing lines from Koeberg to the Ankerlig power station and Dassensberg substation (Figure 1.1).

The proposal calls for three amendments to the existing line:

- The detachment (and possible decommissioning) of a ~4 km segment linking into Dassenberg substation. The relevant segment is located to the south of the Atlantis industrial area. Existing transmission lines are located in the same servitude.
- An alternative segment (i.e. proposed deviation) to link into a now-to-be extended substation (high voltage (HV) yard) north of Ankerlig. The relevant segment is ~5.3 km in length. From the existing line, the deviation would be aligned to the west of the Atlantis industrial area, cross Dassenberg Drive (R307) to the north-west of the industrial area, before swinging north east a running parallel to the R307 for ~ 2 km, and then swinging south east and crossing the R307 again and entering the Ankerlig yard. The initial portion south of the R307 is located adjacent to 2 existing power lines.
- A segment of the existing line to physically delink/ link the segments mentioned above. The relevant segment is ~1.7 km in length, and is, as mentioned above located adjacent to 2 existing power lines.

Figure 1.2: Overview of existing 132 kV line, and proposed deviation

Only one deviation alternative is proposed (as described above). This is assessed against the "no go" or "do not develop" alternative. The "no go" alternative would mean that the existing line remains as it is. At the same time, it would mean that a technically feasible means of linking Ankerlig with Koeberg would be foregone.

1.4 PROJECT DESCRIPTION

The existing 132 kV line and proposed deviation are located in the Atlantis rural area, to the south-west of the Wesfleur ("Atlantis") Industrial area (Figure 1.3). The Atlantis Industrial area is located in the western part of Atlantis, with residential uses located further to the east, approximately 2 km from the Ankerlig premises. Atlantis is located ~6 km from the Atlantic coastline, and is the northernmost of the City of Cape Town's (CoCT) large suburbs. A product of Apartheid-era spatial planning, the suburb is located well to the north of Duynefontein/ Melkbosstrand (8 km+), the nearest part of the rest of the CoCT to the south.

Figure 1.3: Existing power lines and urban areas in the broader study area context

The rural area to the south-west of the Atlantis Industrial Area, essentially the area between Atlantis and Melkbosstrand, is cannot be developed for urban development as a result of the 5 km nuclear safety exclusion zone around Koeberg Nuclear Power Station (NPS), and protected areas located to the west of Atlantis, including the Witzand Aquifer Conservation Area (WACA)) to the west of Atlantis, and the Koeberg Nature Reserve to the west of the R27 (West Coast Road). Due to the presence of Koeberg NPS, the area to the south of Atlantis is characterized by a number of existing multi-line Eskom power line servitudes.

The southern ~10 km portion of the existing line, which would remain unchanged, traverses land belonging to Eskom and the CoCT.

The existing line is one of three within a broad servitude (cleared area) (Photo 1.1). The servitude is located across land identified for the protection of the Witzand Aquifer. Land located to the east of the servitude belongs to (north to south) the SANDF (shooting range – see below), the Louis Group (Donkergat Farm), and Mr Peter Dale (Skydive Cape Town). An airstrip is located on the Dale Property (Figure 1.4). However, as indicated, these properties would not be affected by the proposed deviation.

Photograph 1.1: Existing servitude to the west of the Dale property (This portion of line will remain unchanged)

The proposed ~1.7 km linking/ delinking segment traverses land belonging to the SANDF and CoCT. The Witzand Aquifer protected area is located to the north of the line segment. The SANDF's shooting ranges are located to the south of the line (Photograph 1.2). A private shooting range (Western Cape Shooting Union) is also located to the south of the line on land owned by the CoCT.

The WACA includes a substantial area to the west of Atlantis, located to the north and south of Dassenberg Drive (R307) east of the R27. The area is characterized by extensive dune fields. Working for Water is currently clearing the area of alien vegetation. The WACA is managed by the CoCT. Walking trails are accessible to the public subject to a permit. The public entrance is located ~200 m to the west of the proposed westernmost crossing of the R307 (Photograph 1.3).

Photograph 1.2: Shooting ranges on the SANDF Classification range

Photograph 1.3: Entrance to CCT Witzands Aquifer Conservation area off the R307 west of Atlantis.

The SANDF Classification range accommodates a number of ranges for the purposes of grading shooting proficiency for members of the SANDF and SAPS. The range is

the only certified range in the Cape Town Region. Due to safety requirements, the property occupies a sizable area. In this regard, certification requires a 2.5 km down-range no-development zone (including servitudes and roads) within an arc extending 11º from either side of the range, and taking into account an up to 800 m long range (shooter to target). According to the officer in command of the facility, any new lines to the south of the existing lines would be against range safety regulations (Muller - pers. comm).

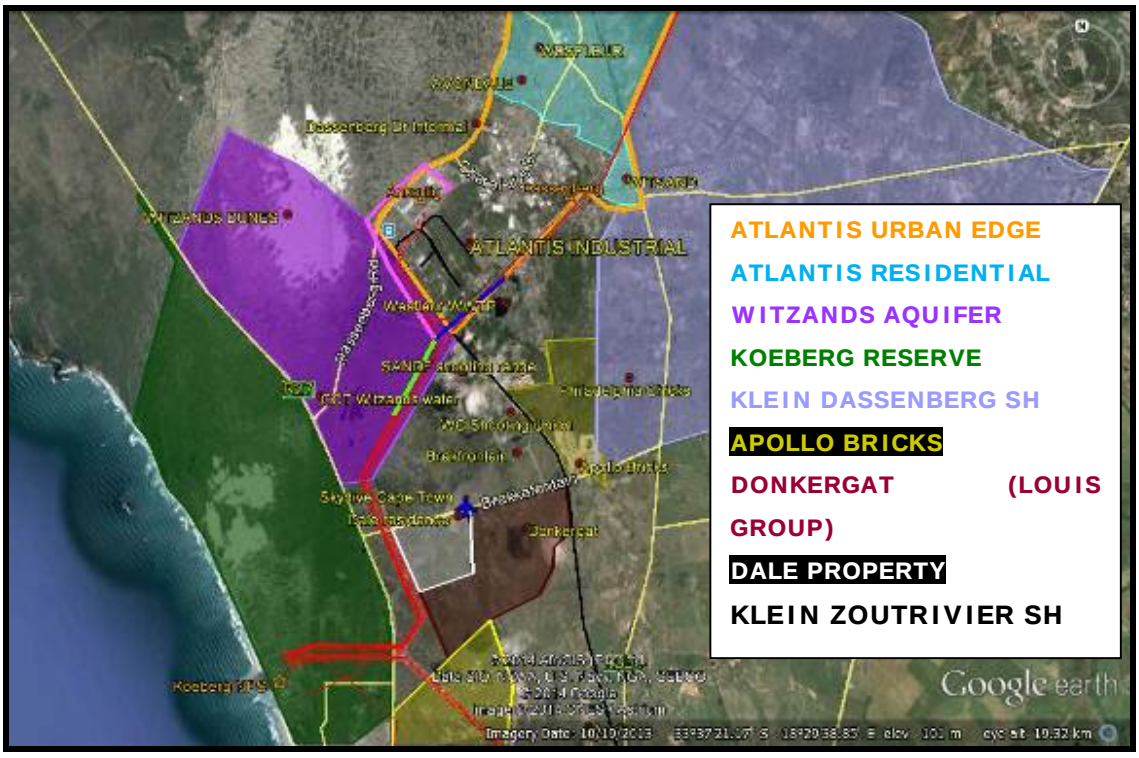

Figure 1.4: Land uses and receptors in the stretch between Koeberg and Ankerlig power stations

The proposed ~5.3 km deviation segment can be divided into three sections, namely:

- The initial ~2.7 km portion located to the west of the Atlantis urban edge/ Atlantis Industrial area. The northernmost ~300 m of the portion would be located to the north of Dassenberg Drive (R307). This portion traverses land associated with the WACA. Two existing power lines are located ~100 m to the east of the portion south of the R307, up to the formal entrance to Ankerlig (off Neil Hare Crescent) (Photograph 1.4);
- The ~2 km portion to the north of the R307. This portion would be aligned ~100 m to the north of the road, parallel to the road. The portion traverses natural vegetation associated with the Witsands dunefield area, but does not form part of the WACA (Photograph 1.5). The land belongs to the CoCT and is undeveloped (apart from tracks and paths). The Ankerlig power station is clearly visible from the R307 to the south of the road along this stretch.

Photograph 1.4: Entrance to Ankerlig power station off Neil Hare Crescent in Atlantis Industrial area

Photograph 1.5: Portion of R307 which would be affected, viewed from the east

- The final ~600 m linking into Ankerlig from the north and then east would again traverse the R307. The portion to the north of the road would traverse natural vegetation on land belonging to the CoCT. The portion to the south would traverse a large vacant, undeveloped area in Atlantis Industrial Area located to the east of the existing Ankerlig yard (Photograph 1.6). It is understood that part of this area would be used to accommodate the envisaged new HV yard. The Ankerlig yard is surrounded by vacant land in Atlantis Industrial Area. The nearest factory to the east of Ankerlig is the large Impact Plastics plant, ~300 m to the east of the proposed deviation (Photograph 1.7). Land uses located to the south include railway goods siding lines, a few factories surrounded by large tracts of vacant land within Neil Hare Crescent, and further to the south, the CCT Wesfleur Waste Water Treatment Works.

Photograph 1.6: Ankerlig power station viewed from the east from along the R307.

Photograph 1.7: Vacant land in Atlantis Industrial to the east of Ankerlig. The Impact Plastics factory is located in the left middle distance

As indicated above, residential areas in Atlantis are located ~2 km east of the Ankerlig power station. Residential areas adjacent to the south of the R307 (urban edge) include Avondale, Wesfleur and Saxonsea. Avondale and Wesfleur are set back far from the R307 (Photograph 1.8). A sizable informal settlement, the Dassenbergrylaan Informal Settlement (DIS) (Photograph 1.9), is located to the north of the R307, near the CoCT Dassenberg Drop-off (waste) facility, ~1.3 km to the east of the deviation.

Photograph 1.8: Houses in Avondale, Atlantis, viewed from the R307.

Photograph 1.9: A portion of the Dassenbergrylaan Informal Settlement to the north of Dassenberg Drive, 1.3 km to the east of the proposed deviation

The R307 provides a direct link from Atlantis to the R27. The R27 ("West Coast Road") links the CoCT in the south to the West Coast District Municipality (WCDM) to

the north, including the Saldanha-Vredenburg provincial growth corridor. Charl Uys Drive, one of three access of Dassenberg Dr, is located ~600 m to the east of the deviation. Charl Uys provides the main access to the Industrial area off the R307 (Photograph 1.10).

Photograph 1.10: Charl Uys Drive intersection off R307 to the east of Ankerlig

While the verges of the R307 are essentially veld, and the area to the north of the road essentially undeveloped, a number of service industrial facilities are currently located just off the road. These include Ankerlig's large HV yard, which is visible when approaching from the R27 (Photograph 1.11) and the CoCT Witzand water treatment works near the R27/ R307 intersection, as well as the CoCT's Dassenberg Drive Drop-off facility, and two large CCT reservoirs west of Avondale.

Photograph 1.11: View of Ankerlig power station from the R27.

In addition, the R307 is already traversed by existing power lines approximately 5.8 km east of the proposed deviation. In this regard, 2 existing power lines from the Aurora substation (near Hopefield) traverse the road, with the portion south of the road essentially demarcating the Atlantis urban edge. These power lines are visible to motorists travelling from Darling and Mamre.

