

RED ROCKET SOUTH AFRICA (PTY) LTD

# PROPOSED BON ESPIRANGE TO KOMSBERG 132KV OVERHEAD POWERLINE

## DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

03 DECEMBER 2021

DRAFT





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## DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

RED ROCKET SOUTH AFRICA (PTY) LTD

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This Environmental Management Programme Report (Report) for the Proposed Bon Espirange to Komsberg 132kV Overhead Powerline was prepared by WSP Group Africa Proprietary Limited (WSP) on behalf of Red Rocket South Africa Proprietary Limited (Client), as part of the application process for Environmental Authorisation.

Unless otherwise agreed by us in writing, we do not accept responsibility or legal liability to any person other than the Client for the contents of, or any omissions from, this Report.

To prepare this Report, we have reviewed only the documents and information provided to us by the Client or any third parties directed to provide information and documents to us by the Client. We have not reviewed any other documents in relation to this Report, except where otherwise indicated in the Report.

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# ACRONYMS

AEL	Atmospheric Emission Licence
AIS	Alien and Invasive Species
BA	Basic Assessment
BAR	Basic Assessment Report
BBBEE	Broad Based Black Economic Empowerment
BPEO	Best Practicable Environmental Option
BSP	Biodiversity Spatial Plan
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act (Act 43 of 1983)
CBA	Critical Biodiversity Area
CH	Critical Habitat
CIA	Cumulative Impact Assessment
CR	Critically Endangered
CRR	Comments and Responses Report
CSP	concentrated solar power
CV	Curriculum vitae
DEA	Department of Environmental Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DEA&DP	Department of Environmental Affairs and Development Planning
DMRE	Department of Mineral Resources and Energy
DoA	Department of Agriculture
DoT	Department of Transport
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EDL	episodic drainage line
EGI	Electricity Grid Infrastructure
EHS	Environmental, Health and Safety

EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
EN	Endangered
EP	Equator Principles
EPL	Ecosystem Protection Level
EPFI	Equator Principles Financial Institution
ERA	Electricity Regulation Act (Act 4 of 2006)
ESA	Ecological Support Area
ESA	Early Stone Age
ESMS	Environmental and Social Management System
ETS	Ecosystem Threat Status
EWT	Endangered Wildlife Trust
FI	Financial Institution
FPIC	Free, Prior, and Informed Consent
GA	General Authorisation
GBIF	Global Biodiversity Information Facility
GM	Grievance Mechanism
GG	Government Gazette
GHG	Greenhouse Gases
GIIP	Good International Industry Practice
GN	Government Notice
GNR	Government Notice Regulation
GPS	Global Positioning System
HWC	Heritage Western Cape
IBA	Important Bird Area
ICAO	International Civil Aviation Organisation
ICP	Informed Consultation and Participation
IDP	Integrated Development Plan
IEP	Integrated Energy Plan
IFC	International Finance Corporation
IPPPP	Independent Power Producer Procurement Programme

IRP	Integrated Resource Plan
IUCN	International Union for Conservation of Nature
LC	Least Concern
LSA	Later Stone Age
LUPA	Land Use Planning Act (Act 3 of 2014)
MF	Monitoring Forum
MP	Moderately Protected
MSA	Middle Stone Age
MSDS	Material Safety Data Sheets
NDP	National Development Plan
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMAQA	National Environment Management Air Quality Act (No. 39 of 2004)
NEMBA	National Environmental Management Biodiversity Act (Act 10 of 2004)
NEMPAA	National Environmental Management Protected Areas Act (Act 57 of 2003)
NEMWA	National Environmental Management Waste Act (Act 59 of 2008)
NERSA	National Energy Regulator of South Africa
NFEPA	National Freshwater Ecosystem Priority Areas
NHRA	National Heritage Resource Act (Act 25 of 1999)
NID	Notice of Intent to Develop
NIP	National Infrastructure Plan
NP	Not Protected
NT	Near Threatened
NWA	National Water Act (Act 36 of 1998)
OEC	Obstacle Evaluation Committee
OHPL	Overhead Powerline
OHS Act	Occupational Health and Safety Act (Act 85 of 1993)
ONA	Other Natural Areas
PA	Protected Area
PES	Present Ecological State
PICC	Presidential Infrastructure Coordinating Commission
POSA	Plants of South Africa
PP	Poorly Protected



PPE	Personal Protective Equipment
PPP	Public Participation Process
PS	Performance Standard
PSDF	Provincial Spatial Development Framework
PV	Photovoltaic
REDZ	Renewable Energy Development Zones
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SAAF	South African Air Force
SA CATS	South African Civil Aviation Technical Standards
SACAA	South African Civil Aviation Authority
SAHRA	South African Heritage Resources Agency
SAIIAE	South African Inventory of Inland Aquatic Ecosystems
SANBI	South African National Biodiversity Institute
SAPAD	South Africa Protected Areas Database
SARPs	Standards and Recommended Practices
SCC	Species of Conservation Concern
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SER	Stakeholder Engagement Report
SIA	Social Impact Assessment
SIP	Strategic Integrated Projects
SKEP	Succulent Karoo Ecosystem Programme
SO	Spatial objective
SPLUMA	Spatial Planning and Land Use Management Act (Act 16 of 2013)
STD	sexually transmitted disease
UN	United Nations
VEC	Valued Environmental and Social Components
VU	Vulnerable
WBG	World Bank Group
WCBSP	Western Cape Biodiversity Spatial Plan
WEF	Wind Energy Facility
WMA	Water Management Area

WML	Waste Management Licence
WP	Well Protected
WSP	WSP Group Africa (Pty) Ltd
WUL	Water Use Licence



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- B** EAP DECLARATION OF INTEREST AND UNDERTAKING
- C** LAYOUT MAP
- D** POWERLINE GENERIC EMPR
- E** SUBSTATION GENERIC EMPR
- F** TRAFFIC MANAGEMENT PLAN

# 1 INTRODUCTION

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## 1.1 BACKGROUND AND TERMS OF REFERENCE

Red Rocket South Africa (Pty) Ltd (Red Rocket) proposes to construct a 132 kV overhead powerline (OHPL) approximately 6 km in length to connect the authorised Bon Espirange substation (approximately 33km North of Matjiesfontein) in the Laingsburg Local Municipality within the Central Karoo District Municipality of the Western Cape Province to the existing Komsberg substation near Sutherland in the Karoo Hoogland Local Municipality in the Namakwa District Municipality of the Northern Cape, South Africa (**Figure 1-1**). The proposed OHPL runs directly adjacent to an existing powerline and will be necessary to connect the proposed Brandvalley Wind Energy Facility (WEF) and Rietkloof WEF to the national grid.

The proposed Brandvalley (DFFE Ref No. 14/12/16/3/3/2/900) and Rietkloof (DFFE Ref. No. 14/12/16/3/3/2/899) WEFs were authorised under separate Environmental Authorisations (EA) and were awarded preferred bidder status in Round 5 of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) in October 2021. The Brandvalley and Rietkloof WEF sites are located in the Laingsburg Local Municipality approximately 10 km and 12 km southwest of the Bon Espirange substation, respectively.

On 16 February 2018, the Department of Environmental Affairs (DEA), now the Department of Forestry, Fisheries and the Environment (DFFE), gazetted the Renewable Energy Development Zones (REDZ) and Strategic Transmission Corridors and procedures for the assessment of large-scale wind and solar photovoltaic energy development activities (Government Notice (GN) 114) and grid infrastructure (GN 145). The proposed OHPL falls within the Komsberg REDZ and the Central Strategic Transmission Corridor.

The proposed OHPL traverses a Critical Biodiversity Area (CBA) (**Figure 1-2**). As such, the proposed OHPL requires an EA in terms of the National Environmental Management Act (Act 107 of 1998), as amended (NEMA) and the associated Environmental Impact Assessment (EIA) Regulations, 2014, as amended.

WSP Group Africa (Pty) Ltd (WSP) has been appointed by Red Rocket as the independent Environmental Assessment Practitioner (EAP) to facilitate the Basic Assessment (BA) process in accordance with the EIA Regulations, 2014, as amended.





# Bon Espirange to Komsberg 132 kV Powerline Layout - Critical Biodiversity Areas

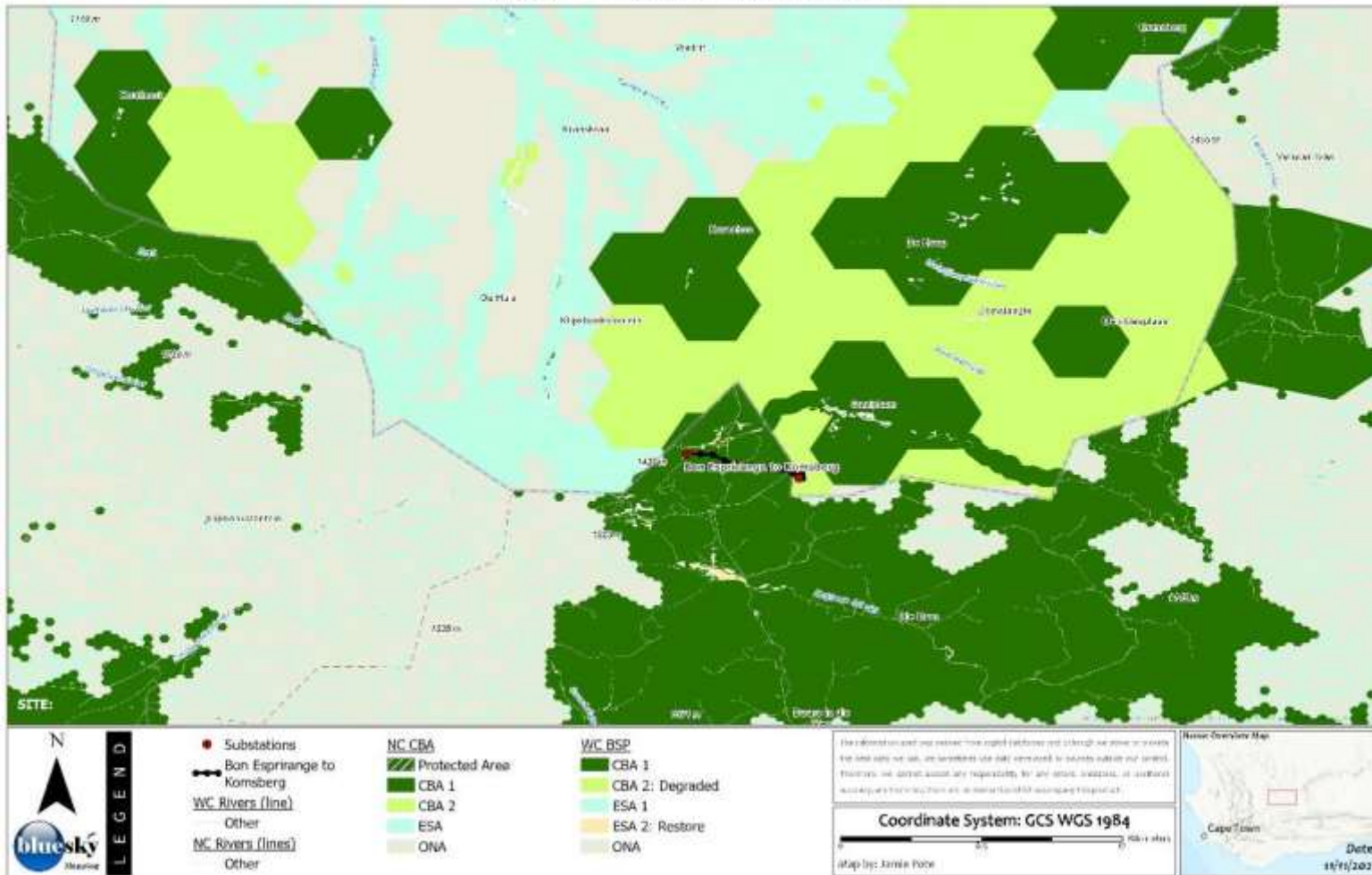


Figure 1-2: The Location of the Proposed Bon Espirange to Komsberg OHPL in relation to CBAs, ESAs and Protected Areas

## 1.2 TERMS OF REFERENCE AND DETAILS OF THE EAP

WSP was appointed in the role of Independent EAP to undertake the BA processes for the proposed Project. This Environmental Management Programme (EMPr) was compiled as part of the BA process and must be read in conjunction with the Basic Assessment Report (BAR) in support of the EA application. The CV of the EAP is available in **Appendix A**. The EAP declaration of interest and undertaking is included in **Appendix B**. **Table 1-1** details the relevant contact details of the EAP.

**Table 1-1: Details of the EAP**

EAP	WSP GROUP AFRICA (PTY) LTD
Company Registration:	1999/008928/07
Contact Person:	Ashlea Strong
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To adequately identify and assess potential environmental impacts, the EAP was supported by a number of specialists, the details of which are provided in the BAR.

### STATEMENT OF INDEPENDENCE

Neither WSP nor any of the authors of this Report have any material present or contingent interest in the outcome of this Report, nor do they have any business, financial, personal or other interest that could be reasonably regarded as being capable of affecting their independence. WSP has no beneficial interest in the outcome of the assessment.

## 1.3 ENVIRONMENTAL MANAGEMENT PROGRAMME STRUCTURE

**Table 1-2** cross-references the sections within the EMPr with the legislated requirements as per Appendix 4 of GNR 326.

**Table 1-2: Legislation Requirements as Detailed in Appendix 4 of GNR 326**

APPENDIX 3 LEGISLATED REQUIREMENTS AS PER THE NEMA GNR 326		REPORT SECTION
(a)	Details of	
	i) the EAP who compiled the EMPr; and	Section 1.2 <b>Appendix A</b>
	ii) the expertise of the EAP, including a Curriculum Vitae	Section 1.2 <b>Appendix A</b>



**APPENDIX 3 LEGISLATED REQUIREMENTS AS PER THE NEMA GNR 326**

**REPORT SECTION**

(b)	Detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 3
(c)	A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	Section 3 <b>Appendix C</b>
(d)	<p>A description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-</p> <p>i) Planning and design;</p> <p>ii) Pre-construction activities;</p> <p>iii) Construction activities</p> <p>iv) Rehabilitation of the environment after construction and where applicable post closure; and</p> <p>v) Where relevant, operation activities.</p>	<p>Section 3</p> <p>Section 3</p> <p>Section 3</p> <p>Section 7</p>
(e)	A description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 7
(f)	<p>A description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to -</p> <p>i) Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;</p> <p>ii) Comply with any prescribed environmental management standards or practices;</p> <p>iii) comply with any applicable provisions of the Act regarding closure, where applicable; and</p> <p>iv) Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable</p>	Section 7
(g)	The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 6
(h)	The frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 6
(i)	An indication of the persons who will be responsible for the implementation of the impact management actions;	Section 6 Section 7
(j)	The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 7
(k)	The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 6

**APPENDIX 3 LEGISLATED REQUIREMENTS AS PER THE NEMA GNR 326****REPORT  
SECTION**

(l)	A program for reporting on compliance, taking into account the requirements as prescribed by the Regulations	Section 6
(m)	An environmental awareness plan describing the manner in which-	Section 6
	i) The applicant intends to inform his or her employees of any environmental risk which may result from their work; and ii) Risks must be dealt with in order to avoid pollution or the degradation of the environment; and	
(n)	any specific information that may be required by the competent authority	N/A

## 1.4 APPLICABLE DOCUMENTATION

The EMPr (this Report) is to be read in conjunction with following documentation:

- Draft BAR for the proposed construction of the Bon Espirange to Komsberg 132kV Overhead Powerline (November 2021);
- Site Sensitivity Verification and Agricultural Compliance Statement for the Proposed Bon Espirange to Komsberg 132kv Powerline in the Northern and Western Cape Provinces, near Matjiesfontein (November 2021);
- Avifaunal Impact Assessment: Bon Espirange to Komsberg 132kV Overhead Power Line Grid Connection located in the Northern Cape and Western Cape Provinces (November 2021);
- Terrestrial Biodiversity & Ecology: Bon Espirange to Komsberg 132kV Powerline (November 2021);
- Proposed Development of the 132kV Bon Espirange to Komsberg Powerline, Northern Cape Province: Desktop Geotechnical Report (November 2021);
- Heritage Impact Assessment In terms of Section 38(8) of the NHRA for the Proposed establishment of 132kV powerline to evacuate power from the Bon Espirange to Komsberg substation to the National Grid in the Western and Northern Cape (November 2021);
- Social Impact Assessment for Bon Espirange to Komsberg Powerline Northern and Western Cape Province (November 2021);
- Freshwater Ecological Assessment as Part of the Water Use Authorisation Process for the 132kV Overhead Powerline and Substation Associated with the Proposed Kareebosch Wind Energy Facility, between Sutherland and Matjiesfontein in the Western and Northern Cape Provinces (July 2021);
- Memorandum: Freshwater Specialist Opinion Regarding the Proposed 132kV Overhead Powerline Between the Existing Bon Espirange And Komsberg Substations, Northern and Western Cape Provinces (November 2021);
- Bon Espirange to Komsberg 132kV Powerline Transport Impact Assessment (November 2021);
- Proposed Construction of the Bon Espirange to Komsberg 132kV Power Line near Matjiesfontein, Western and Northern Cape Provinces Visual Impact Assessment Report – Basic Assessment (November 2021); and
- EA (once issued by DFFE).

# 2 GOVERNANCE FRAMEWORK

## 2.1 NATIONAL LEGAL AND REGULATORY FRAMEWORK

The South African regulatory framework establishes well-defined requirements and standards for environmental and social management of industrial and civil infrastructure developments. Different authorities at both national and regional levels carry out environmental protection functions. The applicable legislation and policies are shown in **Table 2-1** and

APPLICABLE LEGISLATION	DESCRIPTION OF LEGISLATION
<p><b>The Constitution of South Africa (No. 108 of 1996)</b></p>	<p>Section 24(b) of the Constitution provides that “<i>everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation [and] promote conservation.</i>” The Constitution cannot manage environmental resources as a stand-alone law, hence additional legislation has been promulgated in order to manage the various spheres of both the social and natural environment. Each promulgated Act and associated Regulations are designed to focus on various industries or components of the environment to ensure that the objectives of the Constitution are effectively implemented and upheld in an on-going basis throughout the country. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental rights.</p>
<p><b>National Environmental Management Act (No. 107 of 1998)</b></p>	<p>In terms of Section 24(2) of the National Environmental Management Act (No. 107 of 1998) (NEMA), the Minister may identify activities which may not commence without prior authorisation. On 7 April 2017, the Minister thus published GNR 327 (Listing Notice 1), 325 (Listing Notice 2) and 324 (Listing Notice 3) listing activities that may not commence prior to authorisation. The regulations outlining the procedures required for authorisation are published in GNR 326 EIA Regulations (2014, as amended). Listing Notice 1 and Listing Notice 3 identify activities that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. Listing Notice 2 identifies activities that require a Scoping and EIA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity.</p> <p><b>Listed Activities 11, 12, 19 and 27 of GNR 327 and Listed Activities 4, 12 and 14 of GNR 324</b> are considered applicable to the Bon Espirange OHPL and therefore a BA process must be followed to obtain an EA.</p>
<p><b>Listing Notice 1: GNR 327</b></p>	<p><b>Activity 11(i):</b></p> <p><i>The development of facilities or infrastructure for the transmission and distribution of electricity—</i></p> <p><i>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or</i></p> <p><i>(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more;</i></p> <p><i>excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is —</i></p> <p><i>(a) temporarily required to allow for maintenance of existing infrastructure;</i></p> <p><i>(b) 2 kilometres or shorter in length;</i></p> <p><i>(c) within an existing transmission line servitude; and</i></p> <p><i>(d) will be removed within 18 months of the commencement of development.</i></p> <p><b>Applicability:</b></p>

**APPLICABLE  
LEGISLATION**

**DESCRIPTION OF LEGISLATION**

	<p>The 132 kV transmission line will connect the Bon Espirange substation to the Komsberg substation. The transmission line is outside of the urban edge. Additionally, an area will be cleared for the construction of the expansion of the Bon Espirange substation. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p> <p><b>Activity 12 (ii), (a) and (c):</b>  <i>The development of—</i>  <i>(ii) infrastructure or structures with a physical footprint of 100 square metres or more;</i>  <i>where such development occurs—</i>  <i>(a) within a watercourse; or</i>  <i>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse</i></p> <p><b>Applicability:</b>          The powerline will require the erection of tower structures, which will require a construction area of approximately 100m<sup>2</sup>. The powerline will traverse watercourses (or drainage lines) and therefore tower structures maybe constructed within 32 m of these watercourses. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p> <p><b>Activity 19:</b>  <i>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.</i></p> <p><b>Applicability:</b>          The powerline traverses several watercourses (drainage lines). The OHPL will require the erection of tower structures, which will require excavation of removal of soil or sand from watercourses of more than 10 cubic metres. This activity is therefore triggered by the proposed construction of the transmission infrastructure</p> <p><b>Activity 27:</b>  <i>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-</i>  <i>(i) the undertaking of a linear activity;</i>  <i>maintenance purposes undertaken in accordance with a maintenance management plan.</i></p> <p><b>Applicability:</b>          The powerline is considered a linear activity and therefore this activity is not triggered by the proposed construction of the transmission lines. However, the expansion of the Bon Espirange substation will require the clearance of indigenous vegetation of more than 1ha but less than 20 ha. This activity is therefore triggered.</p>
<p><b>Listing Notice 3: GNR 324</b></p>	<p><b>Activity 4:</b>  <i>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</i></p> <p><b><u>Western Cape-</u></b>  <i>(ii) areas outside urban areas</i>  <i>(aa) containing indigenous vegetation</i></p> <p><b>Applicability:</b>          The transmission line route traverses a CBA. The transmission line will require an access road (of approximately 4 m in width) although it will likely be a two-track</p>

**APPLICABLE  
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	<p>road. This activity is triggered by the proposed construction of the transmission infrastructure.</p> <p><b>Activity 12 (i) (i) and (ii):</b> <i>The clearance of an area of 300 square metres or more of indigenous vegetation. Except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</i></p> <p><b><u>i. Western Cape</u></b></p> <p><i>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</i></p> <p><i>ii. Within critical biodiversity areas identified in bioregional plans.</i></p> <p><b><u>Northern Cape</u></b></p> <p><i>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</i></p> <p><i>ii. Within critical biodiversity areas identified in bioregional plans;</i></p> <p><b>Applicability:</b> The transmission line route traverses a CBA. The powerline will require the erection of tower structures, which will require a construction area of approximately 100m<sup>2</sup>. The expansion of the Bon Espirange substation will require the clearance of more than 300 m<sup>2</sup> of indigenous vegetation. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p>
	<p><b>Activity 14 (ii) (a) and (c) (i) (i) (bb) and (ff):</b> <i>The development of—</i></p> <p><i>(ii) infrastructure or structures with a physical footprint of 10 square metres or more;</i></p> <p><i>where such development occurs—</i></p> <p><i>(a) within a watercourse; or</i></p> <p><i>(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;.</i></p> <p><b><u>Northern Cape</u></b></p> <p><i>i. Outside urban areas:</i></p> <p><i>(bb) National Protected Area Expansion Strategy Focus areas;</i></p> <p><i>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</i></p> <p><b><u>i. Western Cape</u></b></p> <p><i>i. Outside urban areas:</i></p> <p><i>(bb) National Protected Area Expansion Strategy Focus areas;</i></p> <p><i>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans</i></p> <p><b>Applicability:</b> The transmission line route traverses a CBA. The powerline will require the erection of tower structures, which will require a construction area of approximately 100m<sup>2</sup>. Tower structures will traverse watercourses. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p>



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<p><b>National Environmental Management Biodiversity Act (No. 10 of 2004)</b></p>	<p>The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) was promulgated in June 2004, within the framework of NEMA, to provide for the management and conservation of national biodiversity. NEMBA's primary aims are for the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, and the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources. In addition, NEMBA provides for the establishment and functions of the South African National Biodiversity Institute (SANBI). SANBI was established primarily to report on the status of the country's biodiversity and conservation status of all listed threatened or protected species and ecosystems.</p> <p>SANBI revised the Western Cape datasets during 2017 identifying CBAs as well as ecological support areas and published the 2017 Western Cape Biodiversity Spatial Plan (WCBSP). The CBA maps indicate the most efficient selection and classification of land portions requiring safeguarding to meet national biodiversity objectives. As the proposed Bon Espirange OHPL traverses a CBA, a biodiversity impact assessment has been undertaken as part of the BA Process.</p> <p>The Threatened or Protected Species (TOPS) Regulations were promulgated on 1 June 2007 in terms of Section 91(1)(g), (h) and (i) of NEMBA. TOPS aims to further regulate the permit system set out in NEMBA, provide for the prohibition and regulation of restricted activities, and provide for the protection of wild populations of listed and threatened or protected species. The minister published amendments to the TOPS on 29 April 2014, which was updated to include for the regulations and registration of a number of activities for the capture, farming and handling of threatened or protected species (e.g. captive breeding facilities, sanctuaries, game farms and nurseries).</p>
<p><b>National Environmental Management Protected Areas Act (No. 57 of 2003)</b></p>	<p>The purpose of the National Environmental Management Protected Areas Act (No. 57 of 2003) (NEMPAA) is to, inter alia, provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. To this end, it provides for the declaration and management of various types of protected areas.</p> <p>Section 50(5) of NEMPAA states that "<i>no development, construction or farming may be permitted in a nature reserve or world heritage site without the prior written approval of the management authority.</i>" The Bon Espirange OHPL route does not fall within any proclaimed protected areas as per NEMPAA. The Tanqua National Park is the closest National Park, situated approximately 60 km to the north-west.</p>
<p><b>National Water Act (No. 36 of 1998)</b></p>	<p>The purpose of the National Water Act (No. 36 of 1998) (NWA) is to provide a framework for the equitable allocation and sustainable management of water resources. Both surface and groundwater sources are national resources, which cannot be owned by any individual, and rights to which are not automatically coupled to land rights, but for which prospective users must apply for authorisation and register as users. The NWA also provides for measures to prevent, control and remedy the pollution of surface and groundwater sources.</p> <p>The Act aims to regulate the use of water and activities (as defined in Part 4, Section 21), which may impact on water resources through the categorisation of 'listed water uses.' Defined water use activities require the approval of DWS in the form of a General Authorisation (GA) or Water Use Licence (WUL) authorisation.</p> <p>The proposed OHPL route has several watercourse crossings. The proposed development will encroach into the 100 m GN509 regulated area, thus Water Use Authorisation (WUA) from the DWS is required prior to commencement of any construction. Based on the outcome of the DWS Risk Assessment by the Freshwater Specialist, Water Use Authorisation by means of General Authorisation in terms of Section 21(c) and (i) water uses are required to be obtained in consultation with the DWS.</p> <p>Quantities of water required for the construction of the OHPL are unknown at this stage. However, based on the proposed installation methodology (i.e. no concrete foundations), limited volumes of water will be required for installation of the</p>