1.5 APPROACH TO STUDY

The approach to the SIA study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (February 2007). These guidelines are based on international best practice. The key activities in the SIA process embodied in the guidelines include:

- Describing and obtaining an understanding of the proposed intervention (type, scale, and location), the settlements, and communities likely to be affected by the proposed project.
- Collecting baseline data on the current social and economic environment.
- Identifying the key potential social issues associated with the proposed project. This requires a site visit to the area and consultation with affected individuals and communities. As part of the process a basic information document was prepared and made available to key interested and affected parties. The aim of the document was to inform the affected parties of the nature and activities associated with the construction and operation of the proposed development to enable them to better understand and comment on the potential social issues and impacts.
- Assessing and documenting the significance of social impacts associated with the proposed intervention.

- Identifying alternatives and mitigation measures.

In this regard the study involved:

- Review of demographic data from the 2011 Census and other demographic sources;
- Review of relevant planning and policy frameworks for the area;
- Site specific information collected during the site visit to the area and interviews with interested and affected parties;
- Review of information from similar studies;
- Identification and assessment of the social issues associated with the proposed project.

The identification of potential social issues associated with proposed facility is based on observations during the project site visit, review of relevant documentation, experience with similar projects and the general area. Annexure A contains a list of the secondary information reviewed and interviews conducted. Annexure B summarises the assessment methodology used to assign significance ratings to the assessment process.

1.5.1 Definition of social impacts

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).

When considering social impacts it is important to recognise that social change is a natural and on-going process (Burdge, 1995). However, it is also important to recognise and understand that policies, plans, programmes, and/or projects implemented by government departments and/or private institutions have the potential to influence and alter both the ***rate*** and ***direction*** of social change. Many social impacts are not in themselves "impacts" but change process that may lead to social impacts (Vanclay, 2002). For example the influx of temporary construction workers is in itself not a social impact. However, their presence can result in range of social impacts, such as increase in antisocial behaviour. The approach adopted by Vanclay stresses the importance of understanding the processes that can result in social impacts. It is therefore critical for social assessment specialists to think through the complex causal mechanisms that produce social impacts. By following impact pathways, or causal chains, and specifically, by thinking about interactions that are likely to be caused, the full range of impacts can be identified (Vanclay, 2002).

An SIA should therefore enable the authorities, project proponents, individuals, communities, and organisations to understand and be in a position to identify and anticipate the potential social consequences of the implementation of a proposed policy, programme, plan, or project. The SIA process should alert communities and individuals to the proposed project and possible social impacts, while at the same time allowing them to assess the implications and identify potential alternatives. The assessment process should also alert proponents and planners to the likelihood and nature of social impacts and enable them to anticipate and predict these impacts in

advance so that the findings and recommendations of the assessment are incorporated into and inform the planning and decision-making process.

However, the issue of social impacts is complicated by the way in which different people from different cultural, ethic, 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.

1.5.2 Timing of social impacts

Social impacts vary in both time and space. In terms of timing, all projects and policies go through a series of phases, usually starting with initial planning, followed by implementation (construction), operation, and finally closure (decommissioning). The activities, and hence the type and duration of the social impacts associated with each of these phases are likely to differ.

1.6 ASSUMPTIONS AND LIMITATIONS

1.6.1 Assumptions

Technical suitability

It is assumed that the proposed routes identified by Eskom are technically suitable for the establishment of a power line.

Fit with planning and policy requirements

Legislation and policies reflect societal norms and values. The legislative and policy context therefore plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents. As such, if the findings of the study indicate that the proposed development in its current format does not conform to the spatial principles and guidelines contained in the relevant legislation and planning documents, and there are no significant or unique opportunities created by the development, the development cannot be supported.

The findings of the planning and policy review indicate that the proposed power line route does largely conform to relevant land use and policy requirements.

1.6.2 Limitations

Demographic data

Ward level data from the 2011 Census was not available at the time of undertaking the study. The information presented in the report is therefore at a municipal level. This data does, however, provide the study with the socio-economic baseline data required to inform the SIA.

1.7 SPECIALIST DETAILS

Tony Barbour, the lead author of this report is an independent specialist with 24 years' experience in the field of environmental management. In terms of SIA

experience Tony Barbour has undertaken in the region of 120 SIA's and is the author of the Guidelines for Social Impact Assessments for EIA's adopted by the Department of Environmental Affairs and Development Planning (DEA&DP) in the Western Cape in 2007.

Schalk van der Merwe, the co-author of this report, has an MPhil in Environmental Management from the University of Cape Town and has worked closely with Tony Barbour on a number of SIAs over the last ten years.

1.8 DECLARATION OF INDEPENDENCE

This confirms that Tony Barbour and Schalk van der Merwe, the specialist consultants responsible for undertaking the study and preparing the report, are independent and do not have vested or financial interests in proposed project being either approved or rejected.

1.9 REPORT STUCTURE

The report is divided into five sections, namely:

- Section 1: Introduction;
- Section 2: Overview of the study area
- Section 3: Summary of key policy and planning documents pertaining to the study area and the proposed development;
- Section 4: Identification and assessment of key social issues;
- Section 5: Summary of key findings and recommendations.

SECTION 2: OVERVIEW OF THE STUDY AREA

2.1 INTRODUCTION

Section 2 provides an overview of the study area with regard to:

- The general location and administrative context;
- Study area communities;
- The demographic context; and,
- The economic context.

2.2 ADMINSTRATIVE CONTEXT

The existing line and proposed deviation are located in the Blaauwberg Planning District (BPD) area of the City of Cape Town (CCT). The BPD is the north-westernmost of the CCT's Planning Districts. The BPD is bounded by other CCT Planning Districts to the south and east, the Swartland Local Municipality (West Coast District Municipality) to the north, and the Atlantic Ocean to the west.

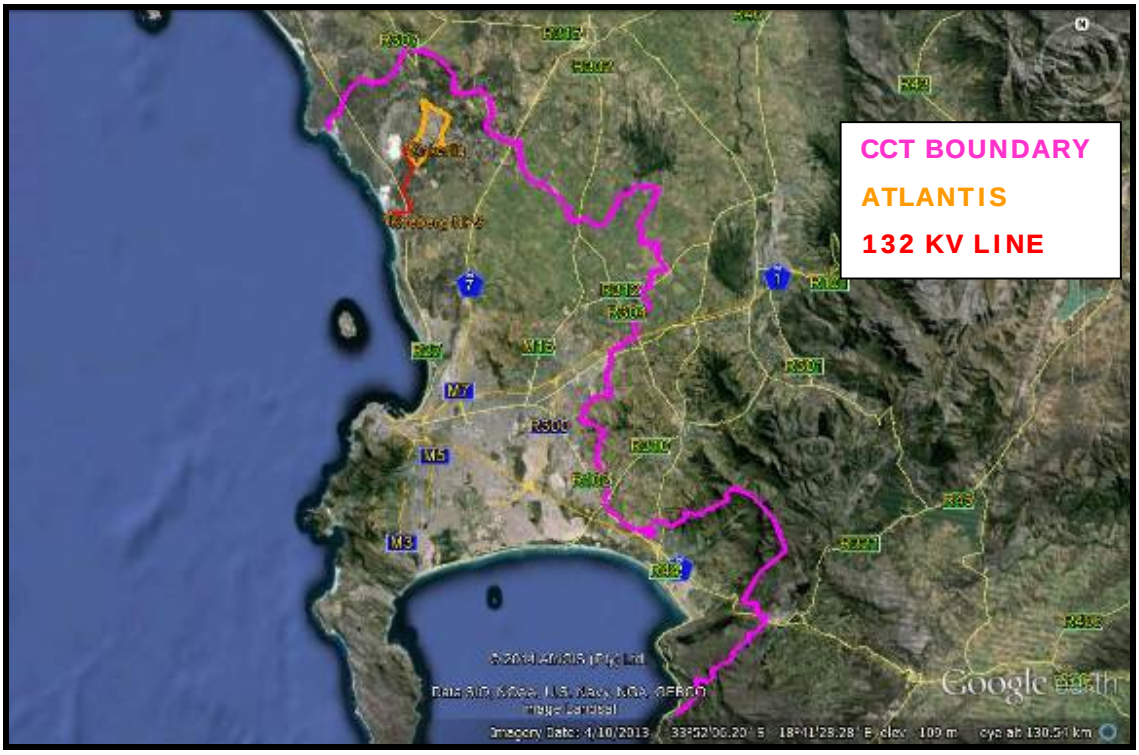

Figure 2.1: Location of Atlantis and 132 kV line within the City of Cape Town.

The Blaauwberg district covers a vast area, totalling some 55 000ha, and incorporates part of the CCT urban core in the south, large areas of agricultural and conservation land, as well as outer lying towns in the north . It includes some of the fastest growing new development areas in the City, but in contrast also includes a number of underdeveloped, lower-income areas such as Atlantis. It is bounded by the Atlantic Ocean to the west, the N7 freeway to the east and stretches from the area of Paarden Eiland in the south, to the rural town of Mamre in the north (CCT; 2012b).

The existing line and the bulk of proposed deviation are located in CCT Ward 32. The proposed line portion north of the R307 is located in Ward 29. Both wards include large rural tracts. Ward 032 includes the areas of Atlantis Industrial, Avondale, Beacon Hill, Protea Park, Robinvale, Saxonwold, Sherwood and Witsand (CCT GIS, 2013c). Ward 029 includes the areas of Avondale, Mamre, Pella, Saxonsea, Sherwood and Wesfleur (CCT GIS, 2013d).

2.3 LOCAL COMMUNITIES

2.3.1 Atlantis

Atlantis was proclaimed in 1975 with the intention of establishing a self-sufficient Coloured city north of the (White) metropole. The population essentially consisted of Coloured households forcibly removed from various designated White areas in the metropolitan heartland. The basic town lay-out and infrastructural development occurred 1976-1986.

The township was developed well north of the then Cape Town built edge (20-30 km), and consequently functionally cut off from the rest of the urban CCT economy. The idea at the time was that Atlantis would benefit from the envisaged development of the Cape Town-Saldanha Development Corridor, as an industrial in-between stop, servicing both nodes – as yet largely unrealized. Atlantis essentially developed into a dormitory town for the CCT labour pool. The only local economic activity which ever really established to some degree is associated with manufacturing. No significant retail and commercial facilities ever developed, and the town suffers from the legacy of institutional neglect, as evidenced by under capacitated/ oversubscribed public facilities (e.g. hospital).

The Atlantis Industrial Area was intended to cater for the local community's economic needs, and the town was essentially laid out around the Industrial area (viz. to the east thereof). Throughout the Apartheid years the area benefited from various state subsidies and other incentives, and attracted a fair number of large manufacturers (mainly textiles and clothing, but also electronics, engineering works and others). Atlantis's isolated location and concentration of generally lower skilled labour however dictated against lasting economic feasibility/ sustainability.

Many companies were ill prepared to continue operations in Atlantis once the subsidies started falling away (1993 onwards), and many gradually closed operations/ relocated. With the exception of Eskom's Ankerlig open cycle gas turbine (OCGT) power station, the area has not attracted any large-scale investment/ development. Unemployment or underemployment in the community is therefore significant. A significant portion of the labour force commute to employment opportunities in the CCT and elsewhere on a daily basis – at substantial cost as a result of distance and inadequate public transport services.

A surfeit of undeveloped land is available within the built and urban edges of Atlantis. Essentially all of this land is public land; release is however hampered by significant fragmentation of ownership between various state and provincial departments. Historic neglect, underdevelopment, and a perception of socio-economic problems currently precludes any significant commercial residential development interest in Atlantis.

As was indicated in Sections 1, the proposed deviation would essentially affect the western portion of the Atlantis Industrial area. This means that the nearest residential neighbourhoods in Atlantis (Avondale, Wesfleur), are ~2 km away, buffered by the Atlantis Industrial area. Residential receptors in these neighbourhoods are therefore unlikely to be affected by the proposed deviation.

2.3.2 Rural Atlantis

The rural settlement pattern in the area to the north, west and south-west of Atlantis is very sparse. This is linked to the presence of the Witzand dune fields (north), protected areas associated with the Witzands aquifer (north and west), and the Koeberg NPS 5 km exclusion zone. In addition, the sandy soils in this area are of low agricultural potential, and supports little agriculture. Land uses in this area are therefore essentially conservation, aquifer protection, natural vegetation, and military (SANDF Classification Range). Apollo Bricks' extensive operations to the east of the SANDF range provides a buffer with the Klein Dassenberg Agricultural Smallholding Area still further to the east (see Figure 1.4).

2.3.3 Dassenbergrylaan Informal Settlement

The Dassenbergrylaan Informal Settlement (DIS) is the nearest residential receptor to the proposed deviation. The DIS is located ~1.2 km to the east of the proposed deviation, north of the R307. A scrutiny of 2013 Google Earth data indicates approximately 50-70 structures.

The community essentially sprang up around the CCT Dassenberg Drive Drop-Off facility. The site is serviced by the CCT (refuse, water, etc). Harvesting alien vegetation for sale as firewood and recycling scrap metals for sale to businesses in Atlantis Industrial across the R307 constitute key economic activities (van der Merwe and Malan, 2012).

2.4 DEMOGRAPHIC PROFILE

Information presented below is based on suburb profiles which were compiled by City of Cape Town GIS in July 2013 from Census data. As ward maps overlap with suburb maps, use has been made of suburb maps (smaller area datasets) only.

2011 Census suburb Atlantis includes the following sub-places: Atlantis Industrial, Avondale SP1, Beaconhill, Protea Park, Robinvale, Saxonsea, Sherwood, Wesfleur SP1, Wesfleur SP2, Witsand Informal (CCT GIS, 2013a). 2011 Census suburb Atlantis Rural includes the following sub-places: Cape Metro NU2, Koeberg, Papekuil Outspan (CCT GIS, 2013b).

Population and households

Rural and urban Atlantis had an estimated total population of 69 970 in 2011 (Table 2.1), accounting for ~1.9% of the CCT's population. The overwhelming bulk of the Atlantis population was living in urban Atlantis, with only 2 479 (600 households) living in the rural areas surrounding the settlement. Atlantis household sizes were on average slightly larger than the CCT average.

Table 2.1: Study area communities – population and households

	CCT	Atlantis	Atlantis Rural
Population	3 740 025	67 491	2 479
Households	1 068 572	15 564	600
Average household size	3.5	4.34	4.13

Source: Compiled from CCT GIS, 2012; 2013 a-b.

The Atlantis area is overwhelmingly Coloured (Table 2.2), followed (in numeric terms) by the Black African group. The White group constitutes a significant minority in rural Atlantis (27.8%), are relatively few in total numbers.

Table 2.2: Study area communities – breakdown by population group (2011)

	CCT	Atlantis	Atlantis Rural
Black African %	38.6	12.9	18.1
Coloured %	42.4	85	50.7
Asian %	1.4	0.4	0.7
White %	15.7	0.1	27.8
Other %	1.9	1.6	2.7

Source: Compiled from CCT GIS, 2012; 2013 a-b.

Age structure

Urban Atlantis has a comparatively large youthful dependent cohort (population aged 0-14), namely 28.5% - compared to the CCT average of 24.8%. In contrast, the aged portion of the population was 2% smaller than the CCT average (Table 2.3).

Table 2.3: Age structure for the CCT and study area communities (Census 2011)

	CCT %	Atlantis %	Atlantis Rural %
0-4	9.9	11.1	8.8
5-14	14.9	17.4	12.9
15-24	18.4	19.5	16.9
25-64	51.3	48.9	56.1
65+	5.5	3	5.2

Source: Compiled from CCT GIS, 2012; 2013 a-b.

Socio-economic indicators

Poverty rates for the study area communities were higher than the CCT average, and adult education levels lower – especially of the rural area, where an estimated 28.8% of the adult population may be considered functionally illiterate (Table 2.4).

Table 2.4. Study area communities – overview of key indices (2011)

	CCT	Atlantis	Atlantis Rural
% households with no income, or an income below R3 200/ m[1]	47	50.8	49.8
Unemployment rate (official) - % of economically active population	23.9	26.58	18.31
Highest qualification Primary or less - % of population 20+	14.5	19.8	28.8

Source: Compiled from CCT GIS, 2012; 2013 a-b.

Service levels indicators

Urban Atlantis has a smaller percentage of people without access to formal housing (15.5%) than the CCT (21.6%). Access to electricity for lighting is however significantly below the CCT average (by 8.6%). Rural service levels, especially access to weekly refuse removal and waterborne sewage, are significantly lower than the CCT averages (Table 2.5).

Table 2.5: Study area communities – overview of service levels (2011)

	CCT	Atlantis	Atlantis Rural
% of population not living in formal dwelling	21.6	15.5	12
% of population without access to piped water inside dwelling	25	18	34.8
% of population without waterborne sewage	11.8	18	44.4
% of population without access to weekly refuse collection	4.7	4.4	57.1
% of population not using electricity for lighting	6	14.6	12.1

Source: Compiled from CCT GIS, 2012; 2013 a-b.

2.5 ECONOMIC OVERVIEW

The IDP Review notes that, based on Census data, the CCT remains the second-largest contributor to South Africa's total GDP, accounting for 10.7% in 2011. While average annual growth rates are fairly similar among the metropolitan municipalities, the CCT's GDP per capita is nearly double the national average.

[1] This figure roughly corresponds to the defined (2011) upper-band poverty line value used in the National Development Plan.

In terms of gross value added (GVA); the CCT's economy is dominated by four sectors, namely Finance and Business Services; Manufacturing; Trade and Hospitality; and Community Services and General Government. From 2001 to 2011 the relative contributions of these sectors have however changed. The Finance and Business Services sector has maintained its importance (36.1% of total GVA), supported by a high growth rate. While the Manufacturing sector's share of the CCT economy has grown slightly, the sector has continued to shed semi-skilled and unskilled employment opportunities.

The same four sectors of the CCT economy also contribute most to CCT employment provision, albeit not in the same order of importance as for GVA. In this regard, Community Services and General Government is currently the largest contributor (28.2% in 2011). The contribution of Manufacturing, once the second-largest contributor to CCT employment, has dramatically shrunk in relative and absolute terms. The sector is estimated to have shed approximately 42 000 employment opportunities over the past decade.

From 2010 to 2011, the number of employment opportunities increased in all sectors, apart from Manufacturing, and the Agriculture, Forestry and Fishing sector. In 2011, the average unemployment rate for Cape Town was 23.8% for people of working age (5 – 64) - down from 24.9% in 2010.

Up to 75% of CCT businesses are classified as small and medium enterprises (SMEs) and account for 50% of the city's economic output. Up to 93% of all small and micro-sized firms are low-tech operations in mature, traditional industries, with very little interaction with large firms.

The CCT informal economy involves activities (mainly wholesale and retail trade, home-based catering and accommodation, and working in private households) which are not linked to the city's main economic activities. The CCT sector is also less important in terms of informal employment creation (11%) than the national average of (17%) (CCT, 2013).

Atlantis study area

The Atlantis area is not representative of the Blaauwberg District. Unlike more affluent BPD areas such as Melkbosstrand, Bloubergstrand, Big Bay and Milnerton to the south, Atlantis may be described as a poverty/ under-development hotspot.

Functional integration of the community into the CCT and CCT economy has been identified as a key priority in all relevant CCT policy documents. Physical barriers include Atlantis' remote location and the lack of a functional rail service (which had been discontinued by Transnet).

Community skills levels are generally low – limiting the area's appeal to prospective investors. This is compounded by the out-migration – brain-drain - of higher skilled individuals (lack of local opportunities). The lack of developed local retail and commerce results in a significant portion of income not being spent in the Atlantis area.

A number of cross-linking local community (e.g. Atlantis Task Team), NGO, CCT and Provincial revitalization initiatives have been proposed with some degree of pressing urgency over the past few years. A study was commissioned by PGWC: Department of Economic Development and Tourism in 2011 to undertake a comprehensive

feasibility assessment of 18 identified potential revitalization proposals. A range of proposals were assessed, and ranked according to viability (4 tiers). First tier opportunities were linked to alternative energy projects and the development of a green energy (manufacturing) hub. The majority of second tier opportunities were also linked to “green” technologies and activities (Van der Merwe and Malan, 2012).

SECTION 3: POLICY AND PLANNING CONTEXT

3.1 INTRODUCTION

Section 3 provides an overview of the most significant policy documents of relevance to the proposed development, namely:

- Western Cape Spatial Development Framework (PSDF) (2009);
- City of Cape Town 2013/ 2014 Integrated Development Plan (IDP) Review;
- City of Cape Town: Blaauwberg District Plan (2012).

3.2 WESTERN CAPE SPATIAL DEVELOPMENT FRAMEWORK (2009)

The Western Cape Provincial Spatial Development Framework (PSDF) (2009) gives provincial-level expression to, and is explicitly aligned with, the National Spatial Development Perspective (NSDP) (2006). The PSDF was endorsed by Cabinet (PGWC) in June 2009, and is approved as a Structure Plan in terms of LUPO. It constitutes the fundamental policy instrument with regard to the spatial dimension of all development planning in the Western Cape. The PSDF is due for revision this year (2014).

The siting of power lines is addressed under Objective 5 of the PSDF.

Objective 5: Conserve the sense of place of important landscapes

The PSDF notes the vital importance of tourism and the scenic resource to the Provincial economy. The PSDF therefore stipulates that, with regard to the siting and design of future power lines and other visibly substantial infrastructural development, the relevant provincial guidelines should be followed, and proposals should include provision for environmental, visual and heritage impact assessments.

The following policy directive is applicable:

HR26 (…) transmission lines (…) should be aligned along existing and proposed transport corridors rather than along point to point cross-country routes. (Mandatory directive)

The PSDF notes that the shortest-distance approach to the alignment of transmission lines raises issues of visual blight, unviable shaped land parcels, need for access roads and destruction of cultural landscapes. Where possible, future power lines should be aligned within existing and proposed combined road and/or rail linkage corridors that impact on the remainder of the landscape, especially if such alignment will not impact on cultural and scenic landscapes. The PSDF notes that coordination will be required with electricity supply and distribution and telecommunication service providers' EIA processes to ensure that this policy is implemented (PSDF; p48).

The deviation would establish two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis. While this is not ideal, it should be noted that the immediate context is that of the existing Ankerlig power station which is visible to the south of the R307. In addition, the proposed alignment north of the R307 would be parallel to the road reserve, approximately 100m to the north. In addition, the R307 is already traversed by 2 power lines located to the east.