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	<p>OHPL. As such, the main demand for water will be for dust suppression (non-potable) and to service the site camp (potable). The contractor appointed for the construction of the OHPL will be required to arrange a suitable water supply. Should groundwater be abstracted as part of project activities, a WUL/GA would potentially be required.</p>
<p><b>National Heritage Resources Act (No. 25 of 1999)</b></p>	<p>The National Heritage Resource Act (Act No. 25 of 1999) (NHRA) serves to protect national and provincial heritage resources across South Africa. The NHRA provides for the protection of all archaeological and palaeontological sites, the conservation and care of cemeteries and graves by the South African Heritage Resource Agency (SAHRA), and lists activities which require any person who intends to undertake to notify the responsible heritage resources agency and furnish details regarding the location, nature, and extent of the proposed development.</p> <p>In terms of the Section 38 of NHRA, any person who intends to undertake a linear development including, inter alia, a powerline, exceeding 300m in length or a development that exceeds 5000m<sup>2</sup> must notify the heritage resources authority and undertake the necessary assessment requested by that authority.</p> <p>As the proposed Bon Espirange to Komsberg 132kV OHPL is approximately 6 km in length, a Notice of Intent to Develop (NID) is required. A Heritage NID was submitted to Heritage Western Cape (HWC) for the project on 22 October 2021.</p> <p>Construction activities should be conducted carefully, and all activities ceased if any archaeological, cultural and heritage resources are discovered. HWC should be notified and investigation conducted in accordance with the Chance Find Procedure to be established for the Project before any activities can commence.</p>
<p><b>National Environmental Management Waste Act (No. 59 of 2008)</b></p>	<p>The National Environmental Management Waste Act (No. 59 of 2008) (NEMWA) is subsidiary and supporting legislation to NEMA. NEMA is a framework legislation that provides the basis for the regulation of waste management. NEMA also contains policy elements and gives a mandate for further regulations to be promulgated.</p> <p>It is anticipated that activities on the site will not trigger the NEMWA list of waste management activities that require a Waste Management Licence (WML). However, waste handling, storage and disposal during the construction and operational phase of the project must be undertaken in accordance with the requirements of this Act and the Best Practicable Environmental Option (BPEO) which will be incorporated into the site-specific Environmental Management Programme (EMPr).</p>
<p><b>National Environment Management Air Quality Act (No. 39 of 2004)</b></p>	<p>The National Environment Management: Air Quality Act (No. 39 of 2004) (NEMAQA) came into effect on 11 September 2005. Persons undertaking such activities listed under GNR 893, as amended, are required to possess an Atmospheric Emissions License (AEL).</p> <p>The National Dust Control Regulations (GNR 827) were promulgated in terms of Section 32 of NEMAQA, which aim at prescribing general measures for the control of dust in both residential and non-residential areas.</p> <p>Although no AEL will be required for the construction and operation of the powerline, the dust control regulations will be applicable during construction.</p>
<p><b>Conservation of Agricultural Resources Act (No. 43 of 1983)</b></p>	<p>The Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA) provides for the implementation of control measures for soil conservation works as well as alien and invasive plant species in and outside of urban areas.</p> <p>In terms of the amendments to the regulations under the CARA, landowners are legally responsible for the control of alien species on their properties. Various Acts administered by the DFFE and the DWS, as well as other laws (including local by-laws), spell out the fines, terms of imprisonment and other penalties for contravening the law. Although no fines have yet been placed against landowners who do not remove invasive species, the authorities may clear their land of invasive alien plants and other alien species entirely at the landowners' cost and risk.</p>

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	<p>The CARA Regulations with regards to alien and invasive species have been superseded by NEMBA Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014.</p>
<p><b>Civil Aviation Act (No. 13 of 2009)</b></p>	<p>Civil aviation in South Africa is governed by the Civil Aviation Act (Act 13 of 2009). This Act provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing and continuously improving levels of safety and security throughout the civil aviation industry. This mandate is fulfilled by SACAA as an agency of the Department of Transport (DoT). SACAA achieves the objectives set out in the Act by complying with the Standards and Recommended Practices (SARPs) of the International Civil Aviation Organisation (ICAO), while considering the local context when issuing the South African Civil Aviation Regulations.</p> <p>As of the 1st of May 2021, Air Traffic and Navigation Services (ATNS) has been appointed as the new Obstacle application Service Provider for Windfarms and later Solar Plants. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and in due time Power Plant assessments.</p> <p>The Sutherland Aerodrome is approximately 50km north east of the OHPL. The DEA Screening Tool Report identified Civil Aviation as having low sensitivity for the proposed OHPL.</p> <p>An Application for the Approval of Obstacles will also be submitted to ATNS. SACAA will be included on the project stakeholder database. They will be informed of the proposed Project, and comment will be sought from these authorities as applicable.</p>
<p><b>Occupational Health and Safety Act (No. 85 of 1993)</b></p>	<p>The National Occupational Health and Safety Act (No. 85 of 1993) (OHSA) and the relevant regulations under the Act are applicable to the proposed project. This includes the Construction Regulations promulgated in 2014 under Section 43 of the Act. Adherence to South Africa's OHSA and its relevant Regulations is essential.</p>
<p><b>National Energy Act (No. 34 of 2008)</b></p>	<p>The National Energy Act aims to ensure that diverse energy resources are available, in sustainable quantities, and at affordable prices, to the South African economy in support of economic growth and poverty alleviation, taking into account environmental management requirements and interactions amongst economic sectors.</p> <p>The main objectives of the Act are to:</p> <ul style="list-style-type: none"> <li>– Ensure uninterrupted supply of energy to the Republic;</li> <li>– Promote diversity of supply of energy and its sources;</li> <li>– Facilitate effective management of energy demand and its conservation;</li> <li>– Promote energy research;</li> <li>– Promote appropriate standards and specifications for the equipment, systems and processes used for producing, supplying and consuming energy;</li> <li>– Ensure collection of data and information relating to energy supply, transportation and demand;</li> <li>– Provide for optimal supply, transformation, transportation, storage and demand of energy that are planned, organised and implemented in accordance with a balanced consideration of security of supply, economics, consumer protection and a sustainable development;</li> <li>– Provide for certain safety, health and environment matters that pertain to energy;</li> <li>– Facilitate energy access for improvement of the quality of life of the people of Republic;</li> <li>– Commercialise energy-related technologies;</li> <li>– Ensure effective planning for energy supply, transportation, and consumption; and</li> </ul>

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	<ul style="list-style-type: none"> <li>– Contribute to sustainable development of South Africa’s economy.</li> </ul> <p>In terms of the act, the Minister of Energy is mandated to develop and, on an annual basis, review and publish the Integrated Energy Plan (IEP) in the Government Gazette. The IEP analyses current energy consumption trends within different sectors of the economy (i.e. agriculture, commerce, industry, residential and transport) and uses this to project future energy requirements, based on different scenarios. The IEP and the Integrated Resource Plan are intended to be updated periodically to remain relevant. The framework is intended to create a balance between energy demand and resource availability so as to provide low-cost electricity for social and economic development, while taking into account health, safety and environmental parameters.</p>
<p><b>Electricity Regulation Act (No. 4 of 2006)</b></p>	<p>The Electricity Regulation Act (No. 4 of 2006) (ERA) aims to:</p> <ul style="list-style-type: none"> <li>– Achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa;</li> <li>– Ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic:</li> <li>– Facilitate investment in the electricity supply industry;</li> <li>– Facilitate universal access to electricity;</li> <li>– Promote the use of diverse energy sources and energy efficiency;</li> <li>– Promote competitiveness and customer and end user choice; and</li> <li>– Facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public.</li> </ul> <p>The Act establishes a National Energy Regulator as the custodian and enforcer of the National Electricity Regulatory Framework. The Act also provides for licenses and registration as the manner in which generation, transmission, distribution, trading and the import and export of electricity are regulated.</p>

Table 2-2 below.

**Table 2-1: Applicable Legislation**

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<p><b>The Constitution of South Africa (No. 108 of 1996)</b></p>	<p>Section 24(b) of the Constitution provides that “<i>everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation [and] promote conservation.</i>” The Constitution cannot manage environmental resources as a stand-alone law, hence additional legislation has been promulgated in order to manage the various spheres of both the social and natural environment. Each promulgated Act and associated Regulations are designed to focus on various industries or components of the environment to ensure that the objectives of the Constitution are effectively implemented and upheld in an on-going basis throughout the country. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental rights.</p>
<p><b>National Environmental Management Act (No. 107 of 1998)</b></p>	<p>In terms of Section 24(2) of the National Environmental Management Act (No. 107 of 1998) (NEMA), the Minister may identify activities which may not commence without prior authorisation. On 7 April 2017, the Minister thus published GNR 327 (Listing Notice 1), 325 (Listing Notice 2) and 324 (Listing Notice 3) listing activities that may not commence prior to authorisation. The regulations outlining the procedures required for authorisation are published in GNR 326 EIA</p>

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	<p>Regulations (2014, as amended). Listing Notice 1 and Listing Notice 3 identify activities that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. Listing Notice 2 identifies activities that require a Scoping and EIA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity.</p> <p><b>Listed Activities 11, 12, 19 and 27 of GNR 327 and Listed Activities 4, 12 and 14 of GNR 324</b> are considered applicable to the Bon Espirange OHPL and therefore a BA process must be followed to obtain an EA.</p>
<p><b>Listing Notice 1: GNR 327</b></p>	<p><b>Activity 11(i):</b>  <i>The development of facilities or infrastructure for the transmission and distribution of electricity—</i>  <i>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or</i>  <i>(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more;</i>  <i>excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is —</i>  <i>(a) temporarily required to allow for maintenance of existing infrastructure;</i>  <i>(b) 2 kilometres or shorter in length;</i>  <i>(c) within an existing transmission line servitude; and</i>  <i>(d) will be removed within 18 months of the commencement of development.</i></p> <p><b>Applicability:</b>  The 132 kV transmission line will connect the Bon Espirange substation to the Komsberg substation. The transmission line is outside of the urban edge. Additionally, an area will be cleared for the construction of the expansion of the Bon Espirange substation. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p> <hr/> <p><b>Activity 12 (ii), (a) and (c):</b>  <i>The development of—</i>  <i>(ii) infrastructure or structures with a physical footprint of 100 square metres or more;</i>  <i>where such development occurs—</i>  <i>(a) within a watercourse; or</i>  <i>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse</i></p> <p><b>Applicability:</b>  The powerline will require the erection of tower structures, which will require a construction area of approximately 100m<sup>2</sup>. The powerline will traverse watercourses (or drainage lines) and therefore tower structures maybe constructed within 32 m of these watercourses. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p> <hr/> <p><b>Activity 19:</b>  <i>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.</i></p> <p><b>Applicability:</b>  The powerline traverses several watercourses (drainage lines). The OHPL will require the erection of tower structures, which will require excavation of removal of soil or sand from watercourses of more than 10 cubic metres. This activity is therefore triggered by the proposed construction of the transmission infrastructure</p>

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	<p><b>Activity 27:</b>  <i>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-</i></p> <p style="padding-left: 40px;">(ii) <i>the undertaking of a linear activity;</i></p> <p><i>maintenance purposes undertaken in accordance with a maintenance management plan.</i></p> <p><b>Applicability:</b>  The powerline is considered a linear activity and therefore this activity is not triggered by the proposed construction of the transmission lines. However, the expansion of the Bon Espirange substation will require the clearance of indigenous vegetation of more than 1ha but less than 20 ha. This activity is therefore triggered.</p>
<p><b>Listing Notice 3: GNR 324</b></p>	<p><b>Activity 4:</b>  <i>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</i></p> <p><b><u>Western Cape-</u></b>  (ii) <i>areas outside urban areas</i>  (aa) <i>containing indigenous vegetation</i></p> <p><b>Applicability:</b>  The transmission line route traverses a CBA. The transmission line will require an access road (of approximately 4 m in width) although it will likely be a two-track road. This activity is triggered by the proposed construction of the transmission infrastructure.</p>
	<p><b>Activity 12 (i) (i) and (ii):</b>  <i>The clearance of an area of 300 square metres or more of indigenous vegetation. Except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</i></p> <p><b><u>i. Western Cape</u></b>  i. <i>Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</i>  ii. <i>Within critical biodiversity areas identified in bioregional plans.</i></p> <p><b><u>Northern Cape</u></b>  i. <i>Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</i>  ii. <i>Within critical biodiversity areas identified in bioregional plans;</i></p> <p><b>Applicability:</b>  The transmission line route traverses a CBA. The powerline will require the erection of tower structures, which will require a construction area of approximately 100m<sup>2</sup>. The expansion of the Bon Espirange substation will require the clearance of more than 300 m<sup>2</sup> of indigenous vegetation. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p>
	<p><b>Activity 14 (ii) (a) and (c) (i) (i) (bb) and (ff):</b>  <i>The development of—</i>  (ii) <i>infrastructure or structures with a physical footprint of 10 square metres or</i></p>



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	<p>more; where such development occurs— (a) within a watercourse; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;.</p> <p><b><u>Northern Cape</u></b> i. Outside urban areas: (bb) National Protected Area Expansion Strategy Focus areas; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</p> <p><b><u>i. Western Cape</u></b> i. Outside urban areas: (bb) National Protected Area Expansion Strategy Focus areas; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans</p> <p><b>Applicability:</b> The transmission line route traverses a CBA. The powerline will require the erection of tower structures, which will require a construction area of approximately 100m<sup>2</sup>. Tower structures will traverse watercourses. This activity is therefore triggered by the proposed construction of the transmission infrastructure.</p>
<p><b>National Environmental Management Biodiversity Act (No. 10 of 2004)</b></p>	<p>The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) was promulgated in June 2004, within the framework of NEMA, to provide for the management and conservation of national biodiversity. NEMBA’s primary aims are for the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, and the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources. In addition, NEMBA provides for the establishment and functions of the South African National Biodiversity Institute (SANBI). SANBI was established primarily to report on the status of the country’s biodiversity and conservation status of all listed threatened or protected species and ecosystems.</p> <p>SANBI revised the Western Cape datasets during 2017 identifying CBAs as well as ecological support areas and published the 2017 Western Cape Biodiversity Spatial Plan (WCBSP). The CBA maps indicate the most efficient selection and classification of land portions requiring safeguarding to meet national biodiversity objectives. As the proposed Bon Espirange OHPL traverses a CBA, a biodiversity impact assessment has been undertaken as part of the BA Process.</p> <p>The Threatened or Protected Species (TOPS) Regulations were promulgated on 1 June 2007 in terms of Section 91(1)(g), (h) and (i) of NEMBA. TOPS aims to further regulate the permit system set out in NEMBA, provide for the prohibition and regulation of restricted activities, and provide for the protection of wild populations of listed and threatened or protected species. The minister published amendments to the TOPS on 29 April 2014, which was updated to include for the regulations and registration of a number of activities for the capture, farming and handling of threatened or protected species (e.g. captive breeding facilities, sanctuaries, game farms and nurseries).</p>
<p><b>National Environmental Management Protected Areas Act (No. 57 of 2003)</b></p>	<p>The purpose of the National Environmental Management Protected Areas Act (No. 57 of 2003) (NEMPAA) is to, inter alia, provide for the protection and conservation of ecologically viable areas representative of South Africa’s biological diversity and its natural landscapes and seascapes. To this end, it provides for the declaration and management of various types of protected areas.</p>

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	<p>Section 50(5) of NEMPAA states that “no development, construction or farming may be permitted in a nature reserve or world heritage site without the prior written approval of the management authority.” The Bon Espirange OHPL route does not fall within any proclaimed protected areas as per NEMPAA. The Tanqua National Park is the closest National Park, situated approximately 60 km to the north-west.</p>
<p><b>National Water Act (No. 36 of 1998)</b></p>	<p>The purpose of the National Water Act (No. 36 of 1998) (NWA) is to provide a framework for the equitable allocation and sustainable management of water resources. Both surface and groundwater sources are national resources, which cannot be owned by any individual, and rights to which are not automatically coupled to land rights, but for which prospective users must apply for authorisation and register as users. The NWA also provides for measures to prevent, control and remedy the pollution of surface and groundwater sources.</p> <p>The Act aims to regulate the use of water and activities (as defined in Part 4, Section 21), which may impact on water resources through the categorisation of ‘listed water uses.’ Defined water use activities require the approval of DWS in the form of a General Authorisation (GA) or Water Use Licence (WUL) authorisation.</p> <p>The proposed OHPL route has several watercourse crossings. The proposed development will encroach into the 100 m GN509 regulated area, thus Water Use Authorisation (WUA) from the DWS is required prior to commencement of any construction. Based on the outcome of the DWS Risk Assessment by the Freshwater Specialist, Water Use Authorisation by means of General Authorisation in terms of Section 21(c) and (i) water uses are required to be obtained in consultation with the DWS.</p> <p>Quantities of water required for the construction of the OHPL are unknown at this stage. However, based on the proposed installation methodology (i.e. no concrete foundations), limited volumes of water will be required for installation of the OHPL. As such, the main demand for water will be for dust suppression (non-potable) and to service the site camp (potable). The contractor appointed for the construction of the OHPL will be required to arrange a suitable water supply. Should groundwater be abstracted as part of project activities, a WUL/GA would potentially be required.</p>
<p><b>National Heritage Resources Act (No. 25 of 1999)</b></p>	<p>The National Heritage Resource Act (Act No. 25 of 1999) (NHRA) serves to protect national and provincial heritage resources across South Africa. The NHRA provides for the protection of all archaeological and palaeontological sites, the conservation and care of cemeteries and graves by the South African Heritage Resource Agency (SAHRA), and lists activities which require any person who intends to undertake to notify the responsible heritage resources agency and furnish details regarding the location, nature, and extent of the proposed development.</p> <p>In terms of the Section 38 of NHRA, any person who intends to undertake a linear development including, inter alia, a powerline, exceeding 300m in length or a development that exceeds 5000m<sup>2</sup> must notify the heritage resources authority and undertake the necessary assessment requested by that authority.</p> <p>As the proposed Bon Espirange to Komsberg 132kV OHPL is approximately 6 km in length, a Notice of Intent to Develop (NID) is required. A Heritage NID was submitted to Heritage Western Cape (HWC) for the project on 22 October 2021.</p> <p>Construction activities should be conducted carefully, and all activities ceased if any archaeological, cultural and heritage resources are discovered. HWC should be notified and investigation conducted in accordance with the Chance Find Procedure to be established for the Project before any activities can commence.</p>
<p><b>National Environmental Management Waste Act (No. 59 of 2008)</b></p>	<p>The National Environmental Management Waste Act (No. 59 of 2008) (NEMWA) is subsidiary and supporting legislation to NEMA. NEMA is a framework legislation that provides the basis for the regulation of waste management. NEMA also contains policy elements and gives a mandate for further regulations to be promulgated.</p> <p>It is anticipated that activities on the site will not trigger the NEMWA list of waste management activities that require a Waste Management Licence (WML). However, waste handling, storage and disposal during the construction and</p>



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	<p>operational phase of the project must be undertaken in accordance with the requirements of this Act and the Best Practicable Environmental Option (BPEO) which will be incorporated into the site-specific Environmental Management Programme (EMPr).</p>
<p><b>National Environment Management Air Quality Act (No. 39 of 2004)</b></p>	<p>The National Environment Management: Air Quality Act (No. 39 of 2004) (NEMAQA) came into effect on 11 September 2005. Persons undertaking such activities listed under GNR 893, as amended, are required to possess an Atmospheric Emissions License (AEL).</p> <p>The National Dust Control Regulations (GNR 827) were promulgated in terms of Section 32 of NEMAQA, which aim at prescribing general measures for the control of dust in both residential and non-residential areas.</p> <p>Although no AEL will be required for the construction and operation of the powerline, the dust control regulations will be applicable during construction.</p>
<p><b>Conservation of Agricultural Resources Act (No. 43 of 1983)</b></p>	<p>The Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA) provides for the implementation of control measures for soil conservation works as well as alien and invasive plant species in and outside of urban areas.</p> <p>In terms of the amendments to the regulations under the CARA, landowners are legally responsible for the control of alien species on their properties. Various Acts administered by the DFFE and the DWS, as well as other laws (including local by-laws), spell out the fines, terms of imprisonment and other penalties for contravening the law. Although no fines have yet been placed against landowners who do not remove invasive species, the authorities may clear their land of invasive alien plants and other alien species entirely at the landowners' cost and risk.</p> <p>The CARA Regulations with regards to alien and invasive species have been superseded by NEMBA Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014.</p>
<p><b>Civil Aviation Act (No. 13 of 2009)</b></p>	<p>Civil aviation in South Africa is governed by the Civil Aviation Act (Act 13 of 2009). This Act provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing and continuously improving levels of safety and security throughout the civil aviation industry. This mandate is fulfilled by SACAA as an agency of the Department of Transport (DoT). SACAA achieves the objectives set out in the Act by complying with the Standards and Recommended Practices (SARPs) of the International Civil Aviation Organisation (ICAO), while considering the local context when issuing the South African Civil Aviation Regulations.</p> <p>As of the 1st of May 2021, Air Traffic and Navigation Services (ATNS) has been appointed as the new Obstacle application Service Provider for Windfarms and later Solar Plants. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and in due time Power Plant assessments.</p> <p>The Sutherland Aerodrome is approximately 50km north east of the OHPL. The DEA Screening Tool Report identified Civil Aviation as having low sensitivity for the proposed OHPL.</p> <p>An Application for the Approval of Obstacles will also be submitted to ATNS. SACAA will be included on the project stakeholder database. They will be informed of the proposed Project, and comment will be sought from these authorities as applicable.</p>
<p><b>Occupational Health and Safety Act (No. 85 of 1993)</b></p>	<p>The National Occupational Health and Safety Act (No. 85 of 1993) (OHSA) and the relevant regulations under the Act are applicable to the proposed project. This includes the Construction Regulations promulgated in 2014 under Section 43 of the Act. Adherence to South Africa's OHSA and its relevant Regulations is essential.</p>
<p><b>National Energy Act (No. 34 of 2008)</b></p>	<p>The National Energy Act aims to ensure that diverse energy resources are available, in sustainable quantities, and at affordable prices, to the South African economy in</p>

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	<p>support of economic growth and poverty alleviation, taking into account environmental management requirements and interactions amongst economic sectors.</p> <p>The main objectives of the Act are to:</p> <ul style="list-style-type: none"> <li>– Ensure uninterrupted supply of energy to the Republic;</li> <li>– Promote diversity of supply of energy and its sources;</li> <li>– Facilitate effective management of energy demand and its conservation;</li> <li>– Promote energy research;</li> <li>– Promote appropriate standards and specifications for the equipment, systems and processes used for producing, supplying and consuming energy;</li> <li>– Ensure collection of data and information relating to energy supply, transportation and demand;</li> <li>– Provide for optimal supply, transformation, transportation, storage and demand of energy that are planned, organised and implemented in accordance with a balanced consideration of security of supply, economics, consumer protection and a sustainable development;</li> <li>– Provide for certain safety, health and environment matters that pertain to energy;</li> <li>– Facilitate energy access for improvement of the quality of life of the people of Republic;</li> <li>– Commercialise energy-related technologies;</li> <li>– Ensure effective planning for energy supply, transportation, and consumption; and</li> <li>– Contribute to sustainable development of South Africa’s economy.</li> </ul> <p>In terms of the act, the Minister of Energy is mandated to develop and, on an annual basis, review and publish the Integrated Energy Plan (IEP) in the Government Gazette. The IEP analyses current energy consumption trends within different sectors of the economy (i.e. agriculture, commerce, industry, residential and transport) and uses this to project future energy requirements, based on different scenarios. The IEP and the Integrated Resource Plan are intended to be updated periodically to remain relevant. The framework is intended to create a balance between energy demand and resource availability so as to provide low-cost electricity for social and economic development, while taking into account health, safety and environmental parameters.</p>
<p><b>Electricity Regulation Act (No. 4 of 2006)</b></p>	<p>The Electricity Regulation Act (No. 4 of 2006) (ERA) aims to:</p> <ul style="list-style-type: none"> <li>– Achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa;</li> <li>– Ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic:</li> <li>– Facilitate investment in the electricity supply industry;</li> <li>– Facilitate universal access to electricity;</li> <li>– Promote the use of diverse energy sources and energy efficiency;</li> <li>– Promote competitiveness and customer and end user choice; and</li> <li>– Facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public.</li> </ul> <p>The Act establishes a National Energy Regulator as the custodian and enforcer of the National Electricity Regulatory Framework. The Act also provides for licenses and registration as the manner in which generation, transmission, distribution, trading and the import and export of electricity are regulated.</p>

**Table 2-2: Applicable Policies**

APPLICABLE POLICY	DESCRIPTION OF POLICY
<p><b>National Development Plan</b></p>	<p>The National Development Plan aims to eliminate poverty and reduce inequality by 2030. The NDP identifies a number of enabling milestones. Of relevance to the proposed development the NDP refers to the need to produce sufficient energy to support industry at competitive prices and ensure access for poor households, while reducing carbon emissions per unit of power by about one-third. In this regard the infrastructure is not just essential for faster economic growth and higher employment. It also promotes inclusive growth, providing citizens with the means to improve their own lives and boost their incomes. Infrastructure is essential to development.</p> <p>Chapter 3, Economy and Employment, identifies some of the structural challenges specific to South Africa, including an energy constraint that will act as a cap on growth and on options for industrialisation. The NDP notes that from an environmental perspective South Africa faces several related challenges. The reduction of greenhouse gas emissions and shift to a green low-carbon economy, is one of these challenges.</p> <p>In terms of implementation the NDP identifies three phases. The first two are of specific relevance to the proposed project. The first phase (2012–2017) notes that ensuring the supply of energy and water is reliable and sufficient for a growing economy. The second phase (2018–2023) involves building on the first phase to lay the foundations for more intensive improvements in productivity. The provision of affordable and reliable energy is a key requirement for this to take place.</p> <p>Chapter 4, Economic infrastructure, notes that economic infrastructure provides the foundation for social and economic development. In this regard South Africa must invest in a strong network of economic infrastructure designed to support the country's medium- and long-term economic and social objectives. The plan envisages that, by 2030, South Africa will have an energy sector that promotes:</p> <ul style="list-style-type: none"> <li>– Economic growth and development through adequate investment in energy infrastructure. The sector should provide reliable and efficient energy service at competitive rates, while supporting economic growth through job creation.</li> <li>– Environmental sustainability through efforts to reduce pollution and mitigate the effects of climate change. More specifically, South Africa should have adequate supply security in electricity and in liquid fuels, such that economic activity, transport, and welfare are not disrupted.</li> </ul> <p>The plan sets out steps that aim to ensure that, in 20 years, South Africa's energy system looks very different to the current situation. In this regard coal will contribute proportionately less to primary-energy needs, while gas and renewable energy resources, will play a much larger role.</p>
<p><b>Integrated Resource Plan 2010 – 2030</b></p>	<p>The integrated resource plan (IRP) is an electricity capacity plan which aims to provide an indication of the country's electricity demand, how this demand will be supplied and what it will cost. On 6 May 2011, the then Department of Energy (DoE) released the Integrated Resource Plan 2010-2030 (IRP 2010) in respect of South Africa's forecast energy demand for the 20-year period from 2010 to 2030. The promulgated IRP 2010–2030 identified the preferred generation technology required to meet expected demand growth up to 2030. It incorporated government objectives such as affordable electricity, reduced greenhouse gas (GHG) emissions, reduced water consumption, diversified electricity generation sources, localisation and regional development.</p> <p>The IRP recognises that Solar photovoltaic (PV), wind and concentrated solar power (CSP) with storage present an opportunity to diversify the electricity mix, to produce distributed generation and to provide off-grid electricity. Renewable technologies also present huge potential for the creation of new industries, job creation and localisation across the value chain.</p>
<p><b>New Growth Path</b></p>	<p>Government released the New Economic Growth Path Framework on 23 November 2010. The aim of the framework is to enhance growth, employment creation and equity. The policy's principal target is to create five million jobs over the next 10</p>

**APPLICABLE POLICY****DESCRIPTION OF POLICY**

	<p>years and reflects government’s commitment to prioritising employment creation in all economic policies. The framework identifies strategies that will enable South Africa to grow in a more equitable and inclusive manner while attaining South Africa’s developmental agenda. Central to the New Growth Path is a massive investment in infrastructure as a critical driver of jobs across the economy. In this regard the framework identifies investments in five key areas namely: energy, transport, communication, water, and housing.</p>
<p><b>National Infrastructure Plan</b></p>	<p>The South African Government adopted a National Infrastructure Plan (NIP) in 2012. The NIP aims to transform the South African economic landscape while simultaneously creating significant numbers of new jobs and strengthening the delivery of basic services. It outlines the challenges and enablers which need to be addressed in the building and developing of infrastructure. The Presidential Infrastructure Coordinating Commission (PICC) was established by the Cabinet to integrate and coordinate the long-term infrastructure build.</p> <p>The plan also supports the integration of African economies. In terms of the plan Government will invest R827 billion over the next three years to build new and upgrade existing infrastructure. The aim of the investments is to improve access by South Africans to healthcare facilities, schools, water, sanitation, housing and electrification. The plan also notes that investment in the construction of ports, roads, railway systems, <i>electricity plants</i>, hospitals, schools and dams will contribute to improved economic growth.</p>
<p><b>Strategic Integrated Projects</b></p>	<p>As part of the NIP and in terms of Section 8(1)(a) read with Section 7(1) of the Infrastructure Development Act, as amended (Act 23 of 2014), large-scale infrastructure projects, known as Strategic Integrated Projects (SIPs), have been identified across all nine provinces. Eighteen (18) SIPs have been prioritised as part of the NIP. SIPs cover catalytic projects that can fast-track development and growth. Work is being aligned with key cross-cutting areas: human settlement planning and skills development. The SIPs comprise:</p> <ul style="list-style-type: none"> <li>– Five Geographically focussed SIPs (SIP 1 to 5);</li> <li>– Three Spatial SIPs (SIP 6, 7 and 11);</li> <li>– Three Energy SIPs (SIP 8 to 10);</li> <li>– Three Social Infrastructure SIPs (SIP 12 to 14);</li> <li>– Two Knowledge SIPs (SIP 15 and 16);</li> <li>– One Regional Integration SIP (SIP 17); and</li> <li>– One Water and Sanitation SIP (SIP 18).</li> </ul> <p><b>SIP 8: Green energy in support of the South African economy</b> aims to “<i>support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010) and to support bio-fuel production facilities.</i>”</p> <p>By March 2016 a total of 6 376 MW of renewable energy had been procured from 102 independent power producers under the Independent Power Producer Procurement.</p> <p>The REDZs were identified to support SIP 8 of the National Infrastructure Plan.</p> <p><b>SIP 9: Electricity generation to support socio-economic development</b> aims to “<i>accelerate the construction of new electricity generation capacity in accordance with the IRP 2010 and updated draft IRP 2018 to meet the needs of the economy and address historical imbalances.</i>”</p> <p><b>SIP 10: Electricity Transmission and Distribution for All</b> aims to “<i>expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development</i>” in South Africa. SIP 10 recognises that a reliable transmission network with adequate capacity to meet customer needs is a fundamental condition for the provision of a reliable electricity supply in South Africa. To remain reliable, the transmission system requires not only maintenance, but must also be developed and expanded to meet changing electricity demand and energy generation requirements. A reliable transmission network and an effective process for enabling network expansion, is therefore critical to the realisation</p>