3.3 CITY OF CAPE TOWN 2013-2014 IDP REVIEW

The CCT 2013/ 2014 Integrated Development Plan (IDP) is the second revision of the current CCT five-year (2012-2017) IDP. The IDP represents the overarching strategic framework through which the CCT aims to realise its development vision for the city. The CCT's development vision rest on five pillars:

- Pillar 1: Ensure that Cape Town continues to grow as an opportunity city;
- Pillar 2: Make Cape Town an increasingly safe city;
- Pillar 3: Make Cape Town even more of a caring city;
- Pillar 4: Ensure that Cape Town is an inclusive city;
- Pillar 5: Make sure Cape Town continues to be a well-run city.

These five key focus areas inform all the CCT's plans and policies. Spearheading this vision is a focus on infrastructure investment and maintenance to provide a sustainable drive for economic growth and development, greater economic freedom, and increased opportunities for investment and job creation.

3.4 BLAAUWBERG DISTRICT PLAN (2012)

The CCT SDF was approved by Council in May 2012. The SDF is supplemented by a set of District Plans for each of the CCT's Planning Districts. The Blaauwberg District Plan (Spatial Development Plan and Environmental Management Framework) is of reference here. The SDF and District Plans have been approved as Structure Plans in terms of the Western Cape Land Use Planning Ordinance (LUPO). Mandatory review of the District Plans is envisaged every ten years – i.e. next revision would be in 2022.

The Blaauwberg District Plan (BDP) contains general land use principles as well as detailed land use guidelines and provisions for each of the BPD's six sub-districts. Key guidelines with regard to the construction of power lines in the Blaauwberg area include:

- Where possible, all new infrastructure, services and structures should be located outside of patches of vegetation that have been identified as Core 1 and 2 areas;
- Land within the structure plan designated as Buffer 1 or Buffer 2 may be used for the establishment of space extensive essential engineering infrastructure services and installations;
- Linear infrastructure which forms part of a services network such as power lines may be suitable in any of the identified planning categories subject to relevant statutory authorizations and taking visual impact into account (CCT, 2011b: 65).

A review of the proposed affected line segment in terms of the Spatial Development Plan (SDP) plans in Section 5 of the BDP indicates the following:

- The existing line and proposed deviation traverse a productive aquifer. High productivity portions of the aquifer are located to the south of the line segment which would be affected (BDP Figure 5-1: Hydrological Zone);
- The affected line portion located to the south of the R307 traverses an area demarcated as a Protection Area. The section to the north is indicated as dune fields (BDP Figure 5-2: Coastal and Dune Zone);
- The affected line portion south of the R307 traverses an area demarcated Conservation Area: Witzands Aquifer; that to the north as natural vegetation (BDP Figure 5-3: Conservation and Biodiversity Zone);
- The affected line portion to the north of the R307 traverses and area indicated as an archeological resource area (Witzands dune fields). The section to the south of the R307 is not located in any designated economic resource area (BDP Figure 5-4: Economic Resource Zone);
- The existing line and affected portion/ deviation are located in a designated rural area (BDP Figure 5-5: Natural Economics Resource Zone: Agriculture);
- The existing line (corridor) is indicated, but the plan does not make provision for the proposed deviation (i.e. a crossing of the R307 at Ankerlig) (BDP Figure 5-6: Urban Utilities Zone);
- The affected line portion south of the R307 traverses an area demarcated Conservation Area: Witzands Aquifer. The section to the north is indicated as natural vegetation (BDP Figure 5-7: Areas of Potential Impact);

The Implementation Framework Plans (Section 6) indicate that no new development areas are located in close proximity to the existing line or the proposed deviation segment (BDP Figure 6-1: New Development Areas), and that the relevant area is not earmarked for any urban restructuring (BPD Figure 6-2).

3.4.1 Sub-district 5 Plan: West Coast

The existing 132 kV line and proposed deviation are located in Blaauwberg sub-district 5: West Coast (Figure 2.1). Sub-district 5 is the largest of the BPD's sub-districts, and essentially includes all rural areas south and west of Atlantis. The sub-district extends from north of Melkbosstrand in the south to the CCT/ Swartland boundary in the north. Key land use objectives for the Sub-District include:

- Protecting the integrity of the Koeberg 5 km exclusion zone;
- Protecting the rural character of the area;
- Ensuring rural activities do not compromise environmentally sensitive areas (CCT, 2012b: 138-9).

The Sub-District Plan (Figure 3.1) indicates that the existing line and the bulk of the proposed deviation are aligned across land designated Core 1. The portion north of the R307 traverses an area designated Buffer 1.

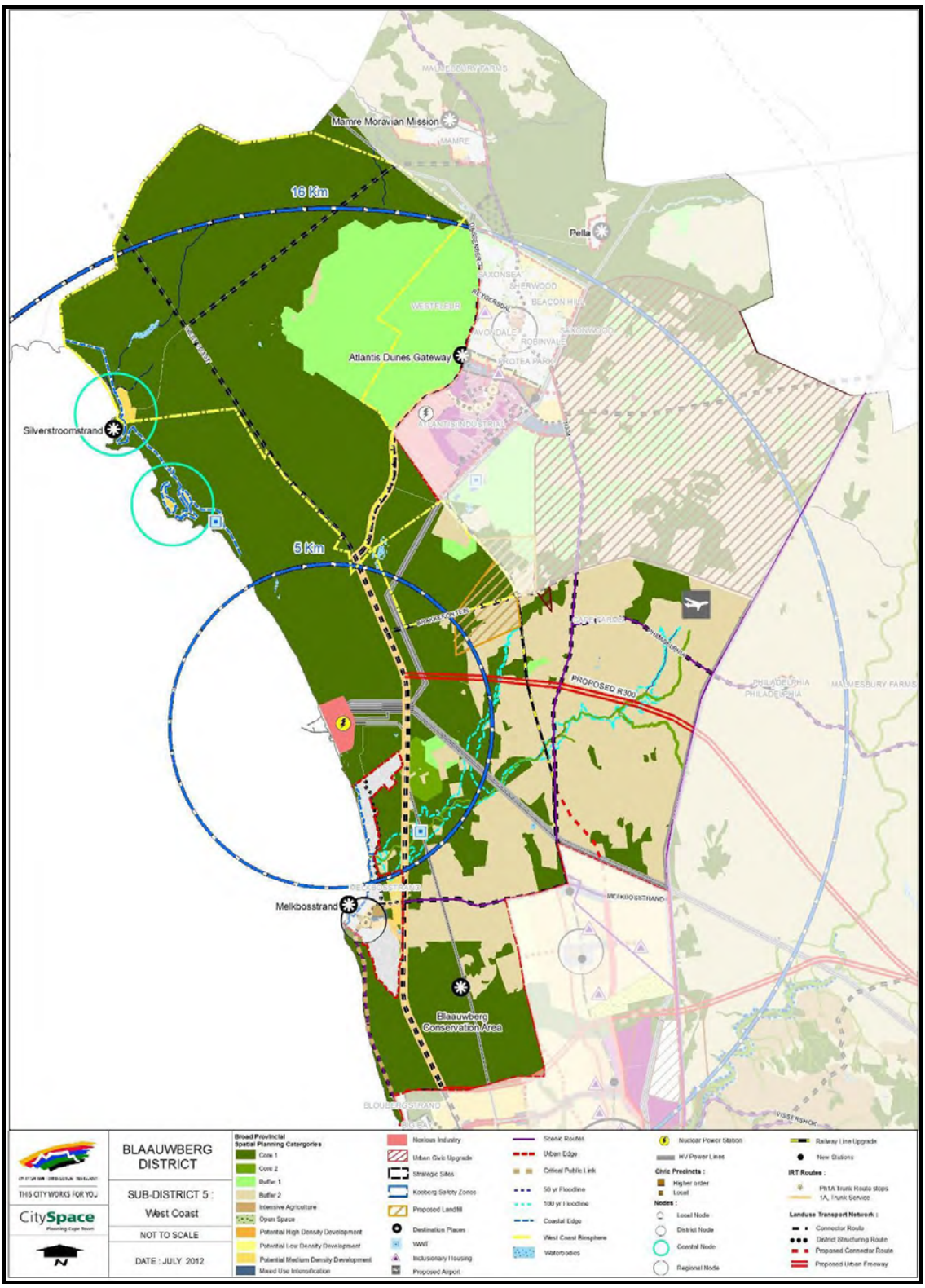

Figure 3.1: Blaauwberg Planning District: Sub-District 5 (West Coast) (Source: CCT, 2012b).

The proposed deviation is located well to the north of the Koeberg exclusion zone, and is therefore not affected by its provisions. The Plan further indicates that the proposed crossing of R307 is not located at a designated gateway to Atlantis or the dune fields. In this regard, the designated dune field's gateway is indicated ~2 km to the east, near Avondale.

In conclusion, while portions of the proposed deviation would traverse Core 1 areas and portions of the Witzand Aquifer Conservation Area (WACA), only the outer margins of these would be affected. Infrastructure guidelines contained in the BDP further indicate that power line construction may be considered in Core 1 areas, subject to EIA approval.

SECTION 4: ASSESSMENT OF KEY SOCIAL ISSUES

4.1 INTRODUCTION

Section 4 identifies the key social issues identified during the SIA study. The identification of social issues was based on:

- Review of project related information, including other specialist studies;
- Interviews with key interested and affected parties;
- Experience of the authors of the area and the local conditions; and
- Experience with similar projects.

4.2 IDENTIFICATION OF KEY SOCIAL ISSUES

The key social issues identified during the SIA can be divided into:

- The policy and planning related issues
- Local, site-specific issues

The local site-specific issues can in turn be divided into construction and operational related issues. These issues are discussed and assessed below.

4.3 POLICY AND PLANNING ISSUES

As indicated in Section 1.5, legislative and policy context plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents.

The review of the relevant planning and policy documents was undertaken as a part of the SIA. The key documents reviewed included:

- Western Cape Spatial Development Framework (PSDF) (2009);
- City of Cape Town 2013/ 2014 Integrated Development Plan (IDP) Review;
- City of Cape Town: Blaauwberg District Plan (2012).

The Western Cape Spatial Development Framework notes under that "*transmission lines should be aligned along existing and proposed transport corridors rather than along point to point cross-country routes"* (HR 26, Mandatory directive).

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Ankerlig power station and Dassenberf substation.

The Blaauwberg Sub-District Plan for the area indicates that the existing line and the bulk of the proposed deviation are aligned across land designated Core 1. The portion north of the R307 traverses an area designated Buffer 1. While portions of the proposed deviation would traverse Core 1 areas and portions of the Witzand Aquifer Conservation Area (WACA), only the outer margins would be affected. The infrastructure guidelines contained in the Blaauwberg District Plan also note that power line construction may be considered in Core 1 areas, subject to EIA approval. The plan also indicates that the proposed crossing of R307 is not located at a designated gateway to Atlantis or the dune fields. In this regard, the designated dune field's gateway is indicated ~2 km to the east, near Avondale.

The findings of the SIA therefore indicate that the proposed Ankerlig deviation is compatible with the provincial and local policy and planning requirements.

4.4 SOCIAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE

The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment and business opportunities and opportunity for skills development and on-site training;

Potential negative impacts
- Impacts associated with the presence of construction workers on site
- Impacts associated with construction related activities.

4.4.1 Creation of employment opportunities

The construction related activities will create temporary employment opportunities which, in turn will create an opportunity for local economy. The construction will be undertaken by contractors and the majority of the employment opportunities will be associated with the establishment of the substation component of the project.

Table 4.1: Impact assessment of employment and business creation opportunities during the construction phase

Nature: Creation of employment and business opportunities during the construction phase		
	Without Mitigation	**With Enhancement**
Extent	Local (2)	Local (3)
Duration	Short Term (2)	Short Term (2)
Magnitude	Low (4)	Low (4)
Probability	Highly probable (4)	Highly probable (4)
Significance	Medium (32)	Medium (36)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of	N/A	N/A

resources?		
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Opportunity to up-grade and improve skills levels in the area.		
Residual impacts: Improved pool of skills and experience in the local area.		

Assessment of No-Go option
The potential employment and economic benefits associated with the construction of the proposed project would be forgone.

Recommended enhancement measures
In order to enhance local employment and business opportunities associated with the construction phase the following measures should be implemented:

Employment
- Where reasonable and practical the contractors appointed by the proponent should appoint local contractors and implement a 'locals first' policy, especially for semi and low-skilled job categories. However, due to the low skills levels in the area, the majority of skilled posts are likely to be filled by people from outside the area.
- Where feasible, efforts should be made to employ local contactors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria;
- Before the construction phase commences the proponent and its contractors should meet with representatives from the BPD to establish the existence of a skills database for the area. If such as database exists it should be made available to the contractors appointed for the construction phase.
- The local authorities, community representatives, and organisations on the interested and affected party database should be informed of the final decision regarding the project and the potential job opportunities for locals and the employment procedures that the proponent intends following for the construction phase.
- Where feasible, training and skills development programmes for locals should be initiated prior to the initiation of the construction phase.
- The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.

Business
- The proponent should seek to develop a database of local companies, specifically BBBEE companies, which qualify as potential service providers (e.g. construction companies, catering companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction contractors. These companies should be notified of the tender process and invited to bid for project-related work.

Note that while preference to local employees and companies is recommended, it is recognised that a competitive tender process may not guarantee the employment of local labour for the construction phase.

4.4.2 Presence of construction workers in the area

The presence of construction workers poses a potential risk to family structures and social networks in the area, specifically local farm workers and residents of Atlantis. While the presence of construction workers does not in itself constitute a social impact, the manner in which construction workers conduct themselves can affect the local community. In this regard the most significant negative impact is associated with the disruption of existing family structures and social networks. This risk is linked to the potential behaviour of male construction workers, including:

- An increase in alcohol and drug use;
- An increase in crime levels;
- An increase in teenage and unwanted pregnancies;
- An increase in prostitution; and
- An increase in sexually transmitted diseases (STDs).

Employing members from the local community to fill the semi and low-skilled job categories will reduce the risk posed by construction workers to local communities. These workers will be from the local community and form part of the local family and social network. In the case of the proposed development the majority of the construction workers are likely to be from local communities in the area. The potential risk posed by construction workers is therefore likely to be low.

While the potential threat posed by construction workers to the community as a whole is likely to be low with effective mitigation, the impact on individual members who are affected by the behavior of construction workers has the potential to be high, specifically if they are affected by STDs etc.

Table 4.2: Assessment of impact of construction workers on local communities

Nature: Potential impacts on family structures and social networks associated with the presence of construction workers		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (1)
Duration	Medium Term for community as a whole (3) Long term-permanent for individuals who may be affected by STD's etc. (5)	Medium Term for community as a whole (3) Long term-permanent for individuals who may be affected by STD's etc. (5)
Magnitude	Low for the community as a whole (4) High-Very High for specific individuals who may be affected by STD's etc. (10)	Low for community as a whole (4) High-Very High for specific individuals who may be affected by STD's etc. (10)
Probability	Probable (3)	Probable (3)
Significance	Low for the community as a whole (27) Moderate-High for specific individuals who may be affected by STD's etc. (57)	Low for the community as a whole (24) Moderate-High for specific individuals who may be affected by STD's etc. (51)
Status	Negative	Negative

Reversibility	No in case of HIV and AIDS	No in case of HIV and AIDS
Irreplaceable loss of resources?	Yes, if people contract HIV/AIDS. Human capital plays a critical role in communities that rely on farming for their livelihoods	
Can impact be mitigated?	Yes, to some degree. However, the risk cannot be eliminated	
Mitigation: See below		
Cumulative impacts: Impacts on family and community relations that may, in some cases, persist for a long period. Also in cases where unplanned / unwanted pregnancies occur or members of the community are infected by an STD, specifically HIV and or AIDS, the impacts may be permanent and have long term to permanent cumulative impacts on the affected individuals and/or their families and the community.		
Residual impacts: Community members affected by STDs etc. and associated impact on local community and burden services etc.		

Assessment of No-Go option

The potential positive impacts on the local economy associated with construction phase would be foregone.

Recommended mitigation measures

The potential risks associated with construction workers can be mitigated. The aspects that should be covered include:

- Where possible, the proponent should make it a requirement for contractors to implement a 'locals first' policy for construction jobs, specifically semi and low-skilled job categories. This will reduce the potential impact that this category of worker could have on local family and social networks;
- The Eskom should consider the establishment of a Monitoring Forum (MF) for the construction phase. The MF should be established before the construction phase commences and should include key stakeholders, including representatives from the local community, local councillors and the contractor. The role of the MF would be to monitor the construction phase and the implementation of the recommended mitigation measures. The MF should also be briefed on the potential risks to the local community associated with construction workers;
- The proponent and the contractors should, in consultation with representatives from the MF, develop a Code of Conduct for the construction phase. The code should identify what types of behaviour and activities by construction workers are not permitted. Construction workers that breach the code of good conduct should be dismissed. All dismissals must comply with the South African labour legislation;
- The proponent and the contractor should implement an HIV/AIDS awareness programme for all construction workers at the outset of the construction phase;
- The movement of construction workers on and off the site should be closely managed and monitored by the contractors. In this regard the contractors should be responsible for making the necessary arrangements for transporting workers to and from site on a daily basis;
- With the exception of security personnel, no construction workers should be permitted to stay overnight on the site.

4.4.3 Impacts associated with construction vehicles

Construction related activities, specifically the movement of vehicles, can create noise, dust and safety impacts. The movement of large, heavy loads during the construction phase along the R 27 and R 307 also has the potential to create delays and safety impacts for road users. These impacts can however be mitigated by timing the trips to avoid times of the year when traffic volumes are likely to be higher, such as start and end of school holidays, long weekends and weekends in general.

Table 4.3: **Assessment of the impacts associated with construction vehicles**

Nature: Potential noise, dust and safety impacts associated with movement of construction related traffic to and from the site		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (1)
Duration	Short Term (2)	Short Term (2)
Magnitude	Low (4)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Low (24)	Low (21)
Status	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: If damage to roads is not repaired then this will affect other raod users and result in higher maintenance costs for vehicles. The costs will be borne by road users who were no responsible for the damage.		
Residual impacts: Reduced quality of road surfaces and impact on road users		

Assessment of No-Go option
Current status quo would be maintained and there would be no impact associated with construction vehicles

Recommended mitigation measures
The potential impacts associated with heavy vehicles and dust can be effectively mitigated. The aspects that should be covered include:

- Abnormal loads should be timed to avoid times of the year when traffic volumes are likely to be higher, such as start and end of school holidays, long weekends, harvesting time, and weekends in general etc.;
- The contractor must ensure that all damage caused to local farm roads by the construction related activities, including heavy vehicles, is repaired before the completion of the construction phase. The costs associated with the repair must be borne by the contractor;

- Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers;
- All vehicles must be road-worthy and drivers must be qualified, made aware of the potential road safety issues, and need for strict speed limits.

4.5 SOCIAL IMPACTS ASSOCIATED WITH OPERATIONAL PHASE

The key social issues affecting the operational phase include:

Potential positive impacts
- Provision of energy infrastructure

Potential negative impacts
- Impact on tourism activities;
- Impact on sense of place and character of the area.

4.5.1 Provision of energy infrastructure

As indicated above, in 2009 Eskom obtained authorisation for the relocation of the turbine units at Acacia power station (CoCT) to the Ankerlig power station located on the outskirts of the Atlantis industrial area. These units provide a dedicated off-site power supply to Koeberg nuclear power station. Authorisation also included a new 132 kV power line linking Ankerlig to Koeberg. However, during the detailed planning process, and through discussions with the National Nuclear Regulator (NNR), it has was established that the authorised power line route is no longer technically viable, as the NNR requires that power lines should not be crossed by other power lines (operational safety), as would have been the case (Savannah, March 2014).

There is therefore a need to reroute a portion of the existing 132kV power line between Koeberg and the Dassenberg substation. The link between Koeberg NPS and the Ankerling power station / Dassenberg substation forms a key component of the energy grid for the Western Cape and CoCT.

Table 4.4: Assessment of energy infrastructure provision

Nature: Benefits associated with ensuring that the required energy infrastructure is in place to ensure energy security for the region		
	Without Mitigation	**With Mitigation (Assumes that required deviation is established)**
Extent	Local and Regional (4)	Local and Regional (4)
Duration	Permanent (5)	Permanent (5)
Magnitude	High (8)	High (8)
Probability	Definite (5)	Definite (5)
Significance	High (75)	High (75)
Status	Negative	Positive
Reversibility	Yes	Yes
Irreplaceable	No	No

loss of resources?		
Can impact be mitigated?	Yes	Yes
Enhancement: See below		
Cumulative impacts: Positive impact on ability for the region of accommodate future economic growth due to inadequate energy supply and distribution network		
Residual impacts: See cumulative impacts		

Assessment of No-Go option
Current status quo would be maintained and the energy security of the region would be compromised.

Recommended mitigation measures
The proposed deviation should be developed.

4.5.2 Impact on tourism and tourist related activities

The findings of the SIA indicate that the portion of the proposed deviation are aligned across land designated Core 1 Conservation Areas. The portion north of the R307 traverses an area designated Buffer 1. While portions of the proposed deviation would traverse Core 1 areas and portions of the Witzand Aquifer Conservation Area (WACA), only the outer margins would be affected. The infrastructure guidelines contained in the Blaauwberg District Plan also note that power line construction may be considered in Core 1 areas, subject to EIA approval. The plan also indicates that the proposed crossing of R307 is not located at a designated gateway to Atlantis or the dune fields. In this regard, the designated dune field's gateway is indicated ~2 km to the east, near Avondale.

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Ankerlig power station and Dassenberg substation.

The WACA includes a substantial area to the west of Atlantis, located to the north and south of Dassenberg Drive (R307) east of the R27. The area is characterized by extensive dune fields. Working for Water is currently clearing the area of alien vegetation. The WACA is managed by the CoCT and is there are a number of walking trails in the area. Access is open to the public. However, a permit is required. The entrance to the area for walking and hiking is located ~200 m to the west of the proposed westernmost crossing of the R307. The existing power lines and Ankerlig power station are visible from the entrance and other parts of the WACA. The power lines associated with the proposed Ankerlig deviation will therefore not impact on existing tourism related activities in the area, such as hiking.

Table 4.5: Impact on tourism activities

Nature: Impact on the existing and future tourism related activities		
	Without Mitigation	**With Mitigation**
Extent	Local and Regional (1)	Local and Regional (1)
Duration	Long Term (4)	Long Term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Probable (3)	Probable (3)
Significance	Low (21)	Low (21)
Status	Neural	Neural
Reversibility	Yes	Yes
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	Yes
Mitigation: See below		
Cumulative impacts: Potential negative impact on other tourism activities in the area		
Residual impacts: Negative impact on tourism in the area		

Assessment of No-Go option
The No-Development option would maintain the current status quo. There would be no further impact on the tourism activities in the area.