**APPLICABLE POLICY****DESCRIPTION OF POLICY**

	<p>of development plans and services, including job creation, the provision of quality education and health care, and the upliftment of previously disadvantaged communities.</p> <p>The Strategic Environmental Assessment (SEA) for Electricity Grid Infrastructure (EGI) in South Africa (CSIR, 2016) identified five Strategic Transmission Corridors that are of strategic importance for the rollout of the supporting large-scale electricity transmission and distribution infrastructure in terms of SIP 10. The EGI SEA identified the optimal location for strategic corridors where transmission infrastructure expansion is needed to enable the regionalised balancing of future demand and supply requirements, whilst minimising negative impacts to the environment.</p> <p>GN 145 approved the Strategic Transmission Corridors, which support areas where long-term electricity grid infrastructure will be developed and where an integrated decision-making process for applications for EA in terms of NEMA will be followed. Applications for EA for large scale electricity transmission and distribution facilities, when such facilities trigger Activity 9 of Listing Notice 2 of the EIA Regulations (2014, as amended) and any other listed activities necessary for the realisation of such facilities, and where the greater part of the proposed facility is to occur in one or more such Strategic Transmission Corridors, must follow a BA procedure (and not a full S&amp;EIA). The timeframe for decision-making is 57 days. Routes that have been pre-negotiated with landowners must be submitted as part of the application for an EA.</p> <p>The proposed OHPL falls within the Komsberg REDZ and the Central Strategic Transmission Corridor and will be subject to shorter decision-making timeframes as outlined in GN 145.</p>
<b>Integrated Energy Plan</b>	<p>The development of a National Integrated Energy Plan (IEP) was envisaged in the White Paper on the Energy Policy of the Republic of South Africa of 1998 and, in terms of the National Energy Act, 2008 (Act No. 34 of 2008), the Minister of Energy is mandated to develop and, on an annual basis, review and publish the IEP in the Government Gazette. The purpose of the IEP is to provide a roadmap of the future energy landscape for South Africa which guides future energy infrastructure investments and policy development.</p> <p>The IEP notes that South Africa needs to grow its energy supply to support economic expansion and in so doing, alleviate supply bottlenecks and supply-demand deficits. In addition, it is essential that all citizens are provided with clean and modern forms of energy at an affordable price. As part of the Integrated Energy Planning process, eight key objectives are identified, namely:</p> <ul style="list-style-type: none"> <li>– Objective 1: Ensure security of supply.</li> <li>– Objective 2: Minimise the cost of energy.</li> <li>– Objective 3: Promote the creation of jobs and localisation.</li> <li>– Objective 4: Minimise negative environmental impacts from the energy sector.</li> <li>– Objective 5: Promote the conservation of water.</li> <li>– Objective 6: Diversify supply sources and primary sources of energy.</li> <li>– Objective 7: Promote energy efficiency in the economy.</li> <li>– Objective 8: Increase access to modern energy.</li> </ul> <p>The IEP provides an assessment of current energy consumption trends within different sectors of the economy (i.e., agriculture, commerce, industry, residential and transport) and uses this information to identify future energy requirements, based on different scenarios. The scenarios are informed by different assumptions on economic development and the structure of the economy and also take into account the impact of key policies such as environmental policies, energy efficiency policies, transport policies and industrial policies, amongst others.</p> <p>Based on this information the IEP then determines the optimal mix of energy sources and technologies to meet those energy needs in the most cost-effective manner for each of the scenarios. The associated environmental impacts, socio-economic benefits and macroeconomic impacts are also analysed. The IEP is therefore focused on</p>

**APPLICABLE POLICY****DESCRIPTION OF POLICY**

	<p>determining the long-term energy pathway for South Africa, taking into account a multitude of factors which are embedded in the eight objectives.</p> <p>As part of the analysis four key scenarios were developed, namely the Base Case, Environmental Awareness, Resource Constrained and Green Shoots scenarios:</p> <ul style="list-style-type: none"> <li>– The Base Case Scenario assumes that existing policies are implemented and will continue to shape the energy sector landscape going forward. It assumes moderate economic growth in the medium to long term.</li> <li>– The Environmental Awareness Scenario is characterised by more stringent emission limits and a more environmentally aware society, where a higher cost is placed on externalities caused by the supply of energy.</li> <li>– The Resource Constrained Scenario in which global energy commodity prices (i.e. coal, crude oil and natural gas) are high due to limited supply.</li> <li>– The Green Shoots Scenario describes an economy in which the targets for high economic growth and structural changes to the economy, as set out in the National Development Plan (NDP), are met.</li> </ul> <p>The IEP notes that South Africa should continue to pursue a diversified energy mix which reduces reliance on a single or a few primary energy sources. In terms of existing electricity generation capacity, the IEP indicates that existing capacity starts to decline notably from 2025, with significant plant retirement occurring in 2031, 2041 and 2048. By 2050 only 20% of the current electricity generation capacity remains. As a result, large investments are required in the electricity sector in order to maintain an adequate supply in support of economic growth.</p> <p>By 2020, various import options become available, and some new coal capacity is added along with new wind, solar and gas capacity. The mix of generation capacity technologies by 2050 is considerably more diverse than the current energy mix, across all scenarios. The main differentiating factors between the scenarios are the level of demand, constraints on emission limits and the carbon dioxide externality costs. In all scenarios the energy mix for electricity generation becomes more diverse over the period to 2050, with coal reducing its share from about 85% in 2015 to 15–20% in 2050 (depending on the scenario). Solar, wind, nuclear, gas and electricity imports increase their share. The Environmental Awareness and Green Shoots scenarios take on higher levels of renewable energy.</p> <p>An assessment of each scenario against the eight objectives with reference to renewable energy notes while all scenarios seek to ensure that costs are minimised within the constraints and parameters of each scenario, the Base Case Scenario presents the least cost followed by the Environmental Awareness, Resource Constrained and Green Shoots scenarios respectively when total energy system costs are considered. In terms of promoting job creation and localisation potential the Base Case Scenario presents the greatest job creation potential, followed by the Resource Constrained, Environmental Awareness and Green Shoots scenarios respectively. In all scenarios, approximately 85% of total jobs are localisable. For electricity generation, most jobs result from solar technologies followed by nuclear and wind, with natural gas and coal making a smaller contribution. The Environmental Awareness Scenario, due to its stringent emission constraints, shows the lowest level of total emissions over the planning horizon. This is followed by the Green Shoots, Resource Constrained and Base Case scenarios. These trends are similar when emissions are considered cumulatively and individually by type.</p>
<p><b>National Protected Area Expansion Strategy, 2010</b></p>	<p>The National Protected Area Expansion Strategy 2010 (NPAES) areas were identified through a systematic biodiversity planning process. They present the best opportunities for meeting the ecosystem-specific protected area targets set in the NPAES and were designed with strong emphasis on climate change resilience and requirements for protecting freshwater ecosystems. These areas should not be seen as future boundaries of protected areas, as in many cases only a portion of a particular focus area would be required to meet the protected area targets set in the NPAES. They are also not a replacement for fine scale planning which may identify a range of</p>



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	different priority sites based on local requirements, constraints and opportunities (NPAES, 2010). The OHPL falls within an NPAES focus area.
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## 2.2 PROVINCIAL AND MUNICIPAL LEGAL AND REGULATORY FRAMEWORK

**Table 2-3:      Provincial Plans**

APPLICABLE PLAN	DESCRIPTION OF PLAN
<b>Northern Cape Nature Conservation Act (Act No. 9 of 2009)</b>	<p>The purpose of the act is to provide for the sustainable utilisation of wild animals, aquatic biota and plants; to provide for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora; to provide for offences and penalties for contravention of the Act; to provide for the appointment of nature conservators to implement the provisions of the Act and to provide for the issuing of permits and other authorisations.</p> <p>Schedule 1 and 2 of the Act give extensive lists of specially protected and protected fauna and flora species.</p>
<b>Northern Cape CBA Map (2016)</b>	<p>The Northern Cape CBA Map identifies biodiversity priority areas, CBAs and Ecological Support Areas (ESAs), which, together with Protected Areas, are important for the persistence of a viable representative sample of all ecosystem types and species, as well as the long-term ecological functioning of the landscape as a whole.</p> <p>The Northern Cape Critical Biodiversity Area (CBA) Map updates, revises and replaces all older systematic biodiversity plans and associated products for the province. These include the:</p> <ul style="list-style-type: none"> <li>– Namakwa District Biodiversity Sector Plan; <ul style="list-style-type: none"> <li>▪ Cape Fine-Scale Plan (only the extent of the areas in the Northern Cape i.e. Bokkeveld and Nieuwoudtville); and</li> <li>▪ Richtersveld Municipality Biodiversity Assessment.</li> </ul> </li> </ul> <p>As the proposed Bon Espirange to Komsberg 132kV OHPL traverses a CBA, a biodiversity impact assessment has been undertaken as part of the BA Process.</p>
<b>Northern Cape Provincial Growth and Development Plan</b>	<p>The Northern Cape Provincial Growth and Development Plan (NCPGDP) is aligned with NDP-2030 and seeks to eradicate poverty, inequality and halve unemployment by 2030. The NCPGDP identifies four key drivers to achieve the vision and reduce poverty and unemployment. Economic transformation and growth, social transformation and human welfare and environmental sustainability and resilience are relevant to identifying and assessing needs.</p> <ul style="list-style-type: none"> <li>– Economic transformation and growth, which is aimed at creating employment opportunities and thereby reducing poverty. Skills development and training is identified as a key need.</li> <li>– Social transformation and human welfare, which is aimed at improving education levels, access to affordable and quality health care, improved safety, and security, and creating sustainable human settlements.</li> <li>– Environmental sustainability and resilience, which is aimed at protecting the regions natural resources and addressing the threats posed by climate change.</li> </ul>
<b>Northern Cape Provincial Growth and Development Strategy</b>	<p>The Northern Cape Provincial Growth and Development Plan (NCPGDP) is aligned with NDP-2030 and seeks to eradicate poverty, inequality and halve unemployment by 2030. The NCPGDP identifies four key drivers to achieve the vision and reduce poverty and unemployment. Economic transformation and growth, social</p>

**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<p>transformation and human welfare and environmental sustainability and resilience are relevant to identifying and assessing needs.</p> <ul style="list-style-type: none"><li>– Economic transformation and growth, which is aimed at creating employment opportunities and thereby reducing poverty. Skills development and training is identified as a key need.</li><li>– Social transformation and human welfare, which is aimed at improving education levels, access to affordable and quality health care, improved safety, and security, and creating sustainable human settlements.</li><li>– Environmental sustainability and resilience, which is aimed at protecting the regions natural resources and addressing the threats posed by climate change.</li></ul> <p>The NCPGDS identifies poverty reduction as the most significant challenge facing the government and its partners. All other societal challenges that the province faces emanate predominantly from the effects of poverty. The NCPGDS notes that the only effective way to reduce poverty is through long-term sustainable economic growth and development. The sectors where economic growth and development can be promoted include:</p> <ul style="list-style-type: none"><li>– Agriculture and Agro-processing;</li><li>– Fishing and Mariculture;</li><li>– Mining and mineral processing;</li><li>– Transport;</li><li>– Manufacturing; and</li><li>– Tourism.</li></ul> <p>However, the NCPGDS also notes that economic development in these sectors also requires:</p> <ul style="list-style-type: none"><li>– Creating opportunities for lifelong learning;</li><li>– Improving the skills of the labour force to increase productivity;</li><li>– Increasing accessibility to knowledge and information.</li></ul> <p>The achievement of these primary development objectives depends on the achievement of a number of related objectives that, at a macro-level, describe necessary conditions for growth and development. These are:</p> <ul style="list-style-type: none"><li>– Developing requisite levels of human and social capital;</li><li>– Improving the efficiency and effectiveness of governance and other development institutions; and</li><li>– Enhancing infrastructure for economic growth and social development.</li></ul> <p>Of specific relevance to the OHPL, the NCPGDS make reference to the need to ensure the availability of inexpensive energy. The section notes that in order to promote economic growth in the Northern Cape the availability of electricity to key industrial users at critical localities at rates that enhance the competitiveness of their industries must be ensured. At the same time, the development of new sources of energy through the promotion of the adoption of energy applications that display a synergy with the province’s natural resource endowments must be encouraged. In this regard the NCPGDS notes “the development of energy sources such as wind and solar energy, the natural gas fields, bio-fuels, etc., could be some of the means by which new economic opportunity and activity is generated in the Northern Cape”. The NCPGDS also highlights the importance of close co-operation between the public and private sectors in order for the economic development potential of the Northern Cape to be realised.</p> <p>The NCPGDS also highlights the importance of enterprise development, and notes that the current levels of private sector development and investment in the Northern Cape are low. In addition, the province also lags in the key policy priority areas of SMME Development and Black Economic Empowerment. The proposed OHPL therefore has the potential to create opportunities to promote private sector investment and the development of SMMEs in the Northern Cape Province.</p>
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**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<p>In this regard care will need to be taken to ensure that the proposed OHPL does not negatively impact on the region's natural environment. In this regard the NCPGDS notes that the sustainable utilisation of the natural resource base on which agriculture depends is critical in the Northern Cape with its fragile eco-systems and vulnerability to climatic variation. The document also indicates that due to the province's exceptional natural and cultural attributes, it has the potential to become the preferred adventure and ecotourism destination in South Africa. Care therefore needs to be taken to ensure that the development of large renewable energy projects, such as the proposed solar energy facility and associated OHPL, do not affect the tourism potential of the province.</p>
<p><b>Northern Cape Provincial Spatial Development Framework</b></p>	<p>The Northern Cape Provincial Spatial Development Framework (NCSDF) (2012) lists a number of sectoral strategies and plans are to be read and treated as key components of the PSDF. Of these there are a number that are relevant to the proposed OHPL. These include:</p> <ul style="list-style-type: none"> <li>– Sectoral Strategy 1: Provincial Growth and Development Strategy of the Provincial Government;</li> <li>– Sectoral Strategy 2: Comprehensive Growth and Development Programme of the Department of Agriculture, Land Reform and Rural Development;</li> <li>– Sectoral Strategy 5: Local Economic Development (LED) Strategy of the Department of Economic Development and Tourism;</li> <li>– Sectoral Strategy 11: Small Micro Medium Enterprises (SMME) Development Strategy of the Department of Economic Development and Tourism;</li> <li>– Sectoral Strategy 12: Tourism Strategy of the Department of Economic Development and Tourism; and</li> <li>– Sectoral Strategy 19: Provincial renewable energy strategy (to be facilitated by the Department of Economic Development and Tourism).</li> </ul> <p>Section C8.2.3, Energy Objectives, sets out the energy objectives for the Northern Cape Province. The section makes specific reference to renewable energy. The objectives are listed below:</p> <ul style="list-style-type: none"> <li>– Promote the development of renewable energy supply schemes. Large-scale renewable energy supply schemes are strategically important for increasing the diversity of domestic energy supplies and avoiding energy imports while minimizing detrimental environmental impacts.</li> <li>– Develop and institute innovative new energy technologies to improve access to reliable, sustainable, and affordable energy services with the objective to realize sustainable economic growth and development. The goals of securing supply, providing energy services, tackling climate change, avoiding air pollution, and reaching sustainable development in the province offer both opportunities and synergies which require joint planning between local and provincial government as well as the private sector.</li> <li>– Develop and institute energy supply schemes with the aim to contribute to the achievement of the targets set by the White Paper on Renewable Energy (2003). This target relates to the delivery of 10 000 GWh of energy from renewable energy sources (mainly biomass, wind, solar, and small-scale hydro) by 2013.</li> </ul> <p>Section C8.3.3, Energy Policy, sets out the policy guidelines for the development of the energy sector, with specific reference to the renewable energy sector.</p> <ul style="list-style-type: none"> <li>– The construction of infrastructure must be strictly regulated in terms of the spatial plans and guidelines put forward in the PSDF. They must be carefully placed to avoid visual impacts on landscapes of significant symbolic, aesthetic, cultural or historic value and should blend in with the surrounding environment to the extent possible.</li> </ul> <p>EIAs undertaken for such construction must assess the impacts of such activities.</p>
<p><b>Western Cape Spatial Development Framework</b></p>	<p>The Western Cape Provincial Spatial Development Framework, 2014 (PSDF) is an approved structure plan in terms of the Spatial Planning and Land Use Management</p>

**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<p>Act (Act 16 of 2013) (SPLUMA) and the Land Use Planning Act (Act 3 of 2014) (LUPA) and aims to give spatial expression to the NDP and One Cape 2040 initiatives. It provides guidelines for district, metropolitan and local municipal spatial initiatives such as Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs).</p> <p>The PSDF is a broad-based document and does not control development or land use proposals at a micro-scale (e.g. individual properties). It is, however, relevant in setting out overarching planning policy guidelines adopted by the Provincial Government, and major development applications need to take guidance from and be evaluated in terms of these policy guidelines.</p> <p>The Western Cape PSDF is underpinned by three interrelated themes, namely:</p> <ul style="list-style-type: none"> <li>– Sustainable use of the Western Cape’s spatial assets (resources);</li> <li>– Opening up opportunities in the Provincial space-economy (space economy); and</li> <li>– Developing integrated and sustainable settlements (settlement).</li> </ul> <p>The WCPSDF also includes the following spatial agenda:</p> <ul style="list-style-type: none"> <li>– Grow the Province’s economy in partnership with the private sector, non-government and community based organisations;</li> <li>– Use infrastructure investment as the primary lever to ensure urban and rural spatial transitions; and</li> <li>– Improve the sustainable use of the Province’s spatial assets and resources.</li> </ul> <p>Key spatial challenges are outlined in Chapter 2 of the PSDF. Energy security and climate change response are identified as key high-level future risk factors. With regard to energy use, the PSDF notes that the Cape Metro (albeit the province’s most efficient user) and West Coast regions are the Province’s main energy users. It further notes that the Western Cape’s electricity is primarily drawn from the national grid, which is dominated by coal-based power stations, and that the province currently has a small emergent renewable energy sector in the form of wind and solar generation facilities located in its more rural, sparsely populated areas. With regard to renewable energy, the following policy provisions are of relevance:</p> <ul style="list-style-type: none"> <li>– Policy R.4.6: Pursue energy diversification and energy efficiency in order for the Western Cape to transition to a low carbon, sustainable energy future, and delink economic growth from energy use.</li> <li>– R.4.7: Support emergent Independent Power Producers (IPPs) and sustainable energy producers (wind, solar, biomass and waste conversion initiatives) in suitable rural locations (as per recommendations of the Strategic Environmental Assessments for wind energy (DEA&amp;DP) and renewable energy (DFFE)).</li> </ul> <p>Water scarcity is identified as probably the key risk associated with climate change. Policy provisions are made with regard to climate change adaptation and mitigation. Concerning renewable energy, the following is of relevance:</p> <ul style="list-style-type: none"> <li>– R.4.16: Encourage and support renewable energy generation at scale.</li> </ul>
<b>Western Cape Infrastructure Framework</b>	<p>The Western Cape Infrastructure Framework (WCIF) (2013) was developed by the WCP Provincial Department of Transport and Public Works in terms of the Provincial Government’s mandate to coordinate provincial planning under Schedule 5A of the Constitution. The objective of the WCIF is to align the planning, delivery and management of infrastructure to the strategic agenda and vision for the province, as outlined in the 2009-2014 Draft Provincial Strategic Plan. The One Cape 2040 and 2013 Green is Smart strategy were other key informants.</p> <p>The document notes that given the status quo of infrastructure in the province, and the changing and uncertain world facing the Western Cape over the 2-3 decades a new approach to infrastructure is needed. Namely one that satisfies current needs and backlogs, maintains the existing infrastructure, and plans proactively for a desired future outcome. The 2040 vision requires a number of transitions to shift fundamentally the way in which infrastructure is provided and the type of infrastructure provided in WCP.</p>

APPLICABLE PLAN	DESCRIPTION OF PLAN
	<p>The WCIF addresses new infrastructure development under five major ‘systems’ (themes), and outlines priorities for each. Energy is one of the ‘systems’ identified. The document notes that a provincial demand increase of 3% per year is anticipated for the period 2012-2040. Key priorities are in matching energy generation/ sourcing with the demand needed for WCP economic growth. Additionally, the energy focus should be on lowering the provincial carbon footprint, with an emphasis on renewable and locally generated energy.</p> <p>Three key transitions are identified for the WCP Energy ‘system’ infrastructure, namely:</p> <ul style="list-style-type: none"> <li>– Shifting transport patterns to reduce reliance on liquid fuels.</li> <li>– Promoting natural gas as a transition fuel by introducing gas processing and transport infrastructure.</li> <li>– Promoting the development of renewable energy plants in the province and associated manufacturing capacity</li> </ul>

**Table 2-4: Local Municipality Plans**

APPLICABLE PLAN	DESCRIPTION OF PLAN
<p><b>Karoo Hoogland Integrated Development Plan (2017 – 2022)</b></p>	<p>The KH IDP (2017-2022) identifies four Key Performance Areas (KPA). KPA 1, Basic Service Delivery and KPA 2, Local Economic Development, are the most relevant to the proposed project.</p> <p><b>KPA 1: Basic Service Delivery</b></p> <ul style="list-style-type: none"> <li>– Strategic Objectives: <ul style="list-style-type: none"> <li>▪ Provide quality of living human settlements with adequate infrastructure</li> </ul> </li> <li>– Outcome: <ul style="list-style-type: none"> <li>▪ Improved quality of municipal basic service delivery in formalised areas: potable water, waste water, electricity, and solid waste</li> <li>▪ Improved mobility through the provision of quality municipal roads and storm water drainage</li> </ul> </li> <li>– Programme: <ul style="list-style-type: none"> <li>– Electrification</li> <li>– Water and Sanitation.</li> <li>– Roads and Storm water.</li> <li>– Waste Management.</li> <li>– Health Services.</li> <li>– Education and Libraries.</li> <li>– Safety and Security.</li> <li>– Climate Change.</li> <li>– Public Transport.</li> <li>– Environmental Management</li> </ul> </li> </ul> <p><b>KPA 2: Local Economic Development</b></p> <ul style="list-style-type: none"> <li>– Strategic Objectives: <ul style="list-style-type: none"> <li>▪ Transform Urban areas to vibrant economic centres that are safe and secure.</li> <li>▪ Promote growth and diversification of the local economy.</li> <li>▪ Promote BBBEE development.</li> <li>▪ Promote healthy living and working environments.</li> <li>▪ Promote social cohesion through economic and social development</li> </ul> </li> </ul>

**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<ul style="list-style-type: none"> <li>– Outcome: <ul style="list-style-type: none"> <li>▪ Renewed urban economic centres.</li> <li>▪ Growing and diversifying local economy.</li> <li>▪ Sustainable BBBEE enterprises and SMME's in the local economy.</li> <li>▪ Improved levels of employment in the local economy.</li> <li>▪ Improved quality of public health services.</li> <li>▪ Improved social integration and cohesion</li> </ul> </li> <li>– Programme: <ul style="list-style-type: none"> <li>▪ Economic growth and development.</li> <li>▪ Poverty Alleviation.</li> <li>▪ Tourism.</li> <li>▪ SMME Development</li> </ul> </li> </ul> <p>In terms of KPA 2, Local Economic Development (LED), the IDP highlights the importance of private public partnerships for achieving economic development in the KH. The LED policy framework identifies a number of LED Policy Pillars/Thrusts. Of relevance to the Needs Assessment these include building a diverse economic base, developing learning and skilful economies, and enterprise development and support. The IDP identifies a number of projects associated with the LED Pillar/Thrusts. Of relevance these include:</p> <p><b>Building a diverse economic base</b></p> <ul style="list-style-type: none"> <li>– Investigate possible opportunities for development of renewable energy.</li> </ul> <p><b>Developing learning and skilful local economies</b></p> <ul style="list-style-type: none"> <li>– Identify skill gaps and implements skills development and training programmes</li> </ul> <p><b>Developing inclusive economies</b></p> <ul style="list-style-type: none"> <li>– Support the informal and rural economy.</li> <li>– Support development of women and the youth.</li> <li>– Establish community gardens.</li> </ul> <p>The IDP also highlights the need to support for the rural economy, with specific reference to the One Household One Hectare (1HH1HA) Programme. The Objectives of the 1HH1HA Programme include reducing poverty in rural areas, creating opportunities for Black Commercial Smallholding Farmers, improving security of tenure for historically disadvantaged (HD) rural communities and develop farming skills. The benefits for the 1HH1HA Programme include job creating, poverty alleviation, food security, skills development, security of tenure and restoration of dignity to marginalised HD rural communities.</p> <p>KPA 2, Local Economic Development (LED) identifies the need to address the challenges facing vulnerable groups in the KH, including the youth and physically and mentally challenged members of the community.</p> <p>The high unemployment levels and the lack of meaningful employment opportunities represents a key challenge faced by the youth in the KH. There are also inadequate educational facilities/institutions such as Technikons, FET colleges and Universities in the KH and ND.</p> <p>The IDP also refers to the need to interact with National and Provincial and District agencies aimed at youth development. The provision of quality education at Early Child Development (ECD) is also a key need. The challenges facing ECDs include lack of proper facilities and support material at learning centres, lack of funding, and food security.</p> <p>The IDP also highlights the threat posed by climate change, noting it threatens food security, poverty alleviation and sustainable socio-economic growth. Vulnerable households are at most risk. A combination of increasing temperatures and reduced and/or more variable rainfall could have severe negative impacts for the Namakwa</p>
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**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<p>District, including the KHM. In this regard the KHM is characterised by high levels of poverty and inequality, isolated communities, and a large geographical area, which results in a vulnerable population. Large numbers of people, both private and communal, are also directly dependent on agriculture, and therefore on functioning ecosystems and water regimes, for their livelihoods. These communities and households are therefore directly affected by the risks posed by climate change.</p> <p>The IDP notes that the KHM is likely to be one of the most affected municipalities in terms of the impact of climate change on water quality and availability. Addressing these threats and the needs associated with the threat posed by climate change is therefore a key challenge.</p>
<p><b>Karoo Hoogland Spatial Development Framework (2019)</b></p>	<p>The KH Spatial Development Framework (SDF) (2019) identifies list four strategies, namely:</p> <p><b>Strategy 1: Enhance local connectivity</b></p> <p>The objectives of Strategy 1 include improving the connection between the towns of Sutherland, Williston and Fraserberg and the surrounding rural areas, and support for the diversification of economies, tourism, the knowledge economy, the green economy and alternative energy-related enterprise development.</p> <p><b>Strategy 2: Protecting local resources</b></p> <p>The objectives of Strategy 2 include integrated management and prioritisation of Karoo Hoogland’s natural and man-made cultural landscape resources and protection of high value agricultural land. The actions identified include alien vegetation clearing and riverine and wetland management and environmental awareness and education programmes.</p> <p><b>Strategy 3: Urban and rural development</b></p> <p>The objectives of Strategy 3 include more sustainable land reform process and in areas closer to urban centres, creating opportunities for increased food security and economic development for rural dwellers, creation of sustainable and accessible employment opportunities, and improved opportunities in the Tourism Sector.</p> <p>The actions identified include establishing opportunities for urban agriculture (home, school and community gardens) to promote household food security and improved nutrition, create opportunities for local food producers to market their products (farmers markets, etc.), and establishment of artisan workshops to provide local population with the chance to develop skills to participate within the economic sectors.</p> <p>Tourism and the renewable energy sector are identified as key drivers in terms of development in the KH.</p> <p><b>Strategy 4: Enhance infrastructure development</b></p> <p>The objectives of Strategy 3 include, maintain basic services and addressing backlogs, improving public facilities and access to these facilities, improving public transport and access to public transport and recycling programmes</p>
<p><b>Laingsburg Municipality Integrated Development Plan (2017 – 2022_</b></p>	<p>The LM IDP (2017-2022) identifies six priority area of which the following are relevant to the project:</p> <ul style="list-style-type: none"> <li>– Environmental and Spatial Development.</li> <li>– Local Economic Development.</li> <li>– Basic Service Delivery.</li> <li>– Social and Community Development.</li> </ul> <p><b>Priority 1: Environmental and Spatial Development</b></p> <p>The focus of Priority 1 is on creating a safe municipal area, the conservation of the town’s heritage and, or relevance to the renewable energy sector, creating a clean</p>