Recommended mitigation measures
Mitigation measures contained in VIA should be implemented.

4.5.3 Impact on sense of place

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation.

The impact on the areas sense of place is therefore likely to be negligible.

Table 4.6: Impact on sense of place

Nature: Impact on sense of place and visual character of the area		
	Without Mitigation	**With Mitigation**
Extent	Local and Regional (1)	Local and Regional (1)
Duration	Long Term (4)	Long Term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Probable (3)	Probable (3)
Significance	Low (21)	Low (21)
Status	Neural	Neural
Reversibility	Yes	Yes
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	Yes
Mitigation: See below		
Cumulative impacts: Potential negative impact on tourism in the area		
Residual impacts: Negative impact on tourism in the area		

Assessment of No-Go option
The No-Development option would maintain the current status quo. There would be no further impact on the areas sense of place and character.

Recommended mitigation measures
Mitigation measures contained in VIA should be implemented.

4.6 CUMULATIVE IMPACTS

In the case of visitors to the area, the Scottish Natural Heritage (2005) describes a range of potential cumulative landscape impacts associated with wind farms on landscapes. The nature of the cumulative impacts can also be applied to substations and power lines. The relevant issues listed in the Scottish Natural Heritage include:

- Combined visibility (whether two or more wind farms will be visible from one location).
- Sequential visibility (e.g. the effect of seeing two or more wind farms along a single journey, e.g. road or walking trail).
- The visual compatibility of different wind farms in the same vicinity.
- Perceived or actual change in land use across a character type or region.
- Loss of a characteristic element (e.g. viewing type or feature) across a character type caused by developments across that character type.

The guidelines also note that cumulative impacts need to be considered in relation to dynamic as well as static viewpoints. The experience of driving along a tourist road, for example, needs to be considered as a dynamic sequence of views and visual

impacts, not just as the cumulative impact of several developments on one location. The viewer may only see one wind farm at a time, but if each successive stretch of the road is dominated by views of a wind farm, then that can be argued to be a cumulative visual impact (National Wind Farm Development Guidelines, DRAFT - July 2010).

The same principles can be applied to substations and power lines. In the case of the power lines associated with the proposed Ankerlig deviation the potential for cumulative impacts associated with Combined Visibility (more than one set of power lines visible from one location) and Sequential Visibility (e.g. the effect of seeing more than one set of power lines along a single journey, e.g. road or walking trail) exist. However, as indicated above, this should be viewed within context is that of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation.

The potential cumulative impact associated with an additional set of power lines on the areas sense of place is therefore likely to be negligible.

Table 4.7: Cumulative impact on sense of place

Nature: Cumulative impact on sense of place and visual character of the area		
	Without Mitigation	**With Mitigation**
Extent	Local and Regional (1)	Local and Regional (1)
Duration	Long Term (4)	Long Term (4)
Magnitude	Minor (2)	Minor (2)
Probability	Probable (3)	Probable (3)
Significance	Low (21)	Low (21)
Status	Neural	Neural
Reversibility	Yes	Yes
Irreplaceable loss of resources?	No	No
Can impact be mitigated?	Yes	Yes
Mitigation: See below		
Cumulative impacts:		
Residual impacts: Negative impact on tourism in the area		

Assessment of No-Go option
The No-Development option would maintain the current status quo. There would be no additional cumulative impact on the areas sense of place and character.

Recommended mitigation measures
Mitigation measures contained in VIA should be implemented.

4.7 ASSESSMENT OF NO-DEVELOPMENT OPTION

The No-Development option would maintain the existing situation. Eskom have however indicated that there is a need for the proposed deviation in order to ensure the integrity of the energy distribution and supply network for the region. The No-Development Option is therefore not a viable alternative and would have a negative impact on the energy security of the region.

Table 4.8: Assessment of no-development option

Nature: The no-development option would maintain the current energy supply and distribution status quo		
	Without Mitigation	**With Mitigation (N/A)**
Extent	Local and Regional (4)	
Duration	Permanent (5)	
Magnitude	High (8)	
Probability	Definite (5)	
Significance	High (75)	
Status	Negative	
Reversibility	Yes	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Cumulative impacts: Negative impact on integrity of the energy distribution and supply network for the region.		
Residual impacts: See cumulative impacts		

Recommended mitigation measures
Proposed deviation should be developed.

SECTION 5: KEY FINDINGS AND RECOMMENDATIONS

5.1 INTRODUCTION

Section 5 lists the key findings of the study and recommendations. These findings are based on:

- A review of the issues identified during the Scoping Process;
- A review of key planning and policy documents pertaining to the area;
- Semi-structured interviews with interested and affected parties;
- A review of social and economic issues associated with similar developments;
- A review of relevant literature on social and economic impacts.

5.2 SUMMARY OF KEY FINDINGS

The key findings of the study are summarised under the following sections:

- Fit with policy and planning
- Construction phase impacts
- Operational phase impacts
- Cumulative Impacts
- No-development option

5.2.1 Policy and planning issues

The review of the relevant planning and policy documents was undertaken as a part of the SIA. The key documents reviewed included:

- Western Cape Spatial Development Framework (PSDF) (2009);
- City of Cape Town 2013/ 2014 Integrated Development Plan (IDP) Review;
- City of Cape Town: Blaauwberg District Plan (2012).

The Western Cape Spatial Development Framework notes under that "*transmission lines should be aligned along existing and proposed transport corridors rather than along point to point cross-country routes"* (HR 26, Mandatory directive).

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Ankerlig power station and Dassenberf substation.

The Blaauwberg Sub-District Plan for the area indicates that the existing line and the bulk of the proposed deviation are aligned across land designated Core 1. The portion north of the R307 traverses an area designated Buffer 1. While portions of the proposed deviation would traverse Core 1 areas and portions of the Witzand

Aquifer Conservation Area (WACA), only the outer margins would be affected. The infrastructure guidelines contained in the Blaauwberg District Plan also note that power line construction may be considered in Core 1 areas, subject to EIA approval. The plan also indicates that the proposed crossing of R307 is not located at a designated gateway to Atlantis or the dune fields. In this regard, the designated dune field's gateway is indicated ~2 km to the east, near Avondale.

The findings of the SIA therefore indicate that the proposed Ankerlig deviation is compatible with the provincial and local policy and planning requirements.

5.2.2 Construction phase

The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment opportunities

The construction related activities will create temporary employment opportunities which, in turn will create an opportunity for local economy.

Potential negative impacts
- Impacts associated with the presence of construction workers on site
- Impacts associated with movement of heavy vehicles during the construction phase.

The findings of the SIA indicate that the potential negative social impacts associated with the proposed project will be limited and can be affectively mitigated. Table 5.1 summarises the significance of the impacts associated with the construction phase.

Table 5.1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement / Mitigation
Creation of employment and business opportunities	Medium (Positive impact)	Medium (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole) Medium-High (Negative impact of individuals)	Low (Negative impact for community as a whole) Medium-High (Negative impact of individuals)
Impacts associated with construction vehicles	Low (Negative impact)	Low (Negative impact)

5.2.3 Operational phase

The key social issues associated with the operational phase include:

Potential positive impacts
- Provision of energy infrastructure

Eskom have indicated that there a need to reroute a portion of the existing 132kV power line between Koeberg and the Dassenberg substation. The link between Koeberg NPS and the Ankerling power station / Dassenberg substation forms a key component of the energy grid for the Western Cape and CoCT.

Potential negative impacts

- Impact on tourism activities;
- Impact on sense of place and character of the area.

The findings of the SIA indicate that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors. While the deviation does involve two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis this should be viewed within context is that of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation. These facilities are also visible from the existing hiking trails that are located in the Witzand Aquifer Conservation Area (WACA). The The potential impact on the areas sense of place and existing tourism activities is therefore likely to be negligible.

The significance of the impacts associated with the operational phase are summarised in Table 5.2.

Table 5.2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement / Mitigation
Provision of energy infrastructure	Medium (Positive impact)	Medium (Positive impact)
Impact on tourism	Low (Negative impact)	Low (Negative impact)
Impact on sense of place	Low (Negative impact)	Low (Negative impact)

5.2.4 Assessment of cumulative impacts

The power lines associated with the proposed Ankerlig deviation have the potential for cumulative impacts associated with Combined Visibility (more than one set of power lines visible from one location) and Sequential Visibility (e.g. the effect of seeing more than one set of power lines along a single journey, e.g. road or walking trail). However, as indicated above, this should be viewed within context is that of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation. The potential cumulative impact associated with an additional set of power lines on the areas sense of place is therefore likely to be negligible.

5.2.5 Assessment of no-development option

The No-Development option would maintain the existing situation. Eskom have however indicated that the required Ankerlig deviation forms a key component of the energy grid for the Western Cape and CoCT. The No-Development Option is therefore not a viable alternative and would have a negative impact on the energy security of the region.

5.3 CONCLUSIONS AND RECOMMENDATIONS

The findings of the SIA indicate that the Ankerlig deviation forms a key component of the energy grid for the Western Cape and CoCT. The findings of the SIA also indicate that the potential negative social impacts associated with the proposed deviation are limited and can be mitigated. The proposed Ankerlig deviation is therefore supported.

5.4 IMPACT STATEMENT

The findings of the SIA also indicate that the potential negative social impacts associated with the proposed Ankerlig deviation are limited and can be mitigated. The proposed Ankerlig deviation is therefore supported.

ANNEXURE A

INTERVIEWS

PERSONAL

- Muller, Sgt Major Riaan (21-05-14). SANDF Atlantis Classification Range.

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- Van der Merwe, S and Malan, S (2012). *Proposed City of Cape Town Regional Waste Site – Specialst Social Study: Final Addendum Report*.

INTERNET

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- Google Earth 2014.

ANNEXURE B: ASSESSMENT METHODOLOGY

METHODOLOGY FOR THE ASSESSMENT OF POTENTIAL IMPACTS

Direct, indirect and cumulative impacts of the above issues, as well as all other issues identified will be assessed in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, where it will be indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score between 1 and 5 will be assigned as appropriate (with a score of 1 being low and a score of 5 being high).
- The **duration**, where it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5.
- The **magnitude**, quantified on a scale from 0-10, where a score is assigned:
  - 0 is small and will have no effect on the environment;
  - 2 is minor and will not result in an impact on processes;
  - 4 is low and will cause a slight impact on processes;
  - 6 is moderate and will result in processes continuing but in a modified way;
  - 8 is high (processes are altered to the extent that they temporarily cease); and
  - 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** *of occurrence*, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale, and a score assigned:
  - Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
  - Assigned a score of 2 is improbable (some possibility, but low likelihood);
  - Assigned a score of 3 is probable (distinct possibility);
  - Assigned a score of 4 is highly probable (most likely); and
  - Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which shall be determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.
- The **status**, which will be described as either positive, negative or neutral.
- The *degree* to which the impact can be *reversed*.
- The *degree* to which the impact may cause *irreplaceable loss of reso*urces.
- The *degree* to which the impact can be *mitigated.*

The **significance** is determined by combining the criteria in the following formula:

S=(E+D+M)P; where

S = Significance weighting

E = Extent
D = Duration
M = Magnitude
P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

ANNEXURE C: ENVIRONMENTAL MANAGEMENT PLAN

ENVIRONMENTAL MANAGEMENT PLAN: SIA

CONSTRUCTION PHASE

Creation of employment and business opportunities

OBJECTIVE: Maximise local employment and business opportunities associated with the construction phase.

Project component/s	Construction and establishment activities associated with the establishment of housing development.
Potential Impact	The opportunities and benefits associated with the creation of local employment and business should be maximised.
Activity/risk source	The employment of outside contractors to undertake the work and who make use of their own labour will reduce the employment and business opportunities for locals. Employment of local labour will maximise local employment opportunities.
Mitigation: Target/Objective	The proponent, in discussions with the CoCT should aim to employ low-skilled workers from the local area where possible. This should also be made a requirement for all contractors. The proponent should also develop a database of local BBBEE service providers

Mitigation: Action/control	Responsibility	Timeframe
• Aim to employ low-skilled workers from the local area; • Where required, implement appropriate training and skills development programmes prior to the initiation of the construction phase. Skills audit to be undertaken to determine training and skills development requirements; • Develop a database of local BBBEE service providers and ensure that they are informed of tenders and job opportunities; • Identify potential opportunities for local businesses	• The proponent and & contractors • The proponent • The proponent • The proponent • The proponent	• Employment and business policy document that sets out local employment targets to be in place before construction phase commences. • Where required, training and skills development programmes to be initiated prior to the initiation of the construction phase. • Skills audit to determine need for training and skills development programme undertaken within 1 month of commencement of construction phase commences. • Database of potential local BEE services providers to be completed before construction phase commences.

Performance Indicator	• Employment and business policy document that sets out local employment and targets completed before construction phase commences; • 80 % of semi and unskilled labour locally sourced where possible. • Database of potential local BBBEE services providers in place before construction phase commences. • Skills audit to determine need for training and skills development programme undertaken within 1 month of commencement of construction phase.
Monitoring	• The proponent and or appointed ECO must monitor indicators listed above to ensure that they have been met for the construction phase.

Impact associated with presence of construction workers

OBJECTIVE: Avoid the potential impacts on family structures and social networks associated with presence of construction workers from outside the area

Project component/s	Construction and establishment activities associated with the establishment of housing development.
Potential Impact	The presence of construction workers who live outside the area and who are housed in local towns can impact on family structures and social networks.
Activity/risk source	The presence of construction workers can impact negatively on family structures and social networks, especially in small, rural communities.
Mitigation: Target/Objective	To avoid and or minimise the potential impact of construction workers on the local community. This can be achieved by maximising the number of locals employed during the construction phase and minimising the number of workers housed on the site.

Mitigation: Action/control	Responsibility	Timeframe
• Aim for low-skilled workers to be sourced from the local area. • Construction workers should be able to provide proof of having lived in the area for five years or longer. • Identify local contractors who are qualified to undertaken the required work; • Appoint an ECO to ensure recommendations are implemented; • Develop a Code of Conduct to cover the activities of the construction workers housed	• The proponent and contractors • The proponent • The proponent	• Identify suitable local contractors prior to the tender process for the construction phase. • Tender documents for contractors include conditions set out in SIA, including transport of workers home over weekends, transportation of workers home on completion of construction phase, appointment of ECO, etc., • ECO appointed before construction phase commences. • Code of Conduct drafted

on the site; • Ensure that construction workers attend a brief session before they commence activities. The aim of the briefing session is to inform them of the rules and regulations governing activities on the site as set out in the Code of Conduct. • Ensure that all workers are informed at the outset of the construction phase of the conditions contained on the Code of Conduct; • Ensure that construction workers who are found guilty of breaching the Code of Conduct are dismissed. All dismissals must be in accordance with South African labour legislation. • Provide opportunities for workers to go home over weekends. The cost of transporting workers home over weekends and back to the site should be borne by the contractors. • On completion of the construction phase all construction workers must be transported back to their place of origin within two days of their contract ending. The costs of transportation must be borne by the contractor.	• The proponent • The proponent and contractors • The proponent and contractors • Contactors • Contractors • Contractors • Contractors	before construction phase commences. • Briefing session for construction workers held before they commence work on site.
Performance Indicator	• Employment policy and tender documents that sets out local employment and targets completed before construction phase commences;	

	• 80 % of semi and unskilled labour locally sourced where possible; • Construction workers employed have proof that they have lived in the area for five years or longer; • ECO appointed prior to implementation of construction phase; • Code of Conduct drafted before commencement of construction phase; • Briefing session with construction workers held at outset of construction phase;
Monitoring	• The proponent and or appointed ECO must monitor indicators listed above to ensure that they have been met for the construction phase.

Impacts associated with construction activities

OBJECTIVE: To avoid and or minimise the potential impacts such as safety, noise and dust and damage to roads caused by construction activities

Project component/s	Construction and establishment activities associated with the establishment of housing development.
Potential Impact	Heavy vehicles can generate noise and dust impacts. Movement of heavy vehicles can also damage roads.
Activity/risk source	The movement of heavy vehicles and their activities on the site can result in noise and dust impacts and damage roads.
Mitigation: Target/Objective	To avoid and or minimise the potential noise and dust impacts associated with heavy vehicles, and also minimise damage to roads.

Mitigation: Action/control	Responsibility	Timeframe
• Working hours should be between 07h30 and 17h30. • Construction activities over weekends should only be permitted between 08h00 and 13h00 on Saturdays. • No construction related activities should be permitted on Sundays and Public Holidays. • Implement dust suppression measures for heavy vehicles such as wetting roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers. • Ensure that all vehicles are road-worthy, drivers are qualified and are made aware of the potential noise, dust and safety issues;	• Contractors • Contractors • Contractors • Contractors	• Ensure that these conditions are included in the Construction Phase EMP. • Ensure that dust suppression measures are implemented for all heavy vehicles that require such measures during the construction phase commences. • Ensure that drivers are made aware of the potential safety issues and enforcement of strict speed limits when they are employed. • Fit all heavy vehicles with speed monitors before they are used in the construction phase. • Assess road worthy status of heavy vehicles at the outset of the construction phase and on a monthly basis thereafter;

• Ensure that drivers adhere to speed limits. Vehicles should be fitted with recorders to record when vehicles exceed the speed limit; • Ensure that damage to roads is repaired before completion of construction phase.		• Ensure that damage to roads is repaired before completion of construction phase.
Performance Indicator	• Conditions included in the Construction Phase EMP. • Dust suppression measures implemented for all heavy vehicles that require such measures during the construction phase commences. • Drivers made aware of the potential safety issues and enforcement of strict speed limits when they are employed. • All heavy vehicles equipped with speed monitors before they are used in the construction phase. • Road worthy certificates in place for all heavy vehicles at outset of construction phase and up-dated on a monthly basis.	
Monitoring	• The proponent and or appointed ECO must monitor indicators listed above to ensure that they have been met for the construction phase.	

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KOEBERG-ANKERLIG TRANSMISSION DEVIATION LINE SOCIAL IMPACT ASSESSMENT ADDENDUM REPORT

DECEMBER 2014

1. INTRODUCTION

Eskom Holdings SOC Limited obtained authorisation for the relocation of the turbine units at Acacia Power Station to Ankerlig Power Station in February 2009. These units provide a dedicated off-site power supply to the Koeberg Power Station in terms of the requirements of the National Nuclear Regulator (NNR). As part of this authorisation, a 132kV power line between Ankerlig Power Station and Koeberg Power Station was authorised. During the detailed planning process, and through discussions with the NNR, it has been determined that the authorised power line route is no longer technically viable as the NNR requires that the power line for the dedicated off-site supply to Koeberg is not crossed by any other power line so as to reduce any risks to this power line's normal operation. As the routing of the authorised power line between Ankerlig and Koeberg crosses a number of 400kV power lines, Eskom is proposing to reroute a portion (~5km of the 15km route) of this power line in order to avoid these power line crossings. The deviation of the power line will be undertaken on the northern portion of the line in close proximity to the Ankerlig Power Station. The deviated portion of the line will be connected to a new 132kV HV yard within the Ankerlig Power Station boundary. After deviation of the power line, the existing portion of the Dassenberg-Koeberg power line which will no longer be required will be delinked and decommissioned (Figure 1).

The project will include the following:

- The deviation of approximately 5km of the northern section of the existing 132kV Dassenberg-Koeberg power line.

- Developing access roads along the servitude where required for construction and operational purposes.
- Decommissioning of a portion of the Dassenberg-Koeberg power line.

The SIA undertaken by Barbour and van Der Merwe in May 2014 assessed three alignment alternatives. Following a meeting held with Eskom, CapeNature and City of Cape Town, four new alternatives were proposed for the deviation alignment (Figure 1). As indicated above, the remainder of the line is an existing line linking the Dassenberg sub-station with the Koeberg Nuclear Power Station.

The four new deviation alignment alternatives are:

- Alternative 1: A power line running north from the substation, crossing the R307 and then turning southwards to link with the existing power line;
- Alternative 2: A power line running north from the substation, parallel to the Ankerlig power station boundary to the south of the R307 road, turning southwards and linking into the existing Koeberg-Ankerlig 132kV power line;
- Alternative 3: A power line running north from the substation, parallel to the Ankerlig power station boundary to the south of the R307 road, and then down the eastern boundary of the Ankerlig Power Station towards Neil Hare road next to the railway line and then following the same route as for Alternative 2.
- Alternative 4: An underground cable at the 400kV transmission lines crossing.

However, Eskom has considered alternative 3 and 4 non-feasible due to technical reasons outlined below:

- Alternative 3: Due to the stress on the towers it is not possible to have angles of more than 60 degrees at bend points. This alternative will require bends of 90 degrees at the road intersections, which will not be possible. In addition, construction of the power line on the eastern boundary of the Ankerlig power station would limit potential future expansion opportunities for the power station, which is not considered desirable.
- Alternative 4: Underground cabling is not considered feasible due to issues relating to the reliability of the lines and the time taken to repair a fault. The time allowed, by the National Nuclear Regulator (NNR) for the off-site supply to be out of service without Koeberg having to shut down is 3 days per 12 month window. Using cable increases the duration of repair times and would increase the risk of exceeding the 3 day limit which could result in Koeberg being shut down. This option places the nuclear license of Koeberg at risk and is therefore not considered feasible.

The purpose of this document is to assess each of the viable alternatives. The assessment is informed by the findings of the SIA undertaken in May 2014 by Barbour and van der Merwe.