**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<p>green oasis in the Karoo. It also seeks to restore dignity in rural areas. A number of strategic objectives are associated with each of the priority areas listed in the IDP.</p> <p><b>Priority 2: Local Economic Development</b></p> <p>The focus of Priority 2 is on creating opportunities to ensure growth and development of the Laingsburg municipal economy. Of relevance to the renewable energy sector the IDP notes the commitment of the municipality create an enabling environment and incentives to attract investment to the area. A number of strategic objectives are associated with each of the priority areas listed in the IDP.</p> <p><i>Strategic Objective 2: Promote local economic development</i></p> <p>The focus areas for supporting economic development and creating employment are the tourism sector and support for Small Medium Micro Enterprise Developments (SMME's).</p> <p><b>Priority 3: Basic Service Delivery</b></p> <p>The focus of Priority 3 is to maintain and improve current levels of service delivery in the LM. The IDP also notes that well maintained infrastructure also supports and promote local economic development.</p> <p><b>Priority 4: Social and Community Development</b></p> <p>The focus of Priority 4 is on promoting equal accessibility for available opportunities for all, especially the poor and the youth. Priority 4 also seeks to create opportunities for moral regeneration by implementing awareness programmes, skills development and training and the provision of free basic services.</p> <p><i>Strategic Objective 4: Improve the standards of living of all people in Laingsburg</i></p> <p>The IDP lists a number of projects associated with Strategic Objective 3, including implementation of a crime prevention and rehabilitation programme, establishment of ECD Centres, ensuring the effective operation of the towns Thusong Service Centre, and supporting old age facilities in the town. Improved living standards are also linked to a skilled and educated population. The IDP therefore highlights the need to improve overall literacy levels and create opportunities to support education and skills development and training.</p> <p>A SWOT Analysis undertaken as part of the IDP process lists the strengths, weaknesses, opportunities, and threats facing the LM. The following are relevant to the Needs Assessment.</p> <p><b>Strengths</b></p> <ul style="list-style-type: none"><li>– Stable municipality.</li><li>– Well-located in terms of access by road and rail.</li><li>– Good infrastructure in place.</li><li>– Nice clean town.</li><li>– Strong, professional administration with professional.</li><li>– Good public participatory and ward committee system.</li><li>– Established tourism office.</li><li>– Thusong Service Centre.</li></ul> <p><b>Weaknesses</b></p> <ul style="list-style-type: none"><li>– Narrow income base.</li><li>– Small business sector.</li></ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"><li>– Establishment of economic development infrastructure.</li><li>– Development of light industrial area.</li><li>– Green Energy.</li><li>– Training and Skills Development.</li></ul>
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**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<ul style="list-style-type: none"> <li>– Establishment of organised Business sector</li> </ul> <p><b>Threats</b></p> <ul style="list-style-type: none"> <li>– Aging municipal infrastructure.</li> <li>– Climate change and drought.</li> <li>– High level of grant dependency.</li> <li>– Skills shortages and difficulty in retaining scarce skills.</li> <li>– Low literacy rates and high drop-out rates for school children.</li> <li>– Large distances to large towns.</li> <li>– Poor condition of gravel roads in rural areas.</li> <li>– High water losses from municipal infrastructure.</li> </ul> <p>The IDP highlights the threat posed by the impact of climate change, specifically given the key role played by the agriculture to the local economy. The key risks are linked to the long term rise in temperature, variability in precipitation and changes in precipitation patterns and growing season etc. The IDP notes that water availability is the most important limiting factor affecting the agriculture sector (crop and animal production) in the LM. Climate change therefore has the potential to impact on employment and food security.</p>
<p><b>Laingsburg Local Economic Development (LED) and Tourism Strategy (2019-2029)</b></p>	<p>The Laingsburg Local Economic Development (LED) and Tourism Strategy (2019-2029) is informed by and aligned with relevant national, provincial, district and local policies and plans, including the National Development Plan and Western Cape Strategic Plan (2019-2024).</p> <p>The aim of the LED and Tourism Strategy is to guides the long-term sustainable planning and development of the Laingsburg economy. This includes reducing poverty within the Laingsburg Municipal area. The LED strategy is based on the overall vision outlined in the IDP. The Strategy assesses the current socio-economic environment, outlines strategic goals for the next ten-years, it recommends a series of actions to achieves those goals by leveraging existing assets and strengths, overcoming existing weaknesses and threats, and developing new assets and strengths. The LED Strategy therefore identifies key socio-economic needs facing the LM and strategies to address these needs.</p> <p>The LED aims to create job opportunities by assisting the local economy to grow by developing more small business in the municipal area, specifically for HD members of the community. One of the key drivers for LED is tourism. Tourism has the ability and potential to create long-term work opportunities.</p> <p>The LED and Tourism Strategy identifies a number of key socio-economic trends, challenges and key considerations that have a bearing on the project. These include:</p> <ul style="list-style-type: none"> <li>– Climate changes poses a number of challenges to the agricultural sector in Western Cape, including the LM area.</li> <li>– Laingsburg as a drought prone area is faced with the increased competition for water resources from agricultural and other uses, including urban and industrial.</li> <li>– The Municipality will need to develop and implement strategies to address climate change and the impact of drought. The predicted increase in the frequency and severity of droughts will have a negative impact on agriculture.</li> <li>– Agriculture is the backbone of Laingsburg economy. However, the agriculture sector is not diverse, the dominant activity is sheep (wool and meat) farming.</li> <li>– There is a lack of formal employment, including self-employment opportunities, in the LM.</li> <li>– The LM has high unemployment rates, low-income levels, and high illiteracy rates. The high illiteracy rates are linked to the high percentage of school drop outs. This has resulted in high poverty rates and increasing levels of substance abuse in Laingsburg.</li> <li>– There is a shortage of skilled labour.</li> </ul>



**APPLICABLE PLAN****DESCRIPTION OF PLAN**

	<ul style="list-style-type: none"> <li>– There is a high degree of grant dependency.</li> </ul> <p>The LED also identifies the development of a renewable energy centre as strategic initiative.</p>
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## 2.3 OTHER GUIDELINES AND BEST PRACTICE RECOMMENDATIONS

### 2.3.1 WORLD BANK GROUP ENVIRONMENTAL, HEALTH, AND SAFETY GUIDELINES

#### **EHS GENERAL GUIDELINES**

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of GIIP. They contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs.

The EHS General Guidelines contain information on cross-cutting environmental, health and safety issues potentially applicable to all industry sectors, used together with the relevant industry sector guideline(s), to guide the development of management and monitoring strategies for various project-related impacts.

#### **EHS GUIDELINES FOR ELECTRIC POWER TRANSMISSION AND DISTRIBUTION**

The EHS Guidelines for Electric Power Transmission and Distribution include information relevant to power transmission between a generation facility and a substation located within an electricity grid, in addition to power distribution from a substation to consumers located in residential, commercial, and industrial areas.

The Guidelines includes industry-specific impacts and management, provides a summary of EHS issues associated with electric power transmission and distribution that occur during the construction and operation phases of a facility, along with recommendations for their management. Additionally, it includes performance indicators and monitoring related to the environment an occupational health and safety.

These Guidelines have been considered in the impact assessment and formulation of mitigation measures in this BAR.

### 2.3.2 GENERIC EMPR RELEVANT TO AN APPLICATION FOR SUBSTATION AND OVERHEAD ELECTRICITY TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE

NEMA requires that an EMPr be submitted where an EIA has been identified as the environmental instrument to be utilised as the basis for a decision on an application for environmental authorisation. The content of an EMPr must either contain the information set out in Appendix 4 of the EIA Regulations, 2014, as amended, or must be a generic EMPr relevant to an application as identified and gazetted by the Minister in a government notice. Once the Minister has identified, through a government notice, that a generic EMPr is relevant to an application for EA, that generic EMPr must be applied by all parties involved in the EA process, including, but not limited to, the applicant and the CA.

GN 435 of 22 March 2019 identified a generic EMPr relevant to applications for substations and overhead electricity transmission and distribution infrastructure which require authorisation in terms of



Section 42(2) of NEMA. Applications for overhead electricity transmission and distribution infrastructure and applications for the development or expansion of substation infrastructure for the transmission and distribution of electricity that trigger Activity 11 or 47 of Listing Notice 1 or Activity 9 of Listing Notice 2 and any other listed or specified activities must use the generic EMPrs.

The objective of the generic EMPr is to prescribe and pre-approve generally accepted impact management outcomes and impact management actions, which can commonly and repeatedly be used for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure and the development or expansion of substation infrastructure for the transmission and distribution of electricity. The use of a generic EMPr is intended to reduce the need to prepare and review individual EMPrs for applications of a similar nature.<sup>1</sup>

Both the generic EMPr for transmission lines as well as the generic EMPr for substations have been used as a basis for this EMPr. The *Generic Environmental Management Programme (EMPr) for the Development and Expansion for Overhead Electricity Transmission and Distribution Infrastructure* is attached as **Appendix D** and the *Generic Environmental Management Programme (EMPr) for the Development and Expansion of Substation Infrastructure for the Transmission and Distribution of Electricity* is attached as **Appendix E**.

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<sup>1</sup> DEA (2019) *Appendix 1: Generic Environmental Management Programme (EMPr) for the Development and Expansion for Overhead Electricity Transmission and Distribution Infrastructure*; DEA (2019) *Generic Environmental Management Programme (EMPr) for the Development and Expansion of Substation Infrastructure for the Transmission and Distribution of Electricity*

# 3 PROJECT DESCRIPTION

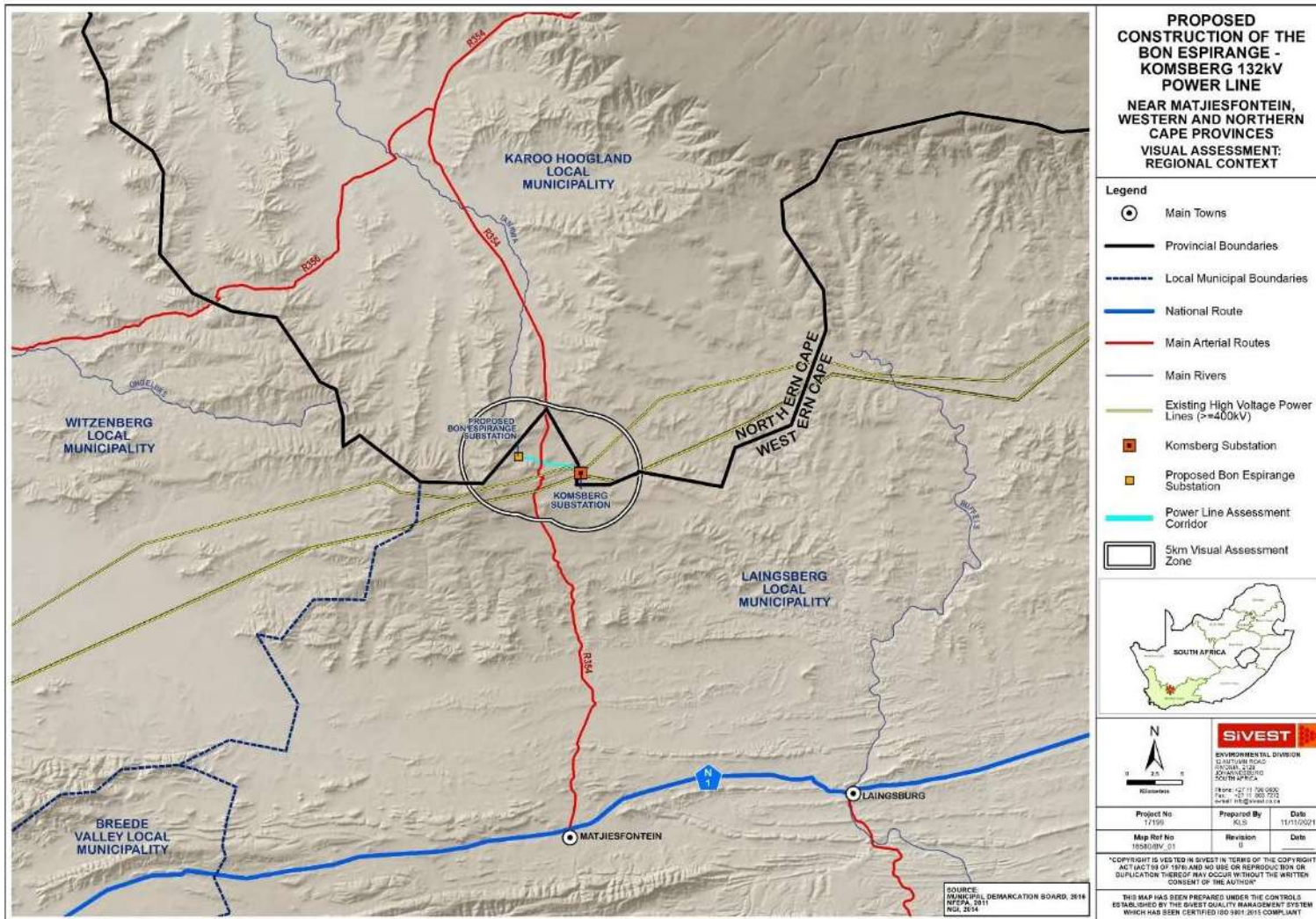
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## 3.1 LOCATION OF THE PROPOSED PROJECT

The proposed project is located approximately 34 km north of Matjiesfontein, originating at the Bon Espirange substation in Ward 2 of the Laingsburg Local Municipality in the Central Karoo District Municipality in the Western Cape Province and ending at the Komsberg substation in Ward 4 of the Karoo Hoogland Local Municipality in the Namakwa District Municipality in the Northern Cape Province (**Figure 3-1** and **Figure 3-2**).







**Figure 3-2: The OHPL in relation to the Laingsburg and Karoo Hoogland Local Municipalities**

The centre point of the OHPL is located at 32°55'35.62"S; 20°33'59.25"E. **Table 3-1** below provides the co-ordinates of the Bon Espirange and Komsberg substations as well as points along the OHPL route.

**Table 3-1: Co-ordinates along the OHPL route**

POINT	CO-ORDINATES	
Bon Espirange substation	32°55'11.28"S	20°32'3.64"E
R354 road crossing	32°55'28.54"S	20°33'22.07"E
Centre point	32°55'35.62"S	20°33'59.25"E
Road crossing	32°55'48.47"S	20°35'19.04"E
Komsberg Substation	32°56'0.70"S	20°35'45.97"E

The proposed Bon Espirange to Komsberg 132kV OHPL is proposed to be located over four (4) properties with four (4) different landowners (**Table 3-2**). The location and layout of the properties on which the OHPL is located as well as the layout of the approved Rietkloof and Brandvalley powerlines is provided in **Figure 3-3**.

In addition to the above, **Figure 3-4** provides the co-ordinates of all the bend points along the proposed OHPL.

**Table 3-2: Farm portions on which the proposed development is located**

<b>FARM NAME AND NUMBER</b>	<b>OWNER</b>	<b>LND USE</b>	<b>INHABITED</b>	<b>COMMENT</b>	<b>21 DIGIT SG CODE</b>	<b>MUNICIPALITY / PROVINCE</b>	<b>FARM SIZE (HA)</b>
Bon Espirange 73/1 (Swartland)	Mr Douglas Caldo	Grazing; Fodder& vegetable seed cropping	Owner + 3 farm worker families	Base farm of multi-farm operation	C0430000000007300001	Laingsburg LM / Central Karoo DM / Western Cape	1867.66
Bon Espirange 73/RE (Bona Esperance)	Mr Piet Conradie	Grazing; Fodder& vegetable seed cropping	Owner + 1 farm worker family	Base farm of multi-farm operation Dwelling temporarily rented out to WEF contractors	C0430000000007300000	Laingsburg LM / Central Karoo DM / Western Cape	1426.23
Aprils Kraal 105	Douglas Caldo	Grazing Fodder	No	No structures	C04300000000010500000	Laingsburg LM / Central Karoo DM / Western Cape	554.49
Komsberg 210/2	Eskom	Komsberg Substation	Owner + farm labourer families	Base farm of multi-farm operation Eskom Komsberg located on subdivided portion of Standvastigheid 210/RE (Saaiplaas)	C07200000000021000000	Karoo Hoogland LM / Namakwa DM / Northern Cape	37.35
<b>Total Area</b>							<b>3 885.73</b>









As indicated in **Table 3-2** both Bona Esperance and Swartland are permanently inhabited, both by their owners and labourers. These properties also serve as base properties for larger farming operations. Relatively small portions of both properties are currently used for cropping of fodder crops and vegetable seed. No structures or cropping areas are located on April's Kraal. The property is used exclusively for grazing. Bona Esperance currently accommodates infrastructure associated with the Roggeveld WEF. Turbines were initially also proposed on Swartland (**Figure 3-5**).



**Figure 3-5:** Farmstead and outbuildings on Swartland seen from entrance road. Note the turbines (Roggeveld WEF) and overhead line (extreme left) feeding from the Roggeveld WEF substation to Eskom Komsberg. The impact is contained to the west and south of the farmstead (source: Tony Barbour, 2021).

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## 3.2 PROJECT INFRASTRUCTURE

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### 3.2.1 OVERHEAD POWERLINE

The OHPL will be a 132kV steel single or double structure with kingbird conductor. The powerline towers will either be steel lattice or monopole structures with a maximum height up to 25m above ground level. **Figure 3-6** below provides an example of a conventional lattice tower compared with a monopole structure. Pole positions will only be available once the powerline design has started. It is anticipated that towers will be located approximately 200m to 250m apart.



**Figure 3-6: Conventional lattice powerline tower compared with a steel monopole structure**

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### **3.2.2 SERVITUDE**

A 200m corridor around the OHPL (100m on either side of the centreline) has been assessed for the purposes of this BAR. The registered servitude will fall within this 200m corridor and will likely be 32m (16 m on either side of the centre line). The length of the OHPL is approximately 6 km, which will result in a servitude area of approximately 19.2 ha.

The servitude is required to ensure safe construction, maintenance and operation of the powerline. Registration of the servitude grants the operator the right to erect, operate and maintain the powerline and to access the land to carry out such activities, but it does not constitute full ownership of the land. It should be noted that the OHPL will be ceded to Eskom post-construction. Construction and operation activities and access to the powerline must be carried out with due respect to the affected landowners. The servitude required for the Project will be registered at the Deeds Office and will form part of the title deed of the relevant properties once the environmental authorisation has been obtained.

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### **3.2.3 SUBSTATIONS**

The Bon Espirange substation has been authorised (DFFE Ref. 14/12/16/3/3/1/1544) and is currently under construction (**Figure 3-7**). An additional busbar and platform will be constructed adjacent to the existing Bon Espirange substation to allow for the connection of the Rietkloof and Brandvalley 132kV powerlines. The Eskom 400kV Komsberg substation is operational (**Figure 3-8**).



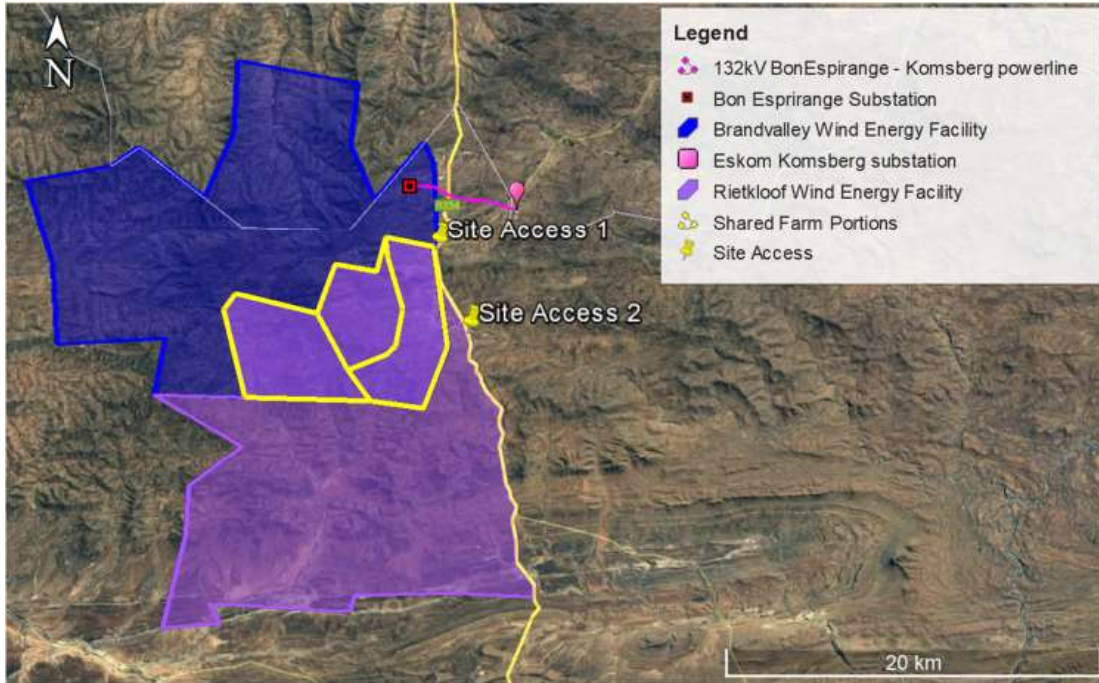
**Figure 3-7: Bon Espirance substation under construction (source: SiVEST, 2021)**



**Figure 3-8: Komsberg substation (source: SiVEST, 2021)**

### 3.2.4 SITE ACCESS

The proposed powerline can be accessed from the Rietkloof and Brandvalley WEF site access points closest to the powerline (**Figure 3-9**). The closest site access roads are the OP08042 and OP08044, which connect to the R354 located at the eastern end of the site. The R354 is a Class 2 minor arterial route running in a north-south direction from Matjiesfontein to the R356 in the Northern Cape. The road is a surfaced single carriageway with one lane per direction (**Figure 3-10**).



**Figure 3-9: Site access points (source: JG Afrika, 2021)**



**Figure 3-10: R354 looking north from near entrance to Swartland and Bona Esperance farms (source: Tony Barbour, 2021)**

Since the access roads are located along existing registered roads, access spacing restrictions are not envisaged. It should be noted that road upgrades may be required along the existing access roads to accommodate expected vehicles.

New access roads or tracks may be required to provide access to sections of the powerline route. Access roads will be approximately 10m in width and will be mostly a two-track gravel road under the OHPL in order to access pylons for construction and maintenance purposes.

## 3.3 PROPOSED PROJECT DEVELOPMENT ACTIVITIES

The typical steps involved in the construction and operation of an OHPL is summarised below:



- Planning Phase
    - Step 1: Surveying of the development area and negotiation with affected landowners; and
    - Step 2: Final design and micro-siting of the infrastructure based on geotechnical, topographical conditions and potential environmental sensitivities.
  - Construction Phase
    - Step 3: Vegetation clearing;
    - Step 4: Assembly and erection of infrastructure on site;
    - Step 5: Stringing of conductors; and
    - Step 6: Rehabilitation of disturbed areas and protection of erosion sensitive areas.
  - Operation Phase
    - Step 7: Continued maintenance during operation.
- 

### **3.3.1 CONSTRUCTION PHASE**

#### **CONSTRUCTION SCHEDULE**

Construction of the OHPL is anticipated to take 3 months.

#### **SITE ESTABLISHMENT AND TRANSPORTATION OF MATERIALS AND EQUIPMENT TO SITE**

The selected Contractor will establish a temporary site camp including, but not be limited to, temporary offices, laydown areas for equipment and materials, storage facilities, ablutions, waste storage and handling area, and parking area. The location and extent of the Contractor's camp, to be established within the Project area, will be undertaken in line with specifications detailed within the EMPr. Materials are to be collected on a daily basis from the contractor laydown area for the construction activities along the servitude. This limits areas to be impacted for storage along the servitude as well as for security purposes when activities cease at the end of each day.

Building materials will most likely be sourced from Worcester approximately 180km from the site or alternatively from Cape Town approximately 300 km from the site. A significant reduction in heavy vehicle trips can be achieved by using mobile batch plants. In addition to this, temporary construction material stockpile yards could be commissioned on vacant land near the proposed site. Delivery of materials to the mobile batch plant and the stockpile yard could be staggered to minimise traffic disruptions.

Components are expected to be locally sourced and transported to site using appropriate National and Provincial routes. It is expected that the components will generally be transported to site with normal heavy load vehicles. Mobile plant required for the installation of the OHPL will be determined by the contractor.

#### **LABOUR REQUIREMENTS**

During site preparation and installation of Project related infrastructure, the selected Contractor working on behalf of the Proponent is anticipated to require 30 people to undertake the required works. Approximately 5% of workers would be highly skilled, 15% medium skilled, and 80% low skilled.

#### **VEGETATION CLEARING**

Due to the nature of the vegetation within the Project area, which is predominantly sparse, low shrubs, limited vegetation clearing will be required. Clearing of vegetation will be limited to pylon areas to facilitate installation of each pylon. Clearing will be done in phases along the OHPL route as required prior to installation activities.

#### **INSTALLATION OF OHPL**

Standard OHPL installation methods will be employed, which entails the drilling of holes (typically 2 to 3m in depth), planting of monopoles (compaction only, no concrete casting) and stringing of the conductors. It is not envisaged that any large excavations and stabilized backfill will be required. However, this will be verified on site once the geotechnical assessment has been undertaken at each monopole position (part of construction works).

As identified in Section 3.2.1, the Project will utilise either steel lattice or monopole structures with a maximum height up to 25m above ground level, which are reported to have a life expectancy of more than 25 years. The

actual height of the pylons will vary based on the site topography to maintain the specified clearance of the transmission lines.

Once the pylons have been installed, the lines will be strung. The Contractor in collaboration with Eskom will be responsible for functional testing and commissioning of the OHPL. This consists of connecting the line from the Bon Espirange substation to the Komsberg substation.

## **EXPANSION OF BON ESPIRANGE SUBSTATION**

An additional busbar and platform will be constructed adjacent to the existing Bon Espirange substation to allow for the connection of the Rietkloof and Brandvalley 132kV powerlines. The area to be cleared will be approximately 2500m<sup>2</sup> in size.

## **DEMOBILISATION**

Upon completion of the installation phase, any temporary infrastructure will be removed, and the affected areas rehabilitated.

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### **3.3.2 OPERATIONAL PHASE**

Eskom will be responsible for managing the operations of the OHPL in line with their internal management systems. Eskom is considered to have the requisite expertise to operate and maintain the transmission line. Eskom will adhere to all existing Safety Codes and Guidelines for the operation and maintenance of the OHPL infrastructure.

During the operational phase, there will be little to no Project-related movement along the servitude as the only activities are limited to maintaining the servitude (including maintenance of access roads and cutting back or pruning of vegetation to ensure that vegetation does not affect the OHPL), inspection of the powerline infrastructure and repairs when required. Inspections are likely to be on an annual basis. Limited impact is expected during operation since there will not be any intrusive work done outside of maintenance in the event that major damage occurs to site infrastructure.

Operation of the OHPL will involve the following activities, discussed below.

## **SERVITUDE MANAGEMENT AND ACCESS ROAD MAINTENANCE**

Servitude and access road maintenance is aimed at eliminating hazards and facilitating continued access to the OHPL. The objective is to prevent all forms of potential interruption of power supply due to overly tall vegetation/climbing plants or establishment of illegal structures within the right servitude. It is also to facilitate ease of access for maintenance activities on the transmission line. During the operational phase of the project, the servitude will be maintained to ensure that the OHPL functions optimally and does not compromise the safety of persons within the vicinity of the line.

## **TRANSMISSION LINE MAINTENANCE AND OPERATIONS**

Eskom will develop comprehensive planned and emergency programmes through its technical operations during the operation and maintenance phase for the OHPL. The maintenance activities will include:

- Eskom's Maintenance Team will carry out periodic physical examination of the OHPL and its safety, security and integrity.
- Defects that are identified will be reported for repair. Such defects may include defective conductors, flashed over insulators, defective dampers, vandalised components, amongst others.
- Maintenance / repairs will then be undertaken.

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### **3.3.3 DECOMMISSIONING PHASE**

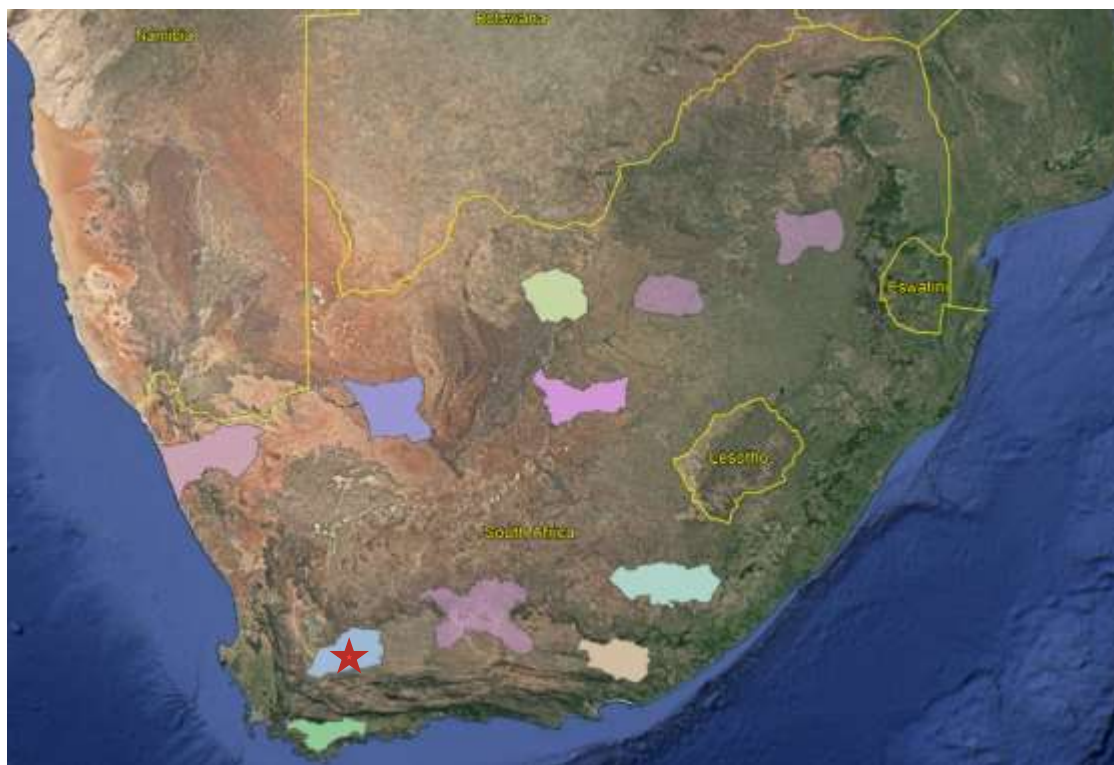
Decommissioning will be considered when the OHPL is regarded obsolete and will be subject to a separate authorisation and impact assessment process. This is not expected to occur in the near future.

## 3.4 NEED AND DESIRABILITY OF THE PROJECT

The DEA&DP Guideline (2013) states that the essential aim of need and desirability is to determine the suitability (i.e. is the activity proposed in the right location for the suggested land-use/activity) and timing (i.e. is it the right time to develop a given activity) of the development. Therefore, need and desirability addresses whether the development is being proposed at the right time and in the right place. Similarly, the 'Best Practicable Environmental Option' (BPEO) as defined in NEMA is “*the option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term.*”

The development of renewable energy and the associated energy infrastructure is strongly supported at a national, provincial, and local level. The development of, and investment in, renewable energy and associated energy distribution infrastructure is supported by the National Development Plan, New Growth Path Framework and National Infrastructure Plan, which all highlight the importance of energy security and investment in energy infrastructure. The development of the proposed powerline is therefore supported by key policy and planning documents and is in line with South Africa's strategic energy planning context.

Furthermore, the proposed OHPL falls within the Komsberg REDZ and the Central Strategic Transmission Corridor per GN 145. Strategic Transmission Corridors support areas where long-term electricity grid infrastructure will be developed. **Figure 3-11** below shows the location of the five corridors and the approximate location of the Bon Espirange to Komsberg 132kV OHPL within the Central Corridor.



**Figure 3-11: Approximate Location (red star) of the Bon Espirange to Komsberg 132kV OHPL within the Komsberg REDZ**

The energy security benefits associated with the proposed Rietkloof and Brandvley WEFs are dependent upon them being able to connect to the national grid via the establishment of grid connection infrastructure. The proposed OHPL is therefore essential supporting infrastructure to the wind energy development, which, once developed, will generate power from renewable energy resources.

The land on which the OHPL will be constructed is located between the Bon Espirange substation and the existing Komsberg substation. The land is all privately owned agricultural land, which is zoned for agriculture. It is not necessary for each of the properties to be rezoned as the land will continue to be used for agriculture. No physical or economic displacement will be required along the proposed route.



Furthermore, negative environmental impacts associated with the activity will be mitigated to acceptable levels in accordance with this EMPr.

# 4 IMPACT ASSESSMENT

A summary of the identified impacts and corresponding significance ratings for the proposed powerline is provided in **Table 4-1** below.

**Table 4-1: Impact Summary**

REF.	IMPACT DESCRIPTION	PHASE	WITHOUT MITIGATION		WITH MITIGATION	
			SIGNIFICANCE	STATUS	SIGNIFICANCE	STATUS
<b>Air Quality</b>	Generation of Dust and PM	Construction	Moderate	(-)	Low	(-)
<b>Noise</b>	Noise Emissions	Construction	Low	(-)	Low	(-)
<b>Geotechnical</b>	Soil Erosion	Construction	Moderate	(-)	Low	(-)
	Soil Erosion	Operation	Low	(-)	Low	(-)
<b>Soils</b>	Soil Contamination	Construction	Moderate	(-)	Low	(-)
	Soil Contamination	Operation	Low	(-)	Low	(-)
<b>Groundwater</b>	Deterioration of Groundwater Quality	Construction	Moderate	(-)	Low	(-)
<b>Freshwater</b>	Vehicular Movement	Construction	Low	(-)	Low	(-)
	Vegetation Removal	Construction	Low	(-)	Low	(-)
	Excavations	Construction	Low	(-)	Low	(-)
	Concrete Mixing and Casting	Construction	Low	(-)	Low	(-)
	Vehicular Movement	Operation	Low	(-)	Low	(-)
<b>Biodiversity</b>	Loss of Indigenous Vegetation	Construction	Moderate	(-)	Low	(-)
	Loss of Flora SCC	Construction	Moderate	(-)	Low	(-)
	Susceptibility to Invasion	Construction	Moderate	(-)	Low	(-)
	Susceptibility to Erosion	Construction	Moderate	(-)	Low	(-)
	Disturbances to Ecological Processes	Construction	Moderate	(-)	Low	(-)

REF.	IMPACT DESCRIPTION	PHASE	WITHOUT MITIGATION		WITH MITIGATION	
			SIGNIFICANCE	STATUS	SIGNIFICANCE	STATUS
	Disturbances to Aquatic and Riparian Habitat and Processes	Construction	Moderate	(-)	Low	(-)
	Loss of Faunal Habitat	Construction	Moderate	(-)	Low	(-)
	Impacts to Faunal Processes	Construction	Moderate	(-)	Low	(-)
	Loss of Faunal SCC	Construction	Low	(-)	Low	(-)
	Loss of Indigenous Vegetation	Operation	Moderate	(-)	Moderate	(-)
	Loss of Flora SCC	Operation	Low	(-)	Low	(-)
	Susceptibility to Invasion	Operation	Low	(-)	Low	(-)
	Susceptibility to Erosion	Operation	Low	(-)	Low	(-)
	Disturbances to Ecological Processes	Operation	Low	(-)	Low	(-)
	Disturbances to Aquatic and Riparian Habitat and Processes	Operation	Low	(-)	Low	(-)
	Loss of Faunal Habitat	Operation	Low	(-)	Low	(-)
	Impacts to Faunal Processes	Operation	Low	(-)	Low	(-)
	Loss of Faunal SCC	Operation	Low	(-)	Low	(-)
	Avifauna	Displacement of Priority Species (Disturbance)	Construction	Moderate	(-)	Low
Displacement of Priority Species (Transformation)		Construction	Moderate	(-)	Low	(-)
Displacement of Priority Species (Transformation)		Operation	Low	(-)	Low	(-)
Collisions		Operation	Moderate	(-)	Moderate	(-)

REF.	IMPACT DESCRIPTION	PHASE	WITHOUT MITIGATION		WITH MITIGATION	
			SIGNIFICANCE	STATUS	SIGNIFICANCE	STATUS
<b>Visual</b>	Visual Disturbance	Construction	Low	(-)	Low	(-)
	Visual Landscape	Operation	Low	(-)	Low	(-)
<b>Waste</b>	Improper Waste Management	Construction	Low	(-)	Low	(-)
<b>Traffic</b>	Increased Local Traffic	Construction	Moderate	(-)	Low	(-)
	Increased Local Traffic	Operation	Low	(-)	Low	(-)
<b>Heritage</b>	Damage to Archaeological Resources	Construction	Low	(-)	Low	(-)
	Damage to Palaeontological Resources	Construction	Moderate	(-)	Low	(-)
<b>Socio-economic</b>	Creation of Employment, Training and Business Opportunities	Construction	Low	(+)	Low	(+)
	Presence of Construction Workers and Impact on Family Structures and Social Networks	Construction	Low	(-)	Low	(-)
	Risk to Safety, Livestock and Farm Infrastructure	Construction	Moderate	(-)	Low	(-)
	Construction Activities and Vehicles	Construction	Low	(-)	Low	(-)
	Veld Fires	Construction	Moderate	(-)	Low	(-)
	Improved Energy Security and Establishment of Infrastructure	Operation	Moderate	(+)	Moderate	(+)
	Creation of Employment Opportunities	Operation	Low	(+)	Low	(+)

REF.	IMPACT DESCRIPTION	PHASE	WITHOUT MITIGATION		WITH MITIGATION	
			SIGNIFICANCE	STATUS	SIGNIFICANCE	STATUS
	Income Generation for Farmers	Operation	Low	(+)	Moderate	(+)
	Sense of Place	Operation	Low	(-)	Low	(-)
	Impacts on Farming Operations During Maintenance	Operation	Moderate	(-)	Low	(-)
<b>Health and Safety</b>	Employee Health & Safety	Construction	Moderate	(-)	Low	(-)
	Employee Health & Safety	Operation	Moderate	(-)	Low	(-)

# 5 ENVIRONMENTAL MANAGEMENT OBJECTIVES

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## 5.1 EMPr OBJECTIVES

The EMPr has the following objectives:

- Encourage good management practices through planning and commitment to environmental issues;
- Minimise disturbance of the natural environment;
- Prevent or minimise all forms of pollution;
- Prevent water wastage;
- Promote the prevention, reduction, reuse, recycling and recovery of waste and develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of waste;
- Adopt the best practical means available to prevent or minimise adverse environmental impacts;
- Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
- Describe all monitoring procedures required to identify impacts on the environment; and
- Train onsite personnel with regard to their environmental obligations.

*Please note: This EMPr is a working document and therefore subject to change depending on the requirements of the various Project phases. When applicable, these changes are to be approved in accordance with legislative requirements.*

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## 5.2 ENVIRONMENTAL OBJECTIVES AND TARGETS

To facilitate compliance with the EMPr, the Proponent must comply with all relevant legislation and standards and make all personnel aware of the requirements of the EMPr, as well as the prescribed penalties should a non-conformance be identified during the different phases of the proposed Project.

It is recommended that environmental objectives (as outlined in this document) be emphasised to the Proponent as minimum requirements. Objectives include:

- Encourage good management practices through planning and commitment to environmental issues; and
- Provide rational and practical environmental guidelines to:
  - Minimise disturbance of the natural environment;
  - Minimise fugitive emissions;
  - Minimise impact of added traffic into the area;
  - Ensure surface and groundwater resource protection;
  - Prevent or minimise all forms of pollution;
  - Protect indigenous flora and fauna;
  - Prevent soil erosion;
  - Promote sustainable use of resources;
  - Adopt the best practical means available to prevent or minimise adverse environmental impacts;
  - Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
  - Promote the reduction, reuse, recycling and recovery of waste;
  - Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of waste;
  - Describe all monitoring procedures required to identify impacts on the environment;

- Define how the management of the environment is reported and performance evaluated; and
- Train onsite personnel with regard to their environmental obligations.



# 6 MANAGEMENT PROCEDURES AND ADMINISTRATIVE REQUIREMENTS

## 6.1 ORGANISATION, STRUCTURE AND RESPONSIBILITY

Formal responsibilities are necessary to ensure that key management measures/procedures are executed. The Proponent will be responsible for the overall control of the project site during the pre-construction, construction, operation, decommissioning and rehabilitation phases of the project. The Proponent's responsibilities will include the following:

- Appointing an independent environmental control officer (ECO) for the duration of the Construction phase and to notify the DFFE of their contact details;
- Being fully familiar with the BA Report, EA conditions and the EMPr;
- Applying for an amendment of the EA from the DFFE as and when required in line with the prevailing legislation;
- The overall implementation of the EMPr;
- Ensuring compliance, by all parties, and the imposition of penalties for noncompliance;
- Implementing corrective and preventive actions, where required;
- Preventing pollution and actions that will harm or may cause harm to the environment;
- Ensuring the activity does not commence within 30 days of the EA being issued;
- Notifying the DFFE within 30 days that construction activity will commence;
- Notifying the DFFE in writing within 24 hours if any condition in the EA cannot be or is not adhered to; and
- Notifying the DFFE 14 days prior to commencement of the operational phase.

Specific roles and responsibilities for the construction phase of this project are as defined in **Table 6-1** below.

**Table 6-1: Roles and Responsibilities- Construction**

RESPONSIBLE PERSON	RESPONSIBILITIES
<b>Proponent / Holder of the EA</b>	<ul style="list-style-type: none"> <li>– The Proponent (holder of the EA) shall take overall responsibility for the adherence to the EMPr and EA conditions.</li> </ul>
<b>Project Manager</b>	<ul style="list-style-type: none"> <li>– Ensure the Proponent and the contractor(s) are aware of all specifications, legal constraints pertaining to the project specifically with regards to the environment;</li> <li>– Ensure that all stipulations within the EMPr and conditions of the environmental authorisation are communicated and adhered to by the Proponent and its contractor(s);</li> <li>– Monitor the implementation of the EMPr and conditions of the environmental authorisation throughout the project by means of site inspections and meetings. This will be documented as part of the site meeting minutes; and</li> <li>– Be fully conversant with the BAR for the project, the conditions of EA and all relevant environmental legislation.</li> </ul>
<b>Site Manager</b>	<ul style="list-style-type: none"> <li>– Be fully conversant with the BAR, the conditions of EA and the EMPr;</li> <li>– Approve method statements (co-approval with ECO);</li> <li>– Provide support to the ECO;</li> <li>– Be fully conversant with all relevant environmental legislation and ensure compliance thereof;</li> <li>– Be responsible for the implementation of the EMPr and conditions of the EA;</li> </ul>

RESPONSIBLE PERSON	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>- Ensure that audits are conducted to ensure compliance to the EMPr and conditions of the EA;</li> <li>- Liaise with the Project Manager or his delegate, the ECO and others on matters concerning the environment;</li> <li>- Prevent actions that will harm or may cause harm to the environment, and take steps to prevent pollution and unnecessary degradation onsite; and</li> <li>- Confine construction activities to demarcated areas.</li> </ul>
<b>Environmental Officer (EO)</b>	<ul style="list-style-type: none"> <li>- The EO must be appointed by the Contractor/ Project Manager and is responsible for managing the day-to-day onsite implementation of the EMPr, and for the compilation of weekly environmental monitoring reports. In addition, the EO must act as liaison and advisor on all environmental and related issues, seek advice from the ECO when necessary, and ensure that any complaints received from I&amp;APs are duly processed and addressed and that conflicts are resolved in an acceptable manner and timely manner. The EO shall be a full-time dedicated member of the Contractor's team and must be approved by the Proponent.</li> <li>- The following qualifications, qualities and experience are recommended for the individual appointed as the EO: <ul style="list-style-type: none"> <li>- A relevant environmental diploma or degree in natural sciences, as well as experience in construction site monitoring, excluding health and safety;</li> <li>- A level-headed and firm person with above-average communication and negotiating skills. The ability to handle and address conflict management situations will be an advantage; and</li> <li>- Relevant experience in environmental site management and EMPr compliance monitoring.</li> </ul> </li> <li>- The EO's responsibilities include: <ul style="list-style-type: none"> <li>- Monitoring, on a daily basis, environmental specifications on site and compliance with the conditions of the EA, environmental legislation and EMPr;</li> <li>- Keeping a register of compliance / non-compliance with the environmental specifications;</li> <li>- Identifying and assessing previously unforeseen, actual or potential impacts on the environment;</li> <li>- Ensuring that a brief weekly environmental monitoring report is submitted to the ECO;</li> <li>- Conducting site inspections during the defect's liability period, and bringing any environmental concerns to the attention of the ECO and Contractor;</li> <li>- Advising the Contractor on the rectification of any pollution, contamination or damage to the construction site, rights of way and adjacent land;</li> <li>- Attending site meetings (scheduled and ad hoc);</li> <li>- Presenting the environmental awareness training course to all staff, Contractors and Sub contractors, and monitoring the environmental awareness training for all new personnel on-site, as undertaken by the Contractor;</li> <li>- Ensuring that a copy of the EA and the latest version of the EMPr are available on site at all times;</li> <li>- Ensuring that the Contractor is made aware of all applicable changes to the EMPr;</li> <li>- Assisting the Contractor in drafting environmental method statements and/or the Environmental Policy where such knowledge/expertise is lacking;</li> <li>- Undertaking daily environmental monitoring to ensure the Contractor's activities do not impact upon the receiving environment. Such monitoring shall include dust, noise and water monitoring; and</li> <li>- Maintaining the following on site: <ul style="list-style-type: none"> <li>▪ A weekly site diary.</li> </ul> </li> </ul> </li> </ul>

RESPONSIBLE PERSON	RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>▪ A non-conformance register (NCR).</li> <li>▪ An I&amp;AP communications register, and</li> <li>▪ A register of audits.</li> </ul> <p>– The EO will remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is handed over to the Holder of the EA.</p>
<b>ECO</b>	<p>– A suitably qualified ECO must be appointed by the Holder of the EA to monitor the project compliance with the EMPr and conditions of the EA on a monthly basis. The costs of the ECO shall be borne by the Holder of the EA (proof of appointment must be maintained onsite).</p> <p>– Responsibilities of the ECO include:</p> <ul style="list-style-type: none"> <li>– Be fully conversant with the BAR, the conditions of EA and the EMPr;</li> <li>– Be fully conversant with all relevant environmental legislation and ensure compliance thereof;</li> <li>– Approve method statements (co-approval with Site Manager);</li> <li>– Remain employed until the completion of the construction activities; and</li> <li>– Report to the Project Manager, including all findings identified onsite.</li> </ul> <p>– In addition, the ECO will:</p> <ul style="list-style-type: none"> <li>– Undertake monthly inspections of the site and surrounding areas to audit compliance with the EMPr and conditions of the environmental authorisation;</li> <li>– Take appropriate action if the specifications contained in the EMPr and conditions of the environmental authorisation are not followed;</li> <li>– Monitor and verify that environmental impacts are kept to a minimum, as far as possible; and</li> <li>– Ensure that activities onsite comply with all relevant environmental legislation.</li> </ul>
<b>Contractors, Staff and Service Providers</b>	<ul style="list-style-type: none"> <li>– Complying with the Holder of the EA’s environmental management specifications;</li> <li>– Be conversant with all EMPr and conditions of the EA, and ensure compliance thereto; and</li> <li>– Adhering to any environmental instructions issued by the Site Manager/Project Manager on the advice of the ECO.</li> </ul>

**Refer to: Table 1 (Part A, Section 3) of the Generic EMPr for the development of overhead transmission and distribution infrastructure, attached as Appendix D and Table 1 (Part A, Section 3) of the Generic EMPr for the development and expansion of substation infrastructure for the transmission and distribution of electricity, attached as Appendix E.**

## 6.2 ENVIRONMENTAL AWARENESS PLAN

Legislation (NEMA) requires that the Proponent develop an environmental awareness plan that describes the manner in which they intend to inform employees of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment. In recognition of the need to protect our environment, environmental management should not only be a legal obligation but also as a moral obligation.

It is important to ensure that all relevant personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental degradation and harm.

To achieve effective environmental management, it is important that employees, contractors (including subcontractors) are aware of the responsibilities in terms of the relevant environmental legislation and the contents of the EMPr, conditions of the EA.

The proponent will provide appropriate resources to facilitate social and environmental awareness training during the construction, operational and decommissioning phases of the project. The Proponent will require that all managers associated with the project adhere to the mitigation/management measures detailed in the EMPr and identify, evaluate, and minimise risks to the social, physical and biophysical environments. This will be implemented by educating employees in social and environmental matters and responsibilities relating to performance of their assigned tasks. Furthermore, employees will be entrusted to maintain the necessary level of environmental performance for their activities. Contractors, and their associated sub-contractors, will also need to demonstrate compliance to mitigation/ management measures included in the EMPr.

The following methodology described below in **Sections 6.2.1** will be used to implement and ensure environmental and social awareness and competence:

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## **6.2.1 INTERNAL COMMUNICATION**

Internal communication of environmental and social issues to ensure environmental awareness will be achieved by using any combination of the following means:

- Meetings;
- Memos;
- Notice boards;
- Briefs;
- Reports;
- Monthly themes;
- Daily operational bulletins;
- Newsletters;
- E-mail;
- Telephone; and
- Induction training.

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### **STANDARD MEETINGS**

The following standard meetings will be held at specific times to ensure that environmental and social awareness; potential problems; complaints etc. are heard and addressed proactively:

- Safety, Health and Environmental Meetings will be held monthly by the Senior Management;
- Safety, Health and Environmental Meetings will be held weekly (during construction) and monthly (during operation) by the relevant personnel, environmental and social issues will form part of the agenda; and
- Communication between all personnel and Senior Management will be facilitated through the appropriate reporting lines, or by using complaint and incident forms.

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### **ENVIRONMENTAL AND SOCIAL TALK TOPICS**

Monthly environmental and social talk topics will be compiled and distributed to relevant personnel and will be displayed on appropriate notice boards. As a minimum, the following topics must be covered:

- Water Quality;
- Water Use and Consumption;
- Air Quality i.e. dust;
- Power Consumption and Energy Efficiency;
- Waste Management;
- Fauna and Flora;

- Emergency Procedures;
  - Incidents Reporting;
  - Systems;
  - Noise;
  - Heritage Impacts;
  - Landowner Etiquette; Speed Limits;
  - Health Risks (such as HIV/ Aids); and
  - General Awareness (e.g. World Environment Day, National Arbour Day).
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### GENERAL COMMUNICATIONS

Communication to the community, government, landowners, neighbouring farmers, environmental groups, non-government organisations and other stakeholders will be communicated to ensure environmental and social awareness by means of the following, as undertaken during this BA process:

- Fax or E-mail;
  - Telephone;
  - Formal meetings; and
  - Open days.
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### TRAINING

It is important to ensure that all personnel, contractors and their sub-contractors have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and on-going minimisation of environmental harm. As a minimum environmental training must include the following:

- Employees must have a basic understanding of the key environmental features of the site and the surrounding environment;
- Employees will be thoroughly familiar with the requirements of the EMPr and the environmental specifications as they apply to the project;
- Employees must undergo training for the operation and maintenance activities associated with project and have a basic knowledge of the potential environmental impacts that could occur and how they can be minimised and mitigated;
- Awareness of any other environmental matters, which are deemed to be necessary by the Environmental Officer; and
- Training must include the environment, health and safety as well as basic HIV/AIDS education.

The following facets of the training form part of this Environmental and Social Awareness Plan:

- **Induction:** Environmental and social awareness training will be given at induction when personnel join the company and/or return from leave. Induction training will also be given to visitors entering the site. induction training will include, *inter alia*:
  - A discussion on the environmental concept, what does it comprise of and how do we interact with it;
  - A description on the components and phase of the specific renewable power generation facility;
  - A general account of how the facility and its associated activities can affect the environment giving rise to what are called environmental impacts; and
  - A discussion on what staff can do in order to help prevent the negative environmental impacts from degrading the environment i.e. environmental impact management.
- **Job Specific Training:** Job specific training programmes will be developed as and when required. The programs will be based on the significant environmental and social aspects/ impacts that are identified during regular audits and site inspections. Supervisory staff will be equipped with the necessary knowledge and information to guide their employees on environmental and social aspects applicable to performing a specific task.

- **Competency Training:** The Environmental Officer will be responsible for the environmental and social competency and awareness training of Middle Management and supervisors. This training will be performed both on a one-on-one basis and through workshops and presentations. Competence and the effectiveness of training and development initiatives will be determined through the following methods:
  - Trend analysis of incidents reported; and
  - Analysis of work areas during visits and audits.
- The process to declare competency of personnel is documented in the ISO9001:2000 procedure. This plan will be amended periodically considering operational changes, learning experienced during its implementation and other activities that can affect the risk profiles.
- **Training Records:** Training can be done either in a written or verbal format but will be in an appropriate format for the receiving audience. Persons having received training must indicate in writing that they have indeed attended a training session and have been notified in detail of the contents and requirements of the EMPr. The attendance registers must be kept on file.

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## 6.3 ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

To ensure accountable and demonstrated implementation of the EMPr, a number of reporting systems, documentation controls and compliance mechanisms must be in place. **Table 6-2** indicates the minimum requirements as set out in the generic EMPrs for the development of overhead transmission and distribution infrastructure and for the development and expansion of substation infrastructure for the transmission and distribution of electricity.

**Table 6-2: Documentation Reporting and Compliance Requirements as per the generic EMPrs**

ASPECT	REFER TO GENERIC EMPr (PART A)
Document control/Filing system	Section 4.1
Documentation to be available	Section 4.2
Weekly Environmental Checklist	Section 4.3
Environmental site meetings	Section 4.4
Required Method Statements	Section 4.5
Environmental Incident Log (Diary)	Section 4.6
Non-compliance	Section 4.7
Corrective action records	Section 4.8
Photographic record	Section 4.9
Complaints register	Section 4.10
Claims for damages	Section 4.11
Interactions with affected parties	Section 4.12
Environmental audits	Section 4.13
Final environmental audits	Section 4.14



**Refer to: Part A, Section 4 of the Generic EMPr for the development of overhead transmission and distribution infrastructure, attached as Appendix D and Part A, Section 4 of the Generic EMPr for the development and expansion of substation infrastructure for the transmission and distribution of electricity, attached as Appendix E.**

# 7 ENVIRONMENTAL CONTROLS

The Environmental Controls are presented in two sections, firstly the general environmental attributes as per the pre-approved generic EMPs, followed by site specific environmental attributes.

## 7.1 GENERAL CONTROL MEASURES

This section refers to construction related activities that are common to most power line projects as defined within the pre-approved generic EMPs. For each activity, a set of prescribed environmental controls and associated management actions have been identified. Contractors shall implement these controls as a minimum requirement for mitigating the impact of particular construction related activities.

These control measures are defined within Part B: Section 1 of the pre-approved generic EMPs (attached as **Appendix D** and **Appendix E**). The format of a general environmental control is shown below, see **Table 7-1**. The boxes shaded in green are predefined and represent minimum standards for the management of that particular aspect. The Contractor will be required to adhere to all impact management actions (where applicable to the construction related activity) for the Project. The boxes shaded in red assign responsibility for the implementation and monitoring of the impact management actions. This implementation and monitoring information is project specific and shall be completed by the Contractor prior to commencement of construction.

**Table 7-1: Format of a general environmental control illustrating aspects which are predefined versus those which still need to be completed by the contractor**

<b>Management Objective:</b>	Predefined as part of Generic EMP					
<b>Management Outcome:</b>	Predefined as part of Generic EMP					
<b>Impact Management Actions</b>	<b>Implementation</b>			<b>Monitoring</b>		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
Predefined as part of Generic EMP	To be completed by Contractor	To be completed by Contractor	To be completed by Contractor	To be completed by Contractor	To be completed by Contractor	To be completed by Contractor

The completed template must be signed and dated on each page by both the contractor and the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template. Each method statement must also be duly signed and dated on each page by the contractor and the holder of the EA. This template, once signed and dated, is legally binding. The holder of the EA will remain responsible for its implementation.

The construction related activities addressed within Part B: Section 1 of the pre-approved generic EMPs are as follows:

**Table 7-2: Activities and management measures as per generic EMP (Part B: Section 1)**

ACTIVITY	REFER TO GENERIC EMP FOR THE DEVELOPMENT OF OVERHEAD TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE, ATTACHED AS APPENDIX D (PART B: SECTION 1)	REFER TO GENERIC EMP FOR THE DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE, ATTACHED AS APPENDIX E (PART B: SECTION 1)
Environmental awareness training	5.1	5.1
Site Establishment development	5.2	5.2

<b>ACTIVITY</b>	<b>REFER TO GENERIC EMPR FOR THE DEVELOPMENT OF OVERHEAD TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE, ATTACHED AS APPENDIX D (PART B: SECTION 1)</b>	<b>REFER TO GENERIC EMPR FOR THE DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE, ATTACHED AS APPENDIX E (PART B: SECTION 1)</b>
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Access restricted areas	5.3	5.3
Access roads	5.4	5.4
Fencing and Gate installation	5.5	5.5
Water Supply Management	5.6	5.6
Storm and wastewater management	5.7	5.7
Solid and hazardous waste management	5.8	5.8
Protection of watercourses and estuaries	5.9	5.9
Vegetation clearing	5.10	5.10
Protection of fauna	5.11	5.11
Protection of heritage resources	5.12	5.12
Safety of the public	5.13	5.13
Sanitation	5.14	5.14
Prevention of disease	5.15	5.15
Emergency procedures	5.16	5.16
Hazardous substances	5.17	5.17
Workshop, equipment maintenance and storage	5.18	5.18
Batching plants	5.19	5.19
Dust emissions	5.20	5.20
Blasting	5.21	5.21
Noise	5.22	5.22
Fire prevention	5.23	5.23
Stockpiling and stockpile areas	5.24	5.24
Finalising tower positions	5.25	
Civil works		5.25
Excavation (and Installation) of foundations	5.26	5.26

ACTIVITY	REFER TO GENERIC EMPr FOR THE DEVELOPMENT OF OVERHEAD TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE, ATTACHED AS APPENDIX D (PART B: SECTION 1)	REFER TO GENERIC EMPr FOR THE DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE, ATTACHED AS APPENDIX E (PART B: SECTION 1)
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Installation of foundations, cable trenching and drainage systems		5.27
Assembly and erecting towers	5.27	
Installation of equipment (circuit breakers, current Transformers, Isolators, Insulators, surge arresters, voltage transformers, earth switches)		5.28
Stringing (and cabling)	5.28	5.30
Testing and Commissioning (all equipment testing, earthing system, system integration)		5.31
Socio-economic	5.29	5.32
Temporary closure of site	5.30	5.33
Dismantling of old equipment		5.34
Landscaping and rehabilitation	5.31	5.35

**Refer to: Part B – Section 1 of the Generic EMPr for the development of overhead transmission and distribution infrastructure, attached as Appendix D and Part B – Section 1 of the Generic EMPr for the development and expansion of substation infrastructure for the transmission and distribution of electricity, attached as Appendix E.**

## 7.2 SITE SPECIFIC CONTROL MEASURES

This section refers to site specific actions or mitigation measures related to the Project and are based on findings from the BA Report and associated specialist studies.

This section identifies various actions which are undertaken throughout the construction and operational phases. Not every action will be required during the entire course of activities. Therefore, the actions identified herein have been given priority timeframes for proposed implementation. **Table 7-3** below shows the structure of the site-specific EMPr.

**Table 7-3: Structure of EMPr**

COLUMN	DESCRIPTION
Activity/Aspect	Highlights the various activities/aspects associated with the project i.e. the contractors' activities that will interact with the environment.
Environmental Measures and Action Plans	Indicates the actions required to prevent and /or minimise the potential impacts on the environment that are associated with the project.

<b>Responsibility</b>	Indicates the party responsible for implementing the environmental measures and action plans laid out in the EMPr. Please note that the Site Manager will have authority to stop works if/as necessary.
<b>Priority Timeframe</b>	Indicates when the actions for the specific aspect must be implemented and/or monitored.

The following assumptions have been made in the development of the environmental specification in this site specific EMPr:

- An environmental file containing the information/documentation required by this site specific EMPr is to remain onsite and to be made available at the request of the auditor or similar monitoring body; and
- For ease of reference, any person(s) employed to assist in the Project (i.e. contractors, sub-contractor and permanent and temporary staff) will be collectively referred to as ‘onsite personnel’.

It should be noted that at this point of the Project planning process, the necessity for and timing of the decommissioning phase is unknown. Before decommissioning, the holder of the EA will need to follow the related legal permitting process in terms of NEMA and other legislation applicable at the time. The future associated permitting process will further supplement any commitments made within this document.

**Table 7-4** outlines the site specific EMPr for the proposed Project.

**Table 7-4: Environmental Management Programme**

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
<b>1. CONTRACTOR LAYDOWN AREA AND SITE ACCESS</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To implement measures to minimise impacts on the environment from the initiation of construction activities through planning, careful site access route selection and implementation of mitigation measures.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Close-out on incidents.</li> <li>– Monitoring and audit reports.</li> <li>– Inductions training and register.</li> <li>– Environmental awareness programme/toolbox talks.</li> </ul>			
a) Project Initiation of Construction Activities	i) Prior to commencement of onsite activities - an ECO is to be appointed as an independent quality controller and monitoring agent to manage and verify compliance with the EA and EMPr.	dPM / Contractor	Once-Off
	ii) Ensure construction activities remain within the demarcated project footprint.	Contractor / cEO	Construction
	iii) Any no-go areas identified must be demarcated before construction commences. This includes all wetlands and any sensitive areas such as heritage sites or sensitive plant species, unless a permit is obtained.	dEO & ECO (monitor)	
	iv) Contractor laydown areas, vehicle re-fuelling areas and material storage facilities are to remain outside of the watercourses and their associated 32m NEMA Zone of Regulation (ZoR) as well as any sensitive areas.		
	v) All personnel and contractors to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Discussions are required on sensitive environmental receptors within the project area to inform contractors and site staff of the presence of Red / Orange List species, their identification, conservation status and importance, biology, habitat requirements and management requirements the EA and within the EMPr.	ECO (initial training) cEO (continued training) dEO & ECO (monitor)	Construction Operation
	vi) Site clearing must be limited to the footprint of the infrastructure requirements.	Contractor / cEO dEO & ECO (monitor)	Construction



ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	vii) Locate adequate firefighting equipment, such as fire extinguishers, at laydown areas and with vehicles and make all personnel aware of fire prevention and firefighting measures. Firefighting equipment must be securely placed and inspected monthly.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
<b>2. VEHICLE, EQUIPMENT AND MACHINERY MANAGEMENT</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To implement measures to minimise impacts on the environment from poorly maintained equipment, machinery and vehicles onsite.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Vehicle and Equipment maintenance programme</li> <li>– Visual inspection of equipment/plant storage areas and active site area, signage, spill kits, etc. (photographic records)</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Close-out on incidents.</li> <li>– Monitoring and audit reports.</li> <li>– Transport route delineation.</li> <li>– Compliance with SANS 10228.</li> <li>– Daily equipment, machinery and vehicle checklists.</li> <li>– Equipment, machinery and vehicle service records.</li> <li>– Incident Classification and Reporting Procedure.</li> </ul>			
a) Maintenance of Equipment, Machinery and Vehicles	i) Only minor emergency repair / maintenance work may be undertaken on machinery onsite or within the site camp area.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) All construction vehicles, plant, machinery, and equipment must be checked daily to ensure hydrocarbon leaks (including fuel and hydraulic fluids) are not occurring. Leaking equipment must be repaired immediately or be removed from site to facilitate repair.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iii) All construction vehicles, plant, machinery and equipment must be regularly maintained, in line with a maintenance schedule, to prevent leaks, ensure roadworthiness, and reduce emissions.	Contractor / cEO dEO & ECO (monitor)	Construction Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
b) Traffic Congestion	i) The movement of vehicles into and out of the site, as well as transporting of equipment / materials to and from site, must be undertaken in line with the approved Contractors Method Statement; to ensure the impact on public areas is minimised, such as ensuring that abnormal loads are moved outside of peak traffic hours, and reasonable measures are taken to ensure that public and staff safety is managed adequately.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
c) Site Access	i) When the powerline is spun between pylons, and when maintenance is undertaken, no vehicles may indiscriminately drive through the watercourses. Dedicated access roads must be used.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
<b>3. FUEL AND CHEMICAL MANAGEMENT</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To ensure the correct storage, handling and disposal of fuels and chemicals in order to prevent impacts to the surrounding environment.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Maintenance records.</li> <li>– Material safety data sheets (MSDS).</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Chemicals Management Procedure.</li> <li>– Monitoring and audit reports.</li> <li>– Training records.</li> </ul>			
a) Fuel and Chemical Management	i) A spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) Securely fence and lock the storage areas to accommodate all hazardous substances such as fuel, oils, and chemicals. The storage area must be roofed, and the floor must be an impermeable surface and suitably bunded as per the requirements outlined in SANS 10089-1 (2008). If storage capacity triggers licensing, required licences must be acquired.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iii) Label all liquids (chemicals and hydrocarbons) stored onsite for easy identification. Material Safety Data Sheets (MSDS) for onsite chemicals, hydrocarbon materials and hazardous substances must be readily available. MSDS must include mitigation	Contractor / cEO dEO & ECO (monitor)	Construction Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	measures to ameliorate potential environmental impacts which may result from a spill, incorporating health and safety mitigation measures.		
	iv) Keep fuels, oils or other chemicals used outside of the bunded area to a minimum and use suitable secondary containment in the form of drip trays.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	v) Wooden poles should be pre-treated at an appropriate facility to ensure chemical fixation and prevent leaching, and to impede the formation of surface residues within the servitude.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
b) Health and Safety	i) Display “no smoking” and “no naked flame” signs in and around the project area, as well as near the hazardous material store.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) Adequate fire-fighting equipment must be made available at all hazardous storage areas.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
<b>4. TRAFFIC MANAGEMENT</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To ensure that the trips generated by the construction and operational activities associated with the proposed facility are mitigated as far as possible to: <ul style="list-style-type: none"> <li>▪ Reduce the traffic impact on the surrounding road network;</li> <li>▪ Reduce potential conflicts that may results from the development traffic and the general traffic/public; and</li> <li>▪ To identify potential routes for vehicles travelling to the site, particularly heavy and abnormal load vehicles.</li> </ul> </li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Induction training and records.</li> <li>– Relevant SANS Codes of Practice.</li> <li>– Incident Classification and Reporting Management Procedure.</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Monitoring and audit reports.</li> </ul>			

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
a) Traffic management	i) The delivery of components to the site can be staggered and trips can be scheduled to occur outside of peak traffic periods.	Contractor / cEO dEO & ECO (monitor)	Construction
	ii) Dust suppression of gravel roads during the construction phase, as required.	Contractor / cEO dEO & ECO (monitor)	Construction
	iii) Regular maintenance of gravel roads is required by the Contractor during the construction phase and by the Owner/Facility Manager during the operational phase.	Contractor / cEO dEO & ECO (monitor)	Construction
	iv) The use of mobile batch plants and quarries near the site would decrease traffic on the surrounding road network.	Contractor / cEO dEO & ECO (monitor)	Construction
	v) Staff and general trips should occur outside of peak traffic periods as far as possible	Contractor / cEO dEO & ECO (monitor)	Construction
	vi) Consider scheduling shift changes to occur during off peak hours.	Contractor / cEO dEO & ECO (monitor)	Operation
	vii) Regular maintenance of gravel roads by the Contractor during the construction phase and by the Owner/Facility Manager during the operational phase.	Contractor / cEO dEO & ECO (monitor)	Operation

## 5. WASTE MANAGEMENT

### **Objectives:**

- To ensure the correct handling, storage, transportation and disposal of general waste and hazardous waste.

### **Indicator and Compliance Mechanisms:**

- Induction training and records.
- Waste Management Plan (WMP).
- Relevant SANS Codes of Practice.

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
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<ul style="list-style-type: none"> <li>– Waste Manifests (all waste streams), waybills (general waste) and Safety disposal certificates (hazardous waste).</li> <li>– Emergency preparedness and response procedure.</li> <li>– Incident Classification and Reporting Management Procedure.</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) General Waste Management	i) General waste generated as a result of construction activities must be managed in accordance with a WMP (see Section 8.1 of this EMP). The procedure must be reviewed to ensure compliance with legislative amendments.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) Train and inform all onsite personnel regarding general waste minimisation, management, and disposal as per the WMP.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iii) Prohibit littering and burning of waste onsite.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iv) Place an adequate number of labelled or colour coded general waste bins around the laydown area and at the construction sites during construction activities in order to minimise littering. The bins must be removed from the site on a regular basis for disposal at a registered or licensed disposal facility.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	v) Refuse bins will be emptied when full and storage of domestic waste shall be in covered waste skips.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	vi) Retain records such as waybills and waste manifests associated with waste removal, transportation and disposal.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	vii) A minimum of one toilet must be provided per 10 persons.	Contractor / cEO dEO & ECO (monitor)	Construction Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	viii) Prohibit the mixing of general waste with hazardous waste. Should general waste be mixed with hazardous waste, it will be considered hazardous waste. See below for managing hazardous waste.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ix) Recover, recycle and reuse waste where possible. Seek to use suppliers who reuse their packaging so that they can collect after initial unpacking onsite.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	x) It is recommended that all waste be removed from site immediately to prevent rodents and pests entering the site.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	xi) No dumping of litter, rubble or cleared vegetation on site should be allowed. As such it is advised vegetation cuttings (especially AIP) to be carefully collected and disposed of at a separate waste facility.	Contractor / cEO dEO & ECO (monitor)	Construction
b) Hazardous Waste Management	i) Adequate sanitary facilities and ablutions (a minimum of one toilet per 10 persons) must be provided for all personnel throughout the Project area. Use of these facilities must be enforced (these facilities must be kept clean so that they are a desired alternative to the surrounding vegetation).	Contractor / cEO dEO & ECO (monitor)	Construction
	ii) Any recyclable material which is considered hazardous is to be collected and transferred by a permitted/trained waste contractor in accordance with the SANS 10228 for transport to the approved recycling/recovery facility.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iii) Train and inform all onsite personnel regarding hazardous waste minimisation, management and disposal as per the WMP in Section 8.1 of this EMP.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iv) Clean areas where hazardous waste spills have occurred and dispose of the hazardous material appropriately. Key personnel must be trained on handling spillages.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	v) Retain records of appropriate safety disposal certificates associated with hazardous waste removal, transportation and disposal.	Contractor / cEO dEO & ECO (monitor)	Construction Operation



ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	vi) The emergency preparedness and response plan (Section 8.6 of this EMP or the site specific one developed) must be implemented. The plan must be placed in key locations around the site, visible to all employees.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	vii) Ensure that waste manifest documentation (as per the Waste Classification and Management Regulations – GNR 634) is prepared and maintained for the generation, transportation and disposal of waste.	Contractor / cEO dEO & ECO (monitor)	Construction
	viii) Report any major spill incidents to the Department within 24 hours of occurrence.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
<b>6. FRESHWATER MANAGEMENT</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To protect the integrity and ecological functioning and prevent pollution of freshwater sources in the vicinity of the project.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Induction training and records.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) Vehicular Movement	i) The proposed powerline support structures must be located outside of the watercourses and at least 32 m (as far as possible/feasible) from the delineated edge of a watercourses	dPM Contractor / cEO dEO & ECO (monitor)	Construction
	ii) It is imperative that all construction works (with specific mention of upgrading any road crossings) be undertaken during the driest period of the year when the flow is very low in the watercourses;	Contractor / cEO dEO & ECO (monitor)	Construction
	iii) Due to the accessibility of the sites, limit the crossings of watercourse where possible. Use must be made of existing watercourse crossing to access the project sites where possible. This will limit edge effects, erosion and sedimentation of the watercourses during the construction phase	Contractor / cEO dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	iv) Contractor laydown areas, vehicle re-fuelling areas and material storage facilities to remain outside of the watercourses and their associated 32 m NEMA Zone of Regulation (ZoR);	Contractor / cEO dEO & ECO (monitor)	Construction
	v) Removed vegetation must be stockpiled outside of the delineated boundary of the watercourse, if possible. Should it not be possible, the removed vegetation may be stockpiled in the watercourse, for the duration of the construction period. The footprint areas and height of these stockpiles should be kept to a minimum. Should the vegetation not be suitable for reinstatement after the construction phase or be alien/invasive vegetation species, all material must be disposed of at a registered garden refuse site and may not be burned or mulched on site.	Contractor / cEO dEO & ECO (monitor)	Construction
	vi) Maintenance vehicles must make use of dedicated access roads and no indiscriminate movement in the watercourses may be permitted;	Contractor / cEO dEO & ECO (monitor)	Operation
	vii) During periodic maintenance activities of the powerline and substation, monitoring for erosion should be undertaken;	Contractor / cEO dEO & ECO (monitor)	Operation
	viii) Should erosion be noted at the base of the support structure that may potentially impact on a watercourse in the surrounding area, the area must be rehabilitated by infilling the erosion gully and revegetation thereof with suitable indigenous vegetation; and	Contractor / cEO dEO & ECO (monitor)	Operation
	ix) Monitoring for the establishment for alien and invasive vegetation species must be undertaken, specifically for access roads through or along the watercourses used to service the powerline and substation. Should alien and invasive plant species be identified, they must be removed and disposed of as per an alien and invasive species control plan and the area must be revegetated with suitable indigenous vegetation.	Contractor / cEO dEO & ECO (monitor)	Operation
b) Excavations	c) Excavation of pits for the support structures foundation and the foundation of the substation may result in loose sediments within the landscape, specifically if works are taken during a period of rainfall (if applicable). As such, sediment traps should also be installed downstream/downgradient of the construction area, with specific mention of substation Option 2 (should it be constructed). Sediment traps can be created by pegging an appropriate geotextile across the entire width of the work area at the specified support	Contractor / cEO dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	tower, held down by cobbles/boulders or by geotextile wrapped hay bales spanning the width of the work area and staked into position;		
	d) During excavation activities, soil must be stockpiled upgradient of the excavated area. Mixture of the lower and upper layers of the excavated soil should be kept to a minimum. This soil must be used to backfill the pits (support structures), immediately after installation of the support structures and/or other infrastructure;	Contractor / cEO dEO & ECO (monitor)	Construction
	e) Material used as bedding material (at the bottom of the excavated pit) should be stockpiled outside of the 32m NEMA ZoR and as close as possible to the support structures footprint area. Once the pit has been excavated, the bedding material should directly be placed within the pit, rather than stockpiling it alongside the pit;	Contractor / cEO dEO & ECO (monitor) Contractor / cEO dEO & ECO (monitor)	Construction
	i) When the powerline is strung between the support structures and during final construction of the substation, no vehicles may indiscriminately drive through the watercourses, use must be made of the dedicated access roads.	Contractor / cEO dEO & ECO (monitor)	Construction
	f) Concrete Mixing and casting	i) No mixed concrete may be deposited outside of the designated construction footprint;	Contractor / cEO dEO & ECO (monitor)
ii) As far as possible, concrete mixing should be restricted to the batching plant. Additionally, batter / dagga board mixing trays and impermeable sumps should be provided, onto which any mixed concrete can be deposited while it awaits placing.		Contractor / cEO dEO & ECO (monitor)	Construction
iii) Concrete spilled outside of the demarcated area must be promptly removed and taken to a suitably licensed waste disposal site.		Contractor / cEO dEO & ECO (monitor)	Construction
iv) Soil removed for excavating the pit should be used as backfill material;		Contractor / cEO dEO & ECO (monitor)	Construction
v) All excavated pits must be compacted to natural soil compaction levels to prevent the formation of preferential surface flow paths and subsequent erosion. Conversely, areas		Contractor / cEO	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	compacted as a result of construction activities (within the 5 m buffer zone) must be loosened to natural soil compaction levels;	dEO & ECO (monitor)	
	vi) Any remaining soil following the completion of backfilling of the pits are to be spread out thinly surrounding the installed support structures (outside of the delineated watercourses) to aid in the natural reclamation process; and	Contractor / cEO dEO & ECO (monitor)	Construction
	vii) The construction footprint must be limited to the pit area and an additional 5 m buffer (to allow for the stockpiling and movement of personnel). The area must be rehabilitated after the completion of the construction phase, including revegetation thereof with indigenous vegetation. In addition, alien vegetation eradication of the footprint area must be undertaken.	Contractor / cEO dEO & ECO (monitor)	Construction
<b>7. BIODIVERSITY MANAGEMENT</b>			
<b>Objectives:</b>			
<ul style="list-style-type: none"> <li>– Prevent the further loss and fragmentation of vegetation communities and the CBA 1 and CBA 2 areas in the vicinity of the project area (including water resource areas);</li> <li>– As far as possible, reduce the negative fragmentation effects of the development and enable safe movement of faunal species; and</li> <li>– Prevent the direct and indirect loss and disturbance of faunal species and community (including occurring and potentially occurring species of conservation concern).</li> </ul>			
<b>Indicator and Compliance Mechanisms:</b>			
<ul style="list-style-type: none"> <li>– Induction training and records.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) Vegetation	i) Blanket clearing of vegetation must be limited to a limited footprint, and the area to be cleared must be demarcated before any clearing commences. No clearing outside of footprint to take place.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) Topsoil must be stripped and stockpiled separately during site preparation and replaced on completion where revegetation will take place.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iii) Any site camps and laydown areas requiring clearing must be located within already disturbed areas away from watercourses or wetlands.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
b) Flora Species	iv) A flora search and rescue is likely to be required, even in degraded areas.	Contractor / cEO	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
		dEO & ECO (monitor) Biodiversity Specialist	Operation
	v) Several Northern Cape Nature Conservation Act protected, but widespread species are present recorded, respective permit will be required for destruction and/or relocation	dEO & ECO (monitor) Project Proponent	Construction Operation
c) Alien Vegetation Management	vi) Alien trees must be removed from the site as per CARA/NEMBA requirements.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	vii) A suitable weed management strategy to be implemented in construction and operation phases.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	viii) After clearing and construction is completed, an appropriate cover may be required, should natural re-establishment of grasses not take place in a timely manner along road verges. This will also minimise dust.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
d) Erosion	ix) Suitable measures must be implemented in areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	x) Topsoil must be stripped and stockpiled separately and replaced on completion.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	xi) If natural vegetation re-establishment does not occur, a suitable grass must be applied	Contractor / cEO dEO & ECO (monitor)	Construction Operation
e) Aquatic and Riparian Processes	xii) Pylon placement should span any aquatic and riparian features including the Buffels River, non-perennial watercourses and any wetlands/pans.	Contractor / cEO dEO & ECO (monitor)	Construction Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
f) Faunal Habitat	xiii) It is important that clearing activities are kept to the minimum and take place in a phased manner, where applicable. This allows animal species to move into safe areas and prevents wind and water erosion of the cleared areas.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
g) Faunal Processes	xiv) The habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the local impact associated with the footprint would be of low significance if mitigation measures are adhered to.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	xv) Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area. They will most likely vacate the area once construction commences. As with all construction sites there is a latent risk that there will be some accidental mortalities. Specific measures are made to reduce this risk. The risk of Species of Conservation Concern is low, and it is unlikely that there will be any impact to populations of such species because of the activity. <ul style="list-style-type: none"> <li>▪ Reptiles such as lizards are less mobile compared to mammals, and some mortalities could arise. It is recommended that a faunal search and rescue be conducted before construction commences, although experience has shown that there could still be some mortalities as these species are mobile and may thus move onto site once construction is underway. A reptile handler should be on call for such circumstances.</li> <li>▪ Should any amphibian migrations occur between wetland areas during construction, appropriate measures (including temporarily suspending works in the affected area) should be implemented.</li> </ul>	Contractor / cEO dEO & ECO (monitor)	Construction Operation
h) Faunal Species	xvi) A faunal search and rescue is likely to be required including particularly reptile species.	Contractor / cEO dEO & ECO (monitor) Biodiversity Specialist	Construction Operation
	xvii) No animals are to be harmed or killed during the course of operations.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	xviii) Workers are NOT allowed to snare any faunal species.	Contractor / cEO	Construction



ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
		dEO & ECO (monitor)	Operation
<b>8. AVIFAUNA MANAGEMENT</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To prevent any loss of diversity of indigenous avifaunal communities and loss of important avifaunal habitat.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Induction training and records.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) Protection of Priority Species	i) A pre-construction inspection to identify Red List species that may be breeding within the project footprint must be conducted by an avifaunal specialist to ensure that the impacts to breeding species (if any) are adequately managed.	Contractor / cEO dEO & ECO (monitor) Avifaunal Specialist	Construction Operation
	ii) Construction activity should be restricted to the immediate footprint of the infrastructure as much as possible.	Contractor / cEO dEO & ECO (monitor)	Construction
	iii) Access to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of priority species.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iv) Measures to control noise and dust should be applied according to current best practice in the industry.	Contractor / cEO dEO & ECO (monitor)	Construction
	v) Maximum use should be made of existing access roads and the construction of new roads should be kept to a minimum. No “off-road” driving is allowed.	Contractor / cEO dEO & ECO (monitor)	Construction
	vi) The mitigation measures proposed by the vegetation specialist must be strictly enforced	Contractor / cEO dEO & ECO (monitor)	Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	vii) The authorised alignment must be inspected by an avifaunal specialist by means of a “walk-through” inspection i.e. through a combination of satellite imagery supplemented with in situ inspections by vehicle and where necessary, on foot, once the pole positions have been finalised. The objective would be to demarcate the sections of the powerline that need to be fitted with Bird Flight Diverters. Once the relevant spans have been identified, Eskom approved Bird flight diverters should be installed for the full span length on the earthwire (according to Eskom guidelines - five metres apart). Light and dark colour devices must be alternated to provide contrast against both dark and light backgrounds respectively.	Contractor / cEO dEO & ECO (monitor) Avifaunal Specialist	Construction Operation
	viii) Avifaunal specialist to conduct quarterly inspections of the overhead power line for a period of two years.	Contractor / cEO dEO & ECO (monitor) Avifaunal Specialist	Construction Operation
<b>9. SOIL AND LAND MANAGEMENT</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To prevent any disturbance, erosion or contamination of soil resources.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Induction training and records.</li> <li>– WMP.</li> <li>– Incident Classification and Reporting Management Procedure.</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) Erosion Management	i) Temporary berms must be constructed, and surface water must be diverted into drainage channels.	Contractor / cEO dEO & ECO (monitor)	Construction
	ii) Construction must make use of existing road network and access tracks.	Contractor / cEO dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	iii) Rehabilitation of affected areas (such as regrassing, mechanical stabilization) must be implemented.	Contractor / cEO dEO & ECO (monitor)	Construction
	iv) The correct engineering design and construction of gravel roads over water crossings must be applied.	Contractor / cEO dEO & ECO (monitor)	Construction
	v) Correct construction methods for foundation installations and cut to fill configurations	Contractor / cEO dEO & ECO (monitor)	Construction
b) Soil and Land Management	vi) Only the proposed demarcated project area, including monopole foundation footprint areas, should be cleared of vegetation. This should be done in stages as construction works progress.	Contractor / cEO dEO & ECO (monitor)	Construction
	vii) Implement stormwater and soil erosion management measures, where required, that will help to reduce the speed of the water runoff and ensure no erosion gullies form within the area under management. These measures must also assist with the prevention of water pollution, erosion and siltation.	Contractor / cEO dEO & ECO (monitor)	Construction
	viii) During periodic maintenance activities of the powerline, monitoring for erosion should be undertaken.	Contractor / cEO dEO & ECO (monitor)	Construction
	ix) Should erosion be noted at the base of the monopole within close proximity to the watercourse (where applicable) the area must be rehabilitated by infilling the erosion gully and revegetation thereof with suitable indigenous vegetation.	Contractor / cEO dEO & ECO (monitor)	Construction
	x) All excavations and foundations (if any) must be inspected regularly for any silting. If excavations or foundations fill up with stormwater, these areas must immediately be drained and measures to prevent access to these areas must be implemented.	Contractor / cEO dEO & ECO (monitor)	Construction
	xi) All construction vehicles, plant, machinery and equipment must be checked daily to ensure hydrocarbon leaks (including fuel and hydraulic fluids) are not occurring.	Contractor / cEO dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	xii) Drip trays are to be utilised during daily greasing and re-fuelling of machinery, to catch incidental spills and pollutants, and placed under all stationary plant / equipment.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	xiii) Drip trays are to be inspected daily for leaks and effectiveness and emptied when necessary. This is to be closely monitored during rain events to prevent overflow.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	xiv) Any exposed earth must be rehabilitated promptly, and this could include planting suitable indigenous vegetation to protect the exposed soil.	Contractor / cEO dEO & ECO (monitor)	Construction
	xv) Where bare soils are left exposed as a result of construction activities, they should be immediately rehabilitated.	Contractor / cEO dEO & ECO (monitor)	Construction
	xvi) Rehabilitated efforts should continue to be monitored post construction, until natural processes will allow the ecological functioning and biodiversity of the area to be re-instated.	dEO & ECO	Post Construction
	xvii) Keep adequate spill kits onsite and train personnel to use them appropriately.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	<b>10. WATER MANAGEMENT</b>		
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To implement measures to prevent the contamination on surface and groundwater resources.</li> <li>– To prevent erosion.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Induction training and records.</li> <li>– Incident Classification and Reporting Management Procedure.</li> <li>– Environmental awareness programme/toolbox talks.</li> <li>– Stormwater Management Plan.</li> </ul>			
a) Surface and Groundwater Management	i) All stormwater generated by medium to high-risk contamination ‘dirty’ areas must not be allowed to discharge into the surrounding environment.	Contractor / cEO	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
		dEO & ECO (monitor)	
	ii) Areas with the potential to contaminate the groundwater must be underlain by hardstanding of suitable integrity.	Contractor / cEO dEO & ECO (monitor)	Construction
	iii) Any cement mixing shall be completed on impervious hardstanding surfaces to prevent spillage to the environment	Contractor / cEO dEO & ECO (monitor)	Construction
b) Fire	i) Contractor shall compile and provide a Fire Plan to be implemented throughout the construction process. The Fire Plan is to be reviewed and approved by the dPM. Section 8.5 of the EMPr outlines minimum aspects to be included within the Fire Plan.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) Training on fire prevention is to be undertaken as part of the Environmental Awareness Training issued to all staff.	ECO (initial training) cEO (continued training) dEO & ECO (monitor)	Construction Operation
	iii) No illicit fires must be allowed during the construction phase of the proposed development.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
<b>11. SITES OF CULTURAL OR HERITAGE SIGNIFICANCE</b>			
<b>Objectives:</b> – To ensure that sites/artefacts of heritage value are identified and protected.			
<b>Indicator and Compliance Mechanisms:</b> – Reporting as per Chance Find Procedure. – Monitoring and audit reports.			
a) Cultural and/or Heritage Sites and Palaeontology	i) A Chance Find Procedure is provided in Section 8.10. This procedure must be implemented to manage any heritage resources that may be encountered. ii) In the event that an artefact or heritage site be uncovered, work in the vicinity must cease, representatives of Heritage Western Cape (HWC) must be contacted and an	Contractor / cEO dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	archaeological consultant must be appointed to assess the site. Work must only resume once clearance is given in writing by the archaeological consultant.		
<b>12. HEALTH AND SAFETY</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To ensure health and safety of staff and the public.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Incident Classification and Reporting Management Procedure.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) Health and Safety	i) The appointed contractor will be responsible for the development of a comprehensive health and safety protocol, as well as safe work instruction method statements, that are to be used by employees in completing their tasks and which must be adhered to throughout the construction phase.	Contractor / CEO dEO & ECO (monitor)	Construction
	ii) The Contractor is to appoint a health and safety officer to monitor safety conditions during construction activities.	Contractor / CEO dEO & ECO (monitor)	Construction
	iii) All onsite personnel are required to undergo induction training and regular toolbox talks to raise awareness of health and safety.	Contractor / CEO dEO & ECO (monitor)	Construction Operation
	iv) The contractor is to ensure all employees are properly trained to use specific equipment or machinery and provide all staff with appropriate PPE and ensure they are trained in proper use thereof.	Contractor / CEO dEO & ECO (monitor)	Construction Operation
	v) Train all onsite personnel handling chemical or hazardous substances in the use of such substances and the environmental, health and safety consequences of incidents.	Contractor / CEO dEO & ECO (monitor)	Construction Operation
	vi) Train personnel on how to deal with snake encounters, as well as encounters with other dangerous animals known to occur in the area	Contractor / CEO	Construction



ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
		dEO & ECO (monitor)	Operation
	vii) Provide onsite personnel with sufficient potable water for drinking.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	viii) Live-wire work is to be conducted only by trained workers with strict adherence to specific safety and insulation standards.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ix) Develop and implement a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers, among others	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	x) Occupational Electric and magnetic fields (EMF) exposure should be prevented or minimized through the preparation and implementation of an EMF safety program.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
b) Public Safety	i) Restrict public access by ensuring fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	ii) Should security personnel be engaged to safeguard Project equipment, these should be licenced service providers adequately trained on the use of minimal force.	Contractor / cEO dEO & ECO (monitor)	Construction Operation
	iii) All visitors to active work areas are to undergo site induction and be made aware of the risks associated with the site.	Contractor / cEO dEO & ECO (monitor)	Construction
<b>13. SOCIO-ECONOMIC ENVIRONMENT</b>			
<b>Objectives:</b>			
<ul style="list-style-type: none"> <li>– To ensure that the negative socio-economic impacts are mitigated and managed.</li> <li>– To ensure that the positive socio-economic impacts are enhanced.</li> </ul>			
<b>Indicator and Compliance Mechanisms:</b>			

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
— Employment records and community engagement local enterprise development records.			
a) Labour Legislation	i) Ensure compliance with local and international labour legislation and good practice on the part of the contractors.	dPM Contractor	Construction Operation
b) Employment	i) Where reasonable and practical, 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.	dPM	Construction Operation
	ii) Where feasible, efforts should be made to employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria.	dPM	Construction Operation
	iii) Before the construction phase commences, the proponent should meet with representatives from the Local Municipality to establish the existence of a skills database for the area. If such a database exists it should be made available to the contractors appointed for the construction phase.	dPM	Pre-Construction
	iv) 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 of the project.	dPM & Contractor	Pre-Construction
	v) Where feasible, training and skills development programmes for locals should be initiated prior to the initiation of the construction phase.	dPM & Contractor	Pre-Construction
	vi) The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.	dPM & Contractor	Pre-Construction
c) Local Business Opportunities	i) The proponent should liaise with the local municipality with regards the establishment of 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	dPM & Contractor	Pre-Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	<p>process for construction service providers. These companies should be notified of the tender process and invited to bid for project-related work.</p> <p><i>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.</i></p>		
d) Community Safety	i) Where possible, the Proponent should make it a requirement for contractors to implement a ‘locals first’ policy for construction jobs, specifically for semi and low-skilled job categories.	dPM & Contractor	Construction
	ii) The proponent and the contractor should implement an awareness programme for communicable diseases (including HIV/AIDS and COVID-19) for all construction workers at the outset of the construction phase.	dPM & Contractor dEO & ECO (monitor)	Construction
	iii) The proponent and the contractor(s) should develop a code of conduct for the construction phase. The code should identify which types of behaviour and activities are not acceptable. The Code of Conduct should be signed by the proponent, the Contractors and all workers before the contractors move onto site. Construction workers in breach of the code should be subject to appropriate disciplinary action and/or dismissed. All dismissals must comply with the South African labour legislation.	dPM & Contractor dEO & ECO (monitor)	Construction
	iv) The contractor should provide transport for workers to and from the site on a daily basis. This will enable the contractor to effectively manage and monitor the movement of construction workers on and off the site.	Contractor dEO & ECO (monitor)	Construction
	v) The contractor must ensure that all construction workers from outside the area are transported back to their place of residence within 2 days for their contract coming to an end.	Contractor dEO & ECO (monitor)	Construction
	vi) No construction workers, with the exception of security personnel, should be permitted to stay over-night on the site.	Contractor dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
e) Protection of Livestock and Infrastructure	i) The proponent should enter into an agreement with the local farmers in the area whereby damages to farm property etc. during the construction phase will be compensated for. The agreement should be signed before the construction phase commences.	dPM & Contractor	Construction
	ii) All farm gates must be closed after passing through.	Contractor dEO & ECO (monitor)	Construction
	iii) Contractors appointed by the proponent should provide daily transport for low and semi-skilled workers to and from the site.	Contractor dEO & ECO (monitor)	Construction
	iv) The proponent should consider the option of establishing a Monitoring Forum that includes local farmers and develop a Code of Conduct for construction workers. This committee should be established prior to commencement of the construction phase. The Code of Conduct should be signed by the proponent and the contractors before the contractors move onto site.	dPM & dEO	Pre-Construction
	v) The proponent should hold contractors liable for compensating farmers and communities in full for any stock losses and/or damage to farm infrastructure that can be linked to construction workers. This should be contained in the Code of Conduct to be signed between the proponent, the contractors, and neighbouring landowners. The agreement should also cover losses and costs associated with fires caused by construction workers or construction related activities.	dPM & Contractor dEO & ECO (monitor)	Construction
	vi) Contractors appointed by the proponent must ensure that all workers are informed at the outset of the construction phase of the conditions contained in the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms.	dPM & Contractor dEO & ECO (monitor)	Construction
	vii) Contractors appointed by the proponent must ensure that construction workers who are found guilty of stealing livestock and/or damaging farm infrastructure are dismissed and charged. This should be contained in the Code of Conduct. All dismissals must be in accordance with South African labour legislation.	dPM & Contractor dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
f) Heavy Vehicle Management / Grievances	i) Ongoing communication with landowners and road users during construction period.	dEO / cEO ECO (monitor)	Construction
	ii) A complaints register is to be maintained and all complaints received are to be addressed in line with the Grievance Redress Mechanism (GRM). The GRM provides local farmers and other road users with an effective and efficient mechanism to address issues related to construction related impacts, including damage to local gravel farm roads.	dEO / cEO ECO (monitor)	Construction
	iii) Implementation of a road maintenance programme throughout the construction phase to ensure that the affected roads maintained in a good condition.	Contractor / cEO dEO & ECO (monitor)	Construction
	g) Dust suppression measures must be implemented on un-surfaced roads, such as wetting on a regular basis and ensuring that vehicles used to transport building materials are fitted with tarpaulins or covers.	Contractor / cEO dEO & ECO (monitor)	Construction
	iv) Repair of all affected road portions at the end of construction period where required.	Contractor / cEO dEO & ECO (monitor)	Construction
	v) All vehicles must be roadworthy, and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.	Contractor / cEO dEO & ECO (monitor)	Construction
h) Energy Security	i) Maximise the number of employment opportunities for local community members.	dPM / dEO	Operation
	vi) Implement training and skills development programs for members from the local community.	dPM / dEO	Operation
	vii) Maximise opportunities for local content and procurement.	dPM / dEO	Operation
i) Veld Fires	viii) The proponent should enter into an agreement with the local farmers in the area whereby damages to farm property etc., during the construction phase will be compensated for. The agreement should be signed before the construction phase commences.	Contractor / cEO dEO & ECO (monitor)	Construction

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	ix) Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas.	Contractor / cEO dEO & ECO (monitor)	Construction
	x) Smoking on site should be confined to designated areas.	Contractor / cEO dEO & ECO (monitor)	Construction
	xi) Contractor should ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high risk dry, windy summer months.	Contractor / cEO dEO & ECO (monitor)	Construction
	xii) Contractor should provide adequate fire-fighting equipment on-site, including a fire fighting vehicle.	Contractor / cEO dEO & ECO (monitor)	Construction
	xiii) Contractor should provide fire-fighting training to selected construction staff.	Contractor / cEO dEO & ECO (monitor)	Construction
	xiv) As per the conditions of the Code of Conduct, in the advent of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate farmers for any damage caused to their farms. The contractor should also compensate the fire-fighting costs borne by farmers and local authorities.	Contractor / cEO dEO & ECO (monitor)	Construction
j) Farming Operations	i) Affected property owners should be notified in advance of the timing and duration of maintenance activities.	dPM / dEO	Operation
	ii) Maintenance teams must ensure that all farm gates must be closed after passing through.	dPM / dEO	Operation
	iii) Property owners should be compensated for damage to farm property and or loss of livestock or game associated maintenance related activities.	dPM / dEO	Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	iv) Movement of traffic and maintenance related activities should be strictly contained within designated areas associated with transmission lines and substations.	dPM / dEO	Operation
	v) Strict traffic speed limits must be enforced.	dPM / dEO	Operation
	vi) No maintenance workers should be allowed to stay over-night on the affected properties	dPM / dEO	Operation
<b>14. VISUAL LANDSCAPE</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To ensure that impacts to the surrounding visual landscape is kept to a minimum or mitigated as far as possible.</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Maintenance records.</li> <li>– Incident reporting system.</li> <li>– Induction training and records.</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Monitoring and audit reports.</li> </ul>			
a) Visual landscape	i) Carefully plan to minimise the construction period and avoid construction delays.	Contractor / cEO dEO & ECO (monitor)	Construction
	ii) Inform receptors within 500m of the proposed power line and / or substation of the construction programme and schedules.	Contractor / cEO dEO & ECO (monitor)	Construction
	iii) Minimise vegetation clearing and rehabilitate cleared areas as soon as possible.	Contractor / cEO dEO & ECO (monitor)	Construction
	iv) Vegetation clearing should take place in a phased manner.	Contractor / cEO dEO & ECO (monitor)	Construction
	v) Maintain a neat construction site by removing rubble and waste materials regularly.	Contractor / cEO	Construction



ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
		dEO & ECO (monitor)	
	vi) Make use of existing gravel access roads where possible.	Contractor / cEO dEO & ECO (monitor)	Construction
	vii) Limit the number of vehicles and trucks travelling to and from the construction site, where possible.	Contractor / cEO dEO & ECO (monitor)	Construction
	viii) Ensure that dust suppression techniques are implemented: a. on all access roads; b. in all areas where vegetation clearing has taken place; c. on all soil stockpiles	Contractor / cEO dEO & ECO (monitor)	Construction
b) Vehicles and lighting	ix) As far as possible, limit the number of maintenance vehicles using access roads.	cEO & dEO (monitor)	Operation
	x) As far as possible, limit the amount of security and operational lighting at the proposed substation.	cEO & dEO (monitor)	Operation
	xi) Light fittings for security at night should reflect the light toward the ground and prevent light spill.	cEO & dEO (monitor)	Operation
	xii) Lighting fixtures should make use of minimum lumen or wattage.	cEO & dEO (monitor)	Operation
	xiii) Mounting heights of lighting fixtures should be limited, or alternatively, foot-light or bollard level lights should be used.	cEO & dEO (monitor)	Operation
	xiv) If possible, make use of motion detectors on security lighting.	cEO & dEO (monitor)	Operation
	xv) Buildings on the substation site should be painted with natural tones that fit with the surrounding environment.	cEO & dEO (monitor)	Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	xvi) Non-reflective surfaces should be utilised where possible	cEO & dEO (monitor)	Operation
<b>15. AIR QUALITY</b>			
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>– To ensure that air quality impacts to the surrounding area is kept to a minimum or mitigated as far as possible.</li> <li>– To ensure that odour impacts to the surrounding environment are minimal or mitigated</li> </ul> <p><b>Indicator and Compliance Mechanisms:</b></p> <ul style="list-style-type: none"> <li>– Maintenance records.</li> <li>– Incident reporting system.</li> <li>– Induction training and records.</li> <li>– Health, safety, environmental and community incident and complaints management system register.</li> <li>– Monitoring and audit reports.</li> <li>– Odour Management Plan.</li> <li>– Air Quality Impact Assessment.</li> <li>– Records of PPE.</li> </ul>			
a) Dust and Particulate Matter	i) When required, dust suppression methods such as water suppression must be used, especially during dry and windy periods. Dust must be visually monitored on a daily basis and reasonable measures implemented to ensure emissions are minimised.	Contractor / cEO dEO & ECO (Monitor)	Construction
	ii) All stockpiles (if any) must be restricted to designated areas and must not exceed a height of two (2) metres.	Contractor / cEO dEO & ECO (Monitor)	Construction
	iii) All materials transported to, or from, site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering or wetting friable materials.	Contractor / cEO dEO & ECO (Monitor)	Construction
	iv) Ensure that all vehicles and machines are adequately maintained to minimise emissions.	Contractor / cEO dEO & ECO (Monitor)	Construction Operation
	v) All issues/complaints received must be recorded in the complaints register	Contractor / cEO dEO & ECO (Monitor)	Construction Operation

ACTIVITY/ASPECT	ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURE	RESPONSIBLE PERSON	PRIORITY TIMEFRAME
	vi) No burning of waste, such as plastic bags, cement bags litter is permitted.	Contractor / cEO dEO & ECO (Monitor)	Construction Operation
	vii) It is recommended that the clearing of vegetation from the site be selective and done just before construction so as to minimise erosion and dust. Should construction in areas that have been stripped not be commencing within a short period of time the exposed areas shall be re-vegetated with indigenous plants or stabilised.	Contractor / cEO dEO & ECO (Monitor)	Construction
<b>16. REHABILITATION</b>			
<p><b>Objectives:</b>  — To return disturbed sites to a natural state characteristic to the area.</p> <p><b>Indicator and Compliance Mechanisms:</b>  — Rehabilitation Plan</p>			
a) Rehabilitation and Landscaping	i) A rehabilitation plan should be compiled by a suitable specialist. This rehabilitation plan should consider all development phases of the project indicating rehabilitation actions to be undertaken during, and once construction has been completed as well as ongoing rehabilitation during the operational phase of the project to ensure habitat for fauna (including avifauna) is restored	Contractor / cEO dEO & ECO (Monitor)	All phases
	ii) All areas disturbed by the construction activities must be suitably rehabilitated, as a priority, by means of revegetation with indigenous vegetation.	Contractor / cEO dEO & ECO (Monitor)	Post Construction
	iii) All areas disturbed by construction activities must be inspected for contamination, remediated if necessary and then maintained/landscaped to ensure efficient stormwater drainage.	Contractor / cEO dEO & ECO (Monitor)	Post Construction

# 8 METHOD STATEMENTS / MANAGEMENT PLANS

A defined in the generic EMPr various method statements are to be compiled and implemented throughout the construction phase (refer to Part A: Section 4.5 of the generic EMPrs attached as **Appendix D** and **Appendix E**).

This section provides an overview of various aspects / thematic areas and requirements whereby the Method Statements / management plans must be developed and followed throughout the proposed construction and operation of the 132kV OHPL. It must be noted that these method statement / management plans can be updated at any stage depending on any changes that may occur on the site.

This section provides an overview of the following aspects:

- Waste Management
- Site Preparation and Vegetation Clearing Plan/ Alien Invasive Plant Management;
- Plant Rescue and Protection;
- Re-vegetation, Habitat Rehabilitation and Landscaping;
- Fire Management;
- Emergency Preparedness and Response
- Stormwater Management;
- Erosion Management;
- COVID-19; and
- Chance Find Procedure.

The project specific traffic Management Plan is included in **Appendix F**.

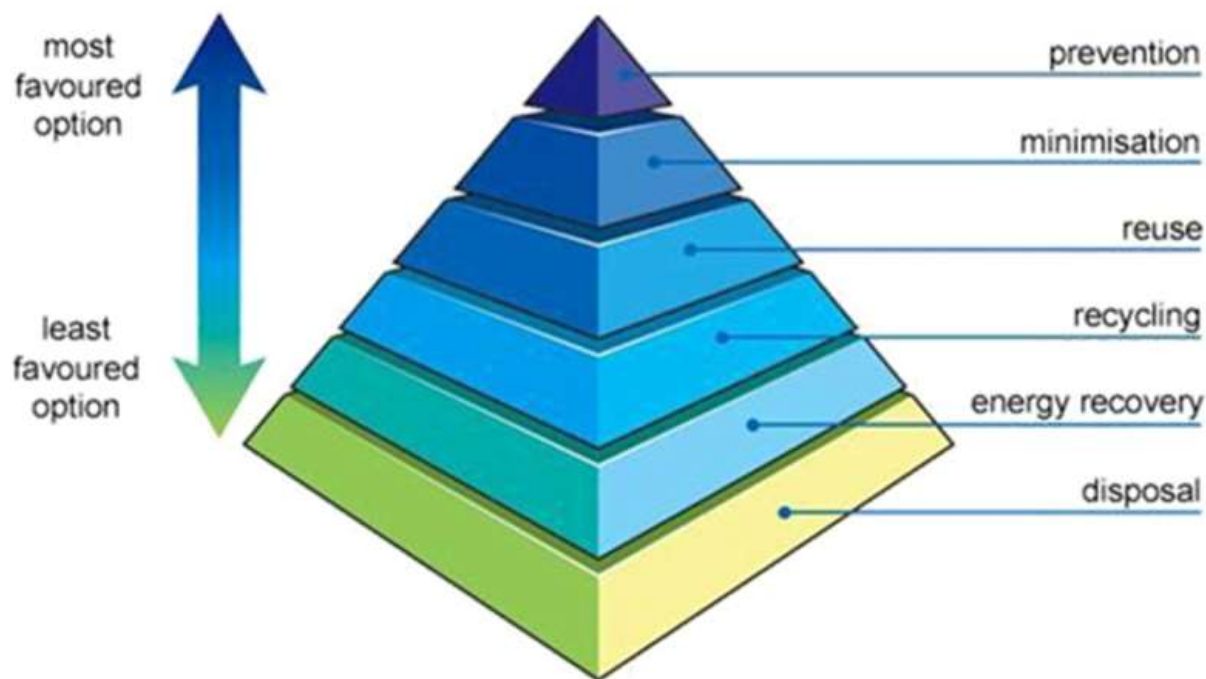
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## 8.1 WASTE MANAGEMENT

### 8.1.1 WASTE HIERARCHY

A waste is any solid, liquid or contained gaseous material that is being discarded by, disposal, recycling, burning or incineration. Waste management options for a particular waste need to be considered according to the Waste Management Hierarchy (**Figure 8-1**) which reflects the relative sustainability of each of the options. One of the key principles underlying the waste management hierarchy is to ensure that waste is dealt with as high up the waste hierarchy as possible. Since all waste disposal options have some impact on the environment, the only way to avoid impact is not to produce waste in the first place, and waste reduction is therefore at the top of the hierarchy. Re-use, followed by recovery techniques (recycling, composting and generating energy from waste) follow, while disposal to landfill or by incineration (the worst options) are at the bottom of the hierarchy.

In deciding on the most appropriate disposal route, both environmental and economic costs and benefits need to be considered. This decision must be reached taking into account all the costs and impacts associated with waste disposal, including those associated with the movement of waste.



**Figure 8-1: Waste Hierarchy**

### 8.1.2 PROJECT STAGES

The purpose of this section is to assess the construction and operational processes of the proposed Bon Espirange to Komsberg OHPL in order to identify short comings, like raw materials procurement, infrastructure, employee training, health and safety, transportation, storage, compliance with legislative requirements, emergency preparedness and waste streams arising from an operation and its related activities, as well as the current waste management practices per waste stream. The assessment serves as the baseline against which any problem areas or gaps in waste management practises, process technology and environmental authorisations are identified and against which future performance objectives, activities and targets can be set.

The project stages are described below with the waste generation and management methods described in the corresponding tables below them including:

- Details on how waste will be managed during the construction and operational phases taking into consideration the waste management hierarchy;
- Details of the procedure for the separation of non-recyclable and recyclable waste;
- Details of the management of non-recyclable waste i.e. how waste will be stored on site during construction and operational phases, including the frequency for the removal of waste from the site and an indication of the landfill site where it will be disposed;
- Details for the management of recyclable waste e.g. the type of waste materials that will be recycled on site and the details pertaining to the offloading, sorting, handling, storage and collection procedures for the waste types (e.g. compaction and bailing, breaking of glass etc.); and
- The frequency for the removal of waste from the proposed development to where it will be finally managed must be included.

Waste Management at the project site is to be undertaken in line with the EMPr to consider the correct disposal of general and hazardous waste generated on the project. **Table 8-1** describes different waste products that the proposed project will likely produce, as well as the various options to dispose of them. Waste will mainly be generated during the construction phase. During operation, contractors are anticipated to only be on the site for limited amounts of time, as and when maintenance is required.

**Table 8-1: Waste Management Options**

WASTE	TYPE OF WASTE	MANAGEMENT OPTIONS
Hydrocarbons / Contaminated soils / water	Hazardous	<p>Fuel and oil spillages can be a source of contamination of water sources and the soil. Management options include:</p> <ul style="list-style-type: none"> <li>– Using spill kits to clean any spillages;</li> <li>– Ensure storage facilities are maintained and meet industry regulations;</li> <li>– Transportation and storage of fuel must be regulated and correctly managed according to the EMPr;</li> <li>– Waste generated along servitude to be taken to the contractor laydown area at the end of each day;</li> <li>– Co-ordinate waste removal with the removal of waste from the contractor laydown area; and</li> <li>– All hazardous waste is to be disposed of at a registered hazardous landfill (safe disposal certificates must be obtained).</li> </ul>
Contaminated Personal Protective Equipment (PPE)	Hazardous	<p>PPE can be contaminated during handling of hydrocarbons. Management options include:</p> <ul style="list-style-type: none"> <li>– Store contaminated PPE in hazardous waste skips along the servitude;</li> <li>– Waste generated along servitude to be taken to the contractor laydown area at the end of each day;</li> <li>– Co-ordinate waste removal with the removal of waste from the contractor laydown area; and</li> <li>– Ensure contaminated PPE is disposed of at a registered hazardous landfill (safe disposal certificates must be obtained).</li> </ul>
General waste	General	<p>General waste (inorganic matter) can be disposed of as per normal and form part of the municipal waste management system. Management options include:</p> <ul style="list-style-type: none"> <li>– Ensure waste is stored securely in covered / sealable refuse bins;</li> <li>– Waste generated along servitude to be taken to the contractor laydown area at the end of each day;</li> <li>– Co-ordinate waste removal with the general removal of waste from the contractor laydown area.</li> </ul>
Food waste	General	<p>Food waste is generated as site personnel take their meals on the construction site. Management options include:</p> <ul style="list-style-type: none"> <li>– Store any waste and packaging into a sealable, labelled food waste bin;</li> <li>– Waste generated along servitude to be taken to the contractor laydown area at the end of each day;</li> <li>– Co-ordinate waste removal with the removal of waste from the contractor laydown area.</li> </ul>

## 8.2 SITE PREPARATION AND VEGETATION CLEARING PLAN/ ALIEN INVASIVE PLANT MANAGEMENT

The following provides a framework for the management of alien and invasive plant species during the construction and operation of the project, which in turn serves to manage open spaces, as required. The broad objectives of the plan include the following:

- Ensure alien plants do not become dominant in parts or the whole site through the control and management of alien and invasive species presence, dispersal and encroachment.

- Managing and maintaining the ecosystem in a near-natural state and restoring and/or rehabilitating the ecosystems to such a state.
- Develop and implement a monitoring and eradication programme for alien and invasive species.
- Promote the natural re-establishment and planting of indigenous species in order to retard erosion and alien plant invasion.

Mitigation and management measures include, but are not limited to the following:

- Stockpiles must be kept clear of weeds and alien vegetation growth by regular weeding.
- Alien vegetation and the spread of exotic species on the site will need to be controlled.
- The contractor must be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion.
- The use of pesticides and herbicides on the site must be discouraged as these can impact on important pollinator species of indigenous vegetation.
- Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used.
- Mitigation measures mentioned for the construction phase above must be implemented for any maintenance of the development that is undertaken during the operation phase.
- Correct rehabilitation with locally indigenous species.
- Monitoring programme to ensure that rehabilitation efforts are successful to ensure that risks such as erosion, spread of exotic species and the edge effect are avoided.
- Constant maintenance of the area to ensure re-colonisation of floral species.
- Regular removal of alien species which may jeopardise the proliferation of indigenous species.

Furthermore, the appointed Biodiversity Specialist recommends the following site-specific mitigation measures to be included in the Site Preparation and Vegetation Clearing Plan for the proposed Bon Espirange to Komsberg OHPL:<sup>2</sup>

- Once the final layout has been determined the ECO/botanist will be consulted in order to finalise the plant relocation and vegetation clearing plan.
- Areas to be cleared of vegetation will be clearly demarcated before clearing commences.
- Flora search and rescue is to be conducted before vegetation clearing takes place.
- Plants to be rescued should include both Species of Conservation Concern requiring removal for relocation as well as species that would be suitable for use in rehabilitation and that are amenable to transplanting.
- Areas should only be stripped of vegetation as and when required and in particular once Species of Conservation Concern have been relocated for that area.
- Once site boundaries are demarcated, the area to be cleared of vegetation will be surveyed by the vegetation and plant search and rescue team clearing under the supervision of the botanist to identify and remove species suitable for rescue and commence removal of plants.
- Depending on growth form this material should be appropriately removed from its locality and immediately relocated where it may be required elsewhere or into adjacent areas of similar habitat that will not be disturbed by construction.
- Small trees and shrubs (<1 m in height), where possible will be rescued and planted temporarily in potting bags for later use.
- Wherever possible, any seed-bearing material will be collected immediately and stored for later use, particularly species that occur in low numbers or those that will be well-suited for rehabilitation.
- Protected plant species will be removed from the site prior to development taking place. A suitable timeframe must be allowed before construction commences (1 month) to undertake the plant rescue and relocation operation. Search and Rescue is best undertaken during Spring/Summer.

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<sup>2</sup> Terrestrial Biodiversity & Ecology: Bon Espirange to Komsberg 132kv Powerline (October 2021)



- Should site construction occur in a phased manner, then clearing activities should take place also in a phased manner, ahead of construction work.
- Rescued plants will be replanted directly into a suitable adjacent area and will include some non-protected succulent species that will help support the protected species.
- Succulent and geophytic species can be temporarily stored for at least 2 weeks in a suitable shaded area before replanting. The contractor will be responsible for periodic watering of the replanted flora until they become acclimatised, and/or some rain occurs.

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## 8.3 FAUNA AND FLORA RESCUE AND PROTECTION

The purpose of fauna and flora rescue and protection is to implement avoidance and mitigation measures, in addition to the mitigation measures included in the EMP, to reduce the impact of the development of the project on listed and protected plant and animal species and their habitats, and to provide guidance on search and rescue of species of conservation concern.

Mitigation and management measures include, but are not limited to the following:

- Vegetation clearing must only commence after a walk down has been conducted by a suitably qualified person and the necessary permits obtained.
- Vegetation clearing to be kept to a minimum. No unnecessary vegetation to be cleared.
- Vegetation removal must be limited to the construction site and must be removed only as it becomes necessary rather than removing all the vegetation throughout the site at once.
- Materials must not be delivered to the site prematurely which could result in additional areas being cleared or affected.
- No vegetation to be used for firewood.
- Gathering of firewood, fruit, medicinal plants, or any other natural material onsite or in areas adjacent to the site is prohibited.
- Construction site office and laydown areas must be clearly demarcated, and no encroachment must occur beyond demarcated areas.
- All natural areas impacted during construction must be rehabilitated with locally indigenous plant / grass species.
- A buffer zone must be established in areas where construction will not take place to ensure that construction activities do not extend into these areas.
- Soil stockpiles must not become contaminated with oil, diesel, petrol, waste or any other material, which may inhibit the later growth of vegetation in the soil. Spillage can result in a loss of soil functionality thus limiting the re-establishment of flora.

Furthermore, the appointed Biodiversity Specialist recommends the following site-specific mitigation measures to be included in the Search and Rescue Plan for the proposed Bon Espirange to Komsberg OHPL:<sup>3</sup>

- An on-foot search, conducted by a professional reptile handler/team, is to be carried out to search for reptiles within every possible habitat.
- Once caught, each reptile will be placed into transport containers suited for that individual reptile.
- The transport containers must be kept cool to decrease stress for the reptiles.
- The reptiles will be relocated as soon as possible after they have been caught.
- Professional equipment will be used to ensure limited harm to the reptiles and to prevent the team members from being bitten by venomous snakes.
- Nooses should not be used as they cause injury to lizards.
- Safety procedures will be in place for the release of the reptiles.

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<sup>3</sup> Terrestrial Biodiversity & Ecology: Bon Espirange to Komsberg 132kv Powerline (October 2021)

- Amphibians should be caught by hand and net.
- Amphibians must be placed into transport containers with damp substrates to avoid dehydration.
- Tadpoles may be collected, placed into water containers and released as soon as possible, where required.
- During release, the tadpoles will be allowed to acclimatize to the new water in terms of temperature, pH etc.
- Small mammals will be caught with nets and by hand. They will then be transported in carry cages and released as soon as possible.
- No immobilizers or tranquilizers will be used on the mammals.

The following general approach is recommended for translocation of species of conservation concern including Sensitive Species 142 where is affected by the activity:

- Season dependant, collect seed from any large mature and seed-bearing specimens that fall within the disturbance footprint before commencement (most likely during late autumn/early winter). This seed should be stored in cool dry conditions and sown in the following spring after rain and end of cold spells. The collected seed can include plant material to which the seed is attached.
- Locate and dig out any small individuals and/or seedlings, ensuring that disturbance to the root ball is minimal and plant in bags using locally sourced soil or replant directly into adjacent area. Any bagged plants must be stored in cool partially sunny conditions and kept watered, but not over watered for the duration of the construction period or until replanted.
- Any seed that was collected as per point 1, can then be sown and lightly raked to ensure some coverage with ground. It was noted from the site investigation that occasional seedlings or juveniles are present.
- Similarly, the bagged plants, should any have survived, can be replanted as well.
- Season and rainfall dependant, some after care watering of the translocated plants may be required.

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## 8.4 RE-VEGETATION AND HABITAT REHABILITATION

The purpose of the rehabilitation is to ensure that areas cleared or impacted during construction activities are rehabilitated with a plant cover that reduces the risk of erosion from these areas as well as restores some ecosystem function. The purpose of rehabilitation for the site can be summarised as follows:

- Achieve long-term stabilisation of all disturbed areas to minimise erosion potential.
- Re-vegetate all disturbed areas with suitable local/indigenous plant species or grasses.
- Minimise visual impact of disturbed areas.
- Ensure that disturbed areas are safe for future uses.

Mitigation and management measures include, but are not limited to the following:

- Re-vegetation must aim to accelerate the natural succession processes so that the plant community develops in the desired way, i.e. promote rapid vegetation establishment.
- Re-vegetation of disturbed surfaces must occur immediately after construction activities are completed. This must be done through seeding with locally indigenous species typical of the representative botanical unit.
- Re-vegetation of the disturbed site is aimed at approximating as near as possible the natural vegetative conditions prevailing prior to construction.
- Seeds from surrounding seed banks can be used for re-seeding.
- Rehabilitation must be executed in such a manner that surface run-off will not cause erosion of disturbed areas.
- Planting of indigenous tree species in areas not to be cultivated or built on must be encouraged.
- Monitoring programme to ensure that rehabilitation efforts are successful to ensure that risks such as erosion, spread of exotic species and the edge effect are avoided.

Furthermore, the appointed Biodiversity Specialist recommends the following site-specific mitigation measures to be included in the Rehabilitation and Landscaping Plan for the proposed Bon Espirange to Komsberg OHPL:<sup>4</sup>

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<sup>4</sup> Terrestrial Biodiversity & Ecology: Bon Espirange to Komsberg 132kv Powerline (October 2021)

- On completion of construction, the surface of any work areas, especially if compacted due to hauling and dumping operations shall be scarified to a depth of at least 200 mm and graded to an even surface condition and the previously stored topsoil will be returned to its original depth over the area.
  - The disturbed areas can be seeded with suitable grasses and local indigenous seed mix, if deemed to be required, however, vegetation is likely to re-establish without input.
  - Excavations may not be used for the dumping of construction wastes.
  - Waste (non-biodegradable refuse) will not be permitted to be deposited in the excavations and must be disposed of appropriately.
  - Final rehabilitation must comply with the requirements mentioned in the Rehabilitation Plan.
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## 8.5 FIRE MANAGEMENT

The purpose of fire management is to address firefighting requirements throughout the construction of the project and to preserve and protect human life as well as tangible goods and equipment in the event of a fire.

Mitigation and management measures include, but are not limited to the following:

- All construction camps shall be provided with portable fire extinguishing equipment, in accordance with all relevant legislation and must be readily accessible.
  - The Contractor shall take specific measures to prevent the spread of veld fires, caused by activities at the campsites. These measures must include appropriate instruction of employees about fire risks and designated smoking areas.
  - Fire prevention equipment must be present at all storage facilities.
  - No open fires shall be allowed on site under any circumstance. No cooking shall be done onsite to prevent runaway fires.
  - The Contractor shall have operational fire-fighting equipment available on site at all times. The level of firefighting equipment must be assessed and evaluated through a typical risk assessment process.
  - Emergency numbers for local police and fire department etc. must be placed in a prominent area.
  - Firefighting equipment must be placed in prominent positions across the site where it is easily accessible. This includes fire extinguishers, a fire blanket as well as a water tank.
  - All construction staff must be trained in fire hazard control and firefighting techniques. Translators are to be used where necessary.
  - All flammable substances must be stored in dry areas which do not pose an ignition risk to the said substances.
  - Smoking must only be conducted in demarcated areas.
  - An appropriate company must regularly maintain firefighting equipment.
- 

## 8.6 EMERGENCY PREPAREDNESS AND RESPONSE

Appropriate resources must be provided to respond to accidental and emergency situations for operations and activities during construction and operation phases. The procedures will include plans for addressing training, resources, responsibilities, communication and all other aspects required to effectively respond to emergencies associated with their respective hazards.

The purpose of emergency preparedness and response plan (EPRP) / method statement is to ensure that the relevant parties are adequately prepared and able to respond effectively to potential emergency situations that may arise during project activities. These potential emergency situations include medical emergencies and fires.

All activities associated with the project will require site-specific emergency response plans to mitigate impacts, which meet or exceed all applicable regulations.

The objectives of this plan are as follows:

- Protect the workers, communities and the environment through the development of emergency response strategies and capabilities;

- Set out the framework for hazard identification in order to define procedures for response to the situations including the development of contingency measures;
- Structure a process for rapid and efficient response to, and manage emergency situations during, the construction and operational phases of the project; and
- Assign responsibilities for responding to emergency situations.

The EPRP must take the incident procedures referred to in Section 30 of NEMA into account.

## ROLES AND RESPONSIBILITIES

Roles, responsibility and authority shall be defined, documented and communicated in order to facilitate effective emergency response through implementation of the EPRP.

The table below outlines roles and responsibilities related to each position.

<b>Emergency Response representative(s)</b>
<ul style="list-style-type: none"> <li>– Actively participate in the facilities planning, implementation and reviewing of the sites EPRP.</li> <li>– Ensure all staff members are aware of the procedures outlined in the EPRP.</li> <li>– Setting up regular practical training schedules (drills) to ensure that all staff are prepared encase of an emergency.</li> <li>– Report any incidents that occur to senior management staff and/or the relevant authorities.</li> <li>– Appoint an Emergency Response (ER) team which includes an appropriate first aid representative and a fire warden.</li> <li>– Ensure that the appointed ER team undergo the correct training.</li> <li>– Appoint an appropriate Emergency Coordinator.</li> </ul>
<b>First Aid representative(s)</b>
<ul style="list-style-type: none"> <li>– Ensuring the first aid box is properly stocked to meet all foreseeable incidents which may occur.</li> <li>– Ensure that the boxes are properly safeguarded, and that First Aiders name appears on the box.</li> <li>– Should any activity involve hazardous chemical substances, or any other specific first aid emergencies, this must be brought to the attention of the emergency coordinator.</li> <li>– Ensure the first aid certificate is current.</li> <li>– Ensure that there is always a first aider available at each shift.</li> </ul>
<b>Fire warden(s)</b>
<ul style="list-style-type: none"> <li>– Ensure that the firefighting equipment is regularly serviced.</li> <li>– Attend the relevant firefighting training.</li> <li>– Report any unserviceable or damaged fire-fighting equipment to the ER.</li> <li>– Ensure the firefighting certificate is current.</li> <li>– Ensure that there is always a firefighter available at each shift.</li> </ul>
<b>Emergency Co-ordinator</b>
<ul style="list-style-type: none"> <li>– Ensure that an update of the EPRP is kept on file and is easily accessible in case of an emergency.</li> <li>– Ensure that all staff have been issued with the correct Personal Protective Equipment (PPE).</li> <li>– Ensure that a list of emergency telephone numbers, including those of the Emergency Response team, are visible to all staff at a number of locations around the facility.</li> <li>– In the case of an emergency, the emergency coordinator is responsible for undertaking roll call at the designated Assembly points.</li> </ul>

## EMERGENCY COMMUNICATIONS AND COORDINATION PLAN

In an emergency situation where there is an immediate threat to communities, personnel or the environment, the Project Manager will be notified immediately. The Project Manager will dispatch the Emergency Response Coordinator who will determine the appropriate plan of action depending on the severity of the emergency, the people affected, and the need to evacuate.

If there is a developing emergency or unusual situation, where an emergency is not imminent, but could occur if no action is taken, the Project Manager (or if the Project Manager is absent the Environmental Officer) is to be informed immediately.

If an emergency situation poses a direct threat to communities in the area, the Environmental Officer and/or Social Officer (if relevant) will advise persons in the vicinity of the emergency to evacuate due to the potential risk. The appropriate government authorities will immediately be notified of such an emergency evacuation. The

Emergency Response Coordinator will be tasked with responding to the potential risk. Should the emergency situation be such that it can be managed by the Project Company, equipment and personnel will be deployed to the maximum extent necessary, so as to prevent/minimise potential risks.

## RESPONSE TO INCIDENTS

An incident is any occurrence that has caused, or has the potential to cause, a negative impact on people, the environment or property (or a combination thereof). It also includes any significant departure from standard operating procedures. The reporting and investigation of all potential and actual incidents that could have a detrimental impact on human health, the natural environment or property is required so that remedial and preventive steps must be taken to reduce the potential or actual impacts because of all such incidents.

Any incident must immediately be reported to the relevant authorities and all the necessary documentation must be completed and submitted to the relevant authorities within the prescribed timeframes.

The actions resulting from any formal or informal investigations will be used to update the EMPr.

## VERIFICATION

An environmental emergency response system will be developed for the execution of emergency drills that will include the following, inter alia:

- Fire Drills;
- Emergency Evacuation Drills; and
- Environmental Drills.

Reporting and monitoring requirements for the plan will include:

- Monthly inspections and audits;
- Reporting at the time of the incident and monthly spill reporting developed by the Environmental and Quality, Health and Safety departments; and
- Bi-annual emergency response drills.

Emergency response drills and reporting will be maintained by the Project Manager and will provide information regarding required revisions to training or the emergency response actions. Each incident reported will be reviewed and investigated upon occurring. Actions will be identified where possible to improve the site's overall response to emergencies. Updates/revisions that are necessary to protect worker or community health and safety will be implemented immediately after approval by the Project Manager.

This plan will be amended periodically in light of operational changes, learning experienced during its implementation and other activities that can affect the risk profiles.

## POTENTIAL RISKS

The following emergency situations have been identified as potential threats at the proposed powerline route:

- Fire;
- Spills (hazardous chemicals / dangerous goods).

It must be noted that there is a minor risk associated with these risks as only a very small quantity of chemicals or hazardous substances are anticipated to be stored on site.

Fire	Responsibility
– Raise the alarm	Employee who detected/caused the fire
– Switch of all automated systems within the facility	ER Team
– Evacuate all personnel in the building	ER Team
– Contact all relevant emergency services	Emergency Coordinator
– Report to the emergency Assembly Point and await further instructions	All Staff
– Remove all vehicles from the premises	ER Team and security
– Undertake roll call and report all missing staff to the ER team	ER Coordinator
– Evacuate remaining staff to a safe location outside the site boundaries	ER Team

<b>Fire</b>	<b>Responsibility</b>
– Contain fire until Emergency services arrives	Fire warden
– Provide First Aid, if required	First Aid representative
<b>Spill</b>	<b>Responsibility</b>
– Contain the spillage using an onsite spill kit	Employee who discovered/caused the spill
– Advise emergency services (if required)	Emergency coordinator
– Provide First Aid (if required)	First Aid representative
– Determine if there is any soil, groundwater, or other environmental impact	Emergency coordinator
– Ensure that all absorbents used from the spill kits are disposed of in the correct manner.	Emergency coordinator
– Inform the DFFE and DWS of any major spillages.	Emergency coordinator
– Ensure that the incident is recorded in the incidents register.	Emergency coordinator

The following emergency centres were identified along with the corresponding emergency telephone numbers.

<b>Emergency Centre</b>	<b>Telephone Number</b>
– Emergency Services	10177 (Ambulance / Fire Brigade)
– Police Emergency Services	10111
– SAPS Laingsburg	023 551 8200
– Suicide Crisis Line	0800 12 13 14
– COVID-19 Public Hotline	0800 029 999

## 8.7 STORMWATER MANAGEMENT

The main principles in stormwater management include:

- Confine or divert any unpolluted water to a ‘clean’ water system, and polluted water to a ‘dirty’ water system;
- ‘Clean’ and ‘dirty’ water systems must be designed and constructed to prevent cross-contamination between the ‘clean’ and ‘dirty’ water systems; and
- Appropriate maintenance and management of storm water related infrastructure.

The proposed water systems or infrastructure are to be designed to prevent any potential contamination of natural water resources in the area.

Currently, there is no existing water management system at the proposed powerline route as it is bare ground.

## 8.8 EROSION MANAGEMENT

Exposed and unprotected soils are the main cause of erosion in most situations. Therefore, erosion management and revegetation / rehabilitation are closely linked to one another and must not operate independently, but must rather be seen as complementary activities within the broader environmental management of the site and must therefore be managed together. Erosion management addresses the management and mitigation of potential impacts relating to soil erosion, including:

- Material stockpiled for long periods (2 weeks) must be retained in a bermed area.
- Stockpiles not used in three (3) months after stripping must be seeded to prevent dust and erosion.
- Sensitive areas need to be identified prior to construction so that the necessary precautions must be implemented.
- Vegetation clearance must be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time.
- Areas to be cleared must be clearly demarcated and this footprint strictly maintained.
- Areas which are not to be constructed on within two months must not be cleared to reduce erosion risks.

- Silt fences and erosion control measures must be implemented in areas where these risks are more prevalent.
- Wind screening and stormwater control must be undertaken to prevent soil loss from the site.
- Other erosion control measures that must be implemented are as follows:
  - Brush packing with cleared vegetation;
  - Mulch or chip packing;
  - Planting of vegetation; and
  - Hydroseeding / hand sowing.
- All erosion control mechanisms need to be regularly maintained.
- Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. Re-vegetation of disturbed surfaces must occur immediately after construction activities are completed. This must be done through seeding with indigenous grasses.
- No impediment to the natural water flow other than approved erosion control works is permitted.

## 8.9 COVID -19

### PREVENTION AND RESPONSE

A dedicated team with responsibilities to identify and implement actions to mitigate the effects of COVID-19 on the company and community should be appointed.

### INFORMATION

Information dissemination and training are an effective way to reduce the risk for both the company and the general public.

COVID-19 symptoms include: fever, tiredness, difficulty breathing, dry cough, chills, repeated shaking with chills, muscle pain, headache, sore throat, and new loss of taste or smell. Some patients may have nasal congestion, runny nose, or diarrhoea. Symptoms may appear two to 14 days after exposure to the virus.

### EMPLOYEE QUESTIONNAIRE

To prevent potentially infected staff from entering the workplace and infecting co-workers, a short questionnaire could be used. Workers should only report to work if they answer “no” to all the questions.

The following is an example:

- Have you, in the last two weeks, been in close contact with a person who has COVID-19?
- Have you, in the last two weeks, been in a country/region with a high number of cases of COVID-19?
- Do you have a fever?
- Have you used medications such as paracetamol or aspirin to suppress fever in the last 24 hours?
- Are you coughing (even mildly)?
- Do you currently experience shortness of breath?

### PREVENTION METHODS

#### SICK PERSONS TO STAY HOME

Workers requested to stay away from work in cases where they exhibit any COVID-19 symptoms or have been in close contact with a confirmed COVID-19 patient during the previous 14 days.

Workers who do not feel well should seek immediate medical advice. An employee who works while evidencing mild COVID-19 symptoms can risk spreading this infectious disease to others.

#### COUGH HYGIENE

To reduce the risk of infected persons spreading the virus by coughing and sneezing, workers are to be instructed to follow the cough etiquette outlined below:



- Cover the mouth and nose with a tissue when coughing or sneezing, and dispose of the used tissue in a wastebasket.
- When no tissue is available, cough or sneeze into the upper sleeve or elbow, not into the hands.
- Clean hands after coughing or sneezing, preferably by thorough water-soap handwashing, following the recommendations of health organizations. If soap and water are not available, use a hand sanitizing gel.

#### **SOCIAL DISTANCING**

To prevent person-to-person infection, it is important to minimize direct contact as much as possible. The contractor is to inform workers about the hazards of close contacts, including with direct co-workers, and promote alternative behaviours, such as maintaining safe distances and using alternatives for handshakes.

#### **HAND SANITATION**

Promote frequent and thorough water-soap hand washing and provide enough places for workers to wash their hands. If soap and running water are not immediately available, provide alcohol-based hand rubs containing at least 60% alcohol. Ensure that these facilities are sufficient in number and are available close to the work area.

#### **CLEANING AND DISINFECTING**

Frequently – and at least daily - clean touched surfaces, such as tables, light switches, appliances, countertops, handles, desks, phones, keyboards, toilets, taps, sinks, and so forth. Use the cleaning agents that are routinely used in these areas and follow the directions on the labels. For multiuse equipment, clean after every use.

Workers are to be instructed to clean their work areas and equipment at the end of each shift. Equipment and instructions on how to do this are to be provided.

## **8.10 CHANCE FIND PROCEDURE**

The following procedure must be considered in the event that previously unknown heritage resources, including burial grounds or graves, are exposed or found during the life of the project.

### **CULTURAL HERITAGE, STRUCTURES, ARCHAEOLOGY, PALAEOLOGY, METEORS AND PUBLIC MONUMENTS**

- The heritage resource must be avoided and all activities in the immediate vicinity temporarily ceased;
- The DPM/dEO and/or cEO must be notified of the discovery;
- A qualified specialist must be deployed to consider the heritage resource, either via communicating with the dEO/cEO via telephone or email, or based on a site visit and recommend appropriate mitigation measures;
- Should the specialist conclude that the find is a heritage resource protected in terms of the NHRA, the dEO/cEO will notify SAHRA and/or HWC; and
- SAHRA/HWC may require that a HIA in terms of NHRA Section 38 must take place that may include rescue excavations.

### **BURIAL GROUNDS AND GRAVES**

- In the event that human remains are accidentally exposed, the cEO/dEO must immediately be notified of the discovery in order to take the required further steps:
  - The local SAPS will be notified;
  - A suitably qualified specialist will be deployed to inspect the exposed burial and determine in consultation with the SAPS the temporal context of the remains, (i.e. authentic burial grave (informal or older than 60 years) or archaeological (older than 100 years)) and if any additional graves may exist in the vicinity;
- Should the specialist conclude that the find is a heritage resource protected in terms of the NHRA, the cEO/dEO will notify SAHRA and/or HWC;
- SAHRA/HWC may require that an identification of interested parties, consultation and /or grave relocation take place;

- Consultation must take place in terms of Regulations 39, 40 and 42 of NHRA; and
- Grave relocation must take place in terms of Regulation 34 of NHRA.

# 9 GRIEVANCE MECHANISM

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## 9.1 GRIEVANCE MECHANISM - EXTERNAL

A grievance mechanism is a tool used to address affected communities' concerns and complaints and is an important pillar of the stakeholder engagement process, since it creates opportunities for companies and communities to identify problems and discover solutions together. The Project proponent can benefit from understanding community concerns and complaints and addressing them through all stages of project development.

Where it is anticipated that a new project will involve ongoing risk and adverse impacts on surrounding communities, the project proponent is required to establish a grievance mechanism to receive and facilitate resolution of the affected communities' concerns and complaints about the proponent's environmental and social performance. The grievance mechanism should be scaled to risks and adverse impacts of the project, address concerns promptly, use an understandable and transparent process that is culturally appropriate and readily accessible to all segments of the affected communities, and do so at no cost to communities and without retribution. The mechanism should not impede access to judicial and administrative remedies.

The grievance mechanism described in this section includes both complaints and grievances (hereinafter referred to only as 'grievances') raised by stakeholders.

### **PURPOSE**

The grievance mechanism describes the way the Proponent and community can work together to find solutions to grievances.

### **OBJECTIVES**

The objectives of the grievance mechanism include:

- To be respectful of complainant culture, values, traditions and views;
- To resolve grievances at the local level and in a timely manner;
- To identify the root causes of grievances and address systemic issues;
- To provide a process that is dialogue based, with the complainant and the Proponent cooperating in the investigation, discussion, resolution and announcement of the grievance and result;
- To ensure fair, equitable and consistent outcomes to resolve grievances;
- To enhance and continuously improve the ability of the Proponent to fairly address community concerns.

### **SCOPE AND RESPONSIBLE PARTIES**

A grievance mechanism is primarily for the community to raise relevant concerns about the Project / Proponent's activities and is to be implemented throughout the life cycle of the Project (i.e. throughout assessment, construction, and implementation phases).

WSP will only be involved in the stakeholder engagement and grievance management process for the assessment phase. The Project proponent and the Contractor will be responsible for implementation of the grievance mechanism throughout the construction phase. Once established, the Project infrastructure is to be handed over to Eskom for operation and maintenance, who will be responsible for managing grievances in line with their existing complaint handling process (not covered herein).

### **GRIEVANCE REDRESS PROCEDURE**

This grievance mechanism sets out the following steps to be taken to resolve grievances.

#### **1. Register grievance**

- A grievance can be submitted in a written letter, e-mail, fax, or raised verbally in person or via telephone.

- Grievances raised during the assessment process are to be submitted to the EAP via the details provided as per the stakeholder engagement notifications. The EAP will notify the Proponent of the grievance.
- Grievances raised during the implementation process are to be submitted to the Proponent / Contractor via the relevant details, which are to be made available to registered stakeholders prior to commencement of onsite activities, as well as via site notice boards.
- In the event that a complaint is raised verbally, the responsible person must obtain the approval of the complainant as to the documented complaint (by way of signature of the Receipt of Grievance Form). Should the complainant have literacy issues, the responsible person may request that a third party (friend / relative of complainant) is available to verify / approve the contents of the documented complaint to the satisfaction of the complainant.
- The submission should include the nature of the grievance, the date when it occurred and the name and contact details of the complainant.
- Grievances will be accepted anonymously or through a third party (e.g. unions, NGOs, local authorities, community representatives, etc.).
- Individuals have the right to request that their name be kept confidential throughout the grievance process.
- As men and women may communicate their grievances differently, and also have different types of grievances, the complainant may request that their grievance is processed by a female / male representative. In the event that such a request is made, the Proponent, as far as reasonably practicable, will accommodate this request.

**2. Within a Week (7 days) of receiving the grievance the Proponent will:**

- Enter the grievance into the Proponent's records that track grievances;
- Assess the grievance according to specific criteria and if necessary, develop an appropriate approach for the particular grievance;
- Provide a written acknowledgement of the grievance including the name of the responsible person to contact about progress, an explanation of the steps that will be taken to investigate, discuss and resolve the grievance, and an anticipated timetable for processing the grievance.

**3. Processing the Grievance:**

The responsible person will:

- Identify the parties involved;
- Clarify issues and concerns raised by the grievance through direct dialogue;
- Classify the grievance in terms of seriousness according to the gravity of the allegation, the potential impact on an individual's or a group's welfare and safety, or the public profile of the issue;
- Convene a staff group with expertise relative to the grievance;
- Determine the method for resolving the grievance – the most common approaches, not excluding others, will be:
  - i. The Proponent proposes a solution;
  - ii. The Proponent and aggrieved party decide together the solution;
  - iii. The Proponent and aggrieved party defer to a third party for mediation / arbitration.
- Gather views of other stakeholders, including those of the Proponent and if necessary, an agreed neutral technical opinion;
- Determine initial options that parties have considered and explore various approaches for settlement;
- Conduct the process as agreed;
- Close the grievances by signing the Complaint Close-Out Form (i.e. that the grievance has been resolved satisfactory to both parties).

- The Proponent