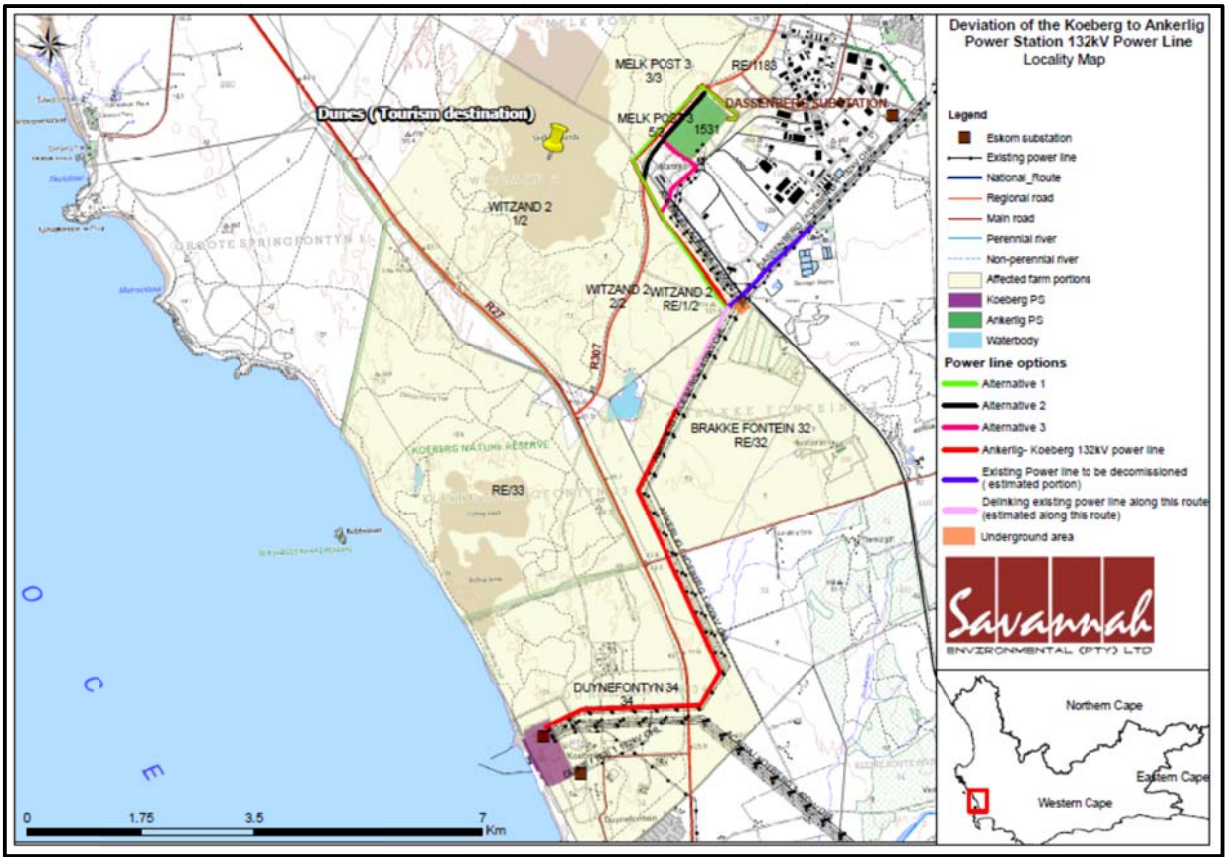

Figure 1: Location of alternatives

2. COMPARISION OF ALTERNATIVES

The section provides a comparison of the 4 alternatives listed above with original project description assessed in May 2014.

The original project involved three amendments to the existing line, namely (Figure 2):

- The detachment (and possible decommissioning) of a ~4 km segment linking into Dassenberg substation. The relevant segment is located to the south of the Atlantis industrial area. Existing transmission lines are located in the same servitude.
- An alternative segment (i.e. proposed deviation) to link into a now-to-be extended substation (high voltage (HV) yard) north of Ankerlig. The relevant segment is ~5.3 km in length. From the existing line, the deviation would be aligned to the west of the Atlantis industrial area, cross Dassenberg Drive (R307) to the north-west of the industrial area, before swinging north east a running parallel to the R307 for ~ 2 km, and then swinging south east and crossing the R307 again and entering the Ankerlig yard. The initial portion south of the R307 is located adjacent to 2 existing power lines.
- A segment of the existing line to physically delink/ link the segments mentioned above. The relevant segment is ~1.7 km in length, and is, as mentioned above located adjacent to 2 existing power lines.

Figure 2: Overview of existing 132 kV line, and proposed deviation

2.1 Comparison of alternatives and original proposals

Alternative 1
Alternative 1 is essentially the same as the original proposal assessed in May 2014.

Alternative 2
Alternative 2 is similar to the original proposal in terms of its location. However, Alternative 2 does not involve crossing the R 307.

Alternative 3
Alternative 3 differs from the original proposal in that it, like Alternative 2, also does not require the R 307 to be crossed. Alternative 3 is also located further east of the R 307. As indicated above Alternative 3 is not technically feasible.

Alternative 4
Alternative 4 involves an underground cable at the 400 kV transmission line crossing as opposed to an overhead cable option associated with the original proposal. As indicated above Alternative 3 is not technically feasible.

3. ASSESSMENT OF ALTERNATIVES

3.1 Policy and planning issues

The review of the relevant planning and policy documents was undertaken as a part of the SIA (May 2014). The key documents reviewed included:

- Western Cape Spatial Development Framework (PSDF) (2009);
- City of Cape Town 2013/ 2014 Integrated Development Plan (IDP) Review;
- City of Cape Town: Blaauwberg District Plan (2012).

The Western Cape Spatial Development Framework notes under that "*transmission lines should be aligned along existing and proposed transport corridors rather than along point to point cross-country routes"* (HR 26, Mandatory directive).

The findings of the SIA (May 2014) indicated that the proposed Ankerlig deviation follows existing power line servitude and transport corridors. Alternative 1 involves two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis. Alternative 2 and 3 do not require the R 307 to be crossed. All of the alternatives should also be viewed within the context the existing power lines in the area associated with the Ankerlig power station and Dassenberf substation.

The Blaauwberg Sub-District Plan for the area indicates that the existing line and the bulk of the proposed deviation are aligned across land designated Core 1. The portion north of the R307 traverses an area designated Buffer 1. The infrastructure guidelines contained in the Blaauwberg District Plan also notes that power line construction may be considered in Core 1 areas, subject to EIA approval. The plan also indicates that the R307 is not located at a designated gateway to Atlantis or the dune fields. In this regard, the designated dune field's gateway is indicated ~2 km to the east, near Avondale.

Sections of Alternative 1 traverse Core 1 areas to the south west of Atlantis and the area designated at Buffer 1 to the north west of Atlantis. However, only the outer margins would be affected. Alternative 2 and 3 traverse Core 1 areas to the south west of Atlantis. Alternative 2 and 3 do not impact on the area designated Buffer 1.

The findings of the SIA therefore indicate that the proposed Ankerlig deviation is compatible with the provincial and local policy and planning requirements. In terms of alternatives, Alternative 2 and 3 are preferred as they do not require the R 307 to be crossed. In addition they do not impact on area designated Buffer 1.

3.2 Assessment of construction phase impacts

The findings of the May 2014 SIA apply to the construction phase impacts associated with each of the 4 alternatives. The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment opportunities

The construction related activities will create temporary employment opportunities which, in turn will create an opportunity for local economy.

Potential negative impacts
- Impacts associated with the presence of construction workers on site
- Impacts associated with movement of heavy vehicles during the construction phase.

The findings of the SIA (May 2014) indicated that the potential negative social impacts associated with the proposed project will be limited and can be affectively mitigated. Table 1 summarises the significance of the impacts associated with the construction phase. The significance ratings apply to each of the four alternatives.

Table 1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of employment and business opportunities	Medium (Positive impact)	Medium (Positive impact)
Presence of construction workers and potential impacts on family structures and social networks	Low (Negative impact for community as a whole) Medium-High (Negative impact of individuals)	Low (Negative impact for community as a whole) Medium-High (Negative impact of individuals)
Impacts associated with construction vehicles	Low (Negative impact)	Low (Negative impact)

3.3 Assessment of operational phase impacts

The nature of the social impacts associated with the operational phase identified in the May 2014 SIA also apply to the operational phase impacts associated with each of the 4 alternatives. The key social issues associated with the operational phase include:

Potential positive impacts
- Provision of energy infrastructure

Eskom have indicated that there a need to reroute a portion of the existing 132kV power line between Koeberg and the Dassenberg substation. The link between Koeberg NPS and the Ankerling power station / Dassenberg substation forms a key component of the energy grid for the Western Cape and CoCT.

Potential negative impacts
- Impact on tourism activities;
- Impact on sense of place and character of the area.

The findings of the May 2014 SIA indicated that the proposed Ankerlig deviation follows and existing power line servitude and transport corridors.

Alternative 1 involves two new road crossings (R307) and a new transmission line corridor at the western entrance to Atlantis. Alternative 2 and 3 do not require the R 307 to be crossed. The visual impacts associated with Alternative 2 and 3 are therefore likely to be lower than those associated with Alternative 3. The impact of Alternative 2 and 3 on the entrance to Atlantis will also be lower. Alternative 2 and 3 are therefore the preferred alternatives. However, as indicated above, Alternative 3 is not technically viable. Alternative 2 is therefore the preferred alternative.

In terms of the potential impact on tourism, the visual impacts associated with Alternative 1, 2 and 3 should be viewed within the context of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation. These

facilities are also visible from the existing hiking trails that are located in the Witzand Aquifer Conservation Area (WACA). The potential impact of Alternative 1, 2 and 3 on the areas sense of place and existing tourism activities is therefore likely to be negligible. However, as indicated above, the impact of Alternative 2 and 3 on the entrance to Atlantis will be lower.

The development of an underground cable at the 400kV transmission line crossing would reduce the visual impact. However, Alternative 4 is not regarded as technical viable. In addition, Alternative 4 should be viewed within context of the visual impacts associated with the existing 400 kV lines.

The significance of the impacts associated with the operational phase are summarised in Table 2. This applies to each of the alternatives.

Table 2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Provision of energy infrastructure	Medium (Positive impact)	Medium (Positive impact)
Impact on tourism	Low (Negative impact)	Low (Negative impact)
Impact on sense of place	Low (Negative impact)	Low (Negative impact)

4. ASSESSMENT OF CUMULATIVE IMPACTS

The power lines associated with each of the proposed alternatives (Alternative 1, 2 and 3) identified for the proposed Ankerlig deviation have the potential for cumulative impacts associated with Combined Visibility (more than one set of power lines visible from one location) and Sequential Visibility (e.g. the effect of seeing more than one set of power lines along a single journey, e.g. road or walking trail). As indicated above, this should be viewed within context of the existing power lines in the area associated with the Koeberg NPS, Ankerlig power station and Dassenberg substation. The potential cumulative impact associated with an additional set of power lines on the areas sense of place is therefore likely to be negligible.

However, Alternative 2 and 3 do not require the R 307 to be crossed. The Sequential Visibility associated with Alternative 2 and 3 will be lower than Alternative 1. In addition the visual impacts of Alternative 2 and 3 on the entrance to Atlantis will be lower. Alternative 2 and 3 are therefore the preferred alternatives. However, as indicated above, Alternative 3 is not technically viable. Alternative 2 is therefore the preferred alternative.

5. ASSESSMENT OF NO-DEVELOPMENT OPTION

The No-Development option would maintain the existing situation. Eskom have however indicated that the required Ankerlig deviation forms a key component of the energy grid for the Western Cape and CoCT. The No-Development Option is therefore not a viable alternative and would have a negative impact on the energy security of the region.

6. CONCLUSIONS AND RECOMMENDATIONS

The findings of the SIA indicate that the Ankerlig deviation forms a key component of the energy grid for the Western Cape and CoCT. The findings of the SIA also indicate that the potential negative social impacts associated with the proposed deviation are limited and can be mitigated. In terms of alternatives, Alternative 2 is the preferred, technically viable alternative.

7. IMPACT STATEMENT

The findings of the SIA also indicate that the potential negative social impacts associated with the proposed Ankerlig deviation are limited and can be mitigated. The development of Alternative 2 as the preferred, technically viable alternative is therefore supported.

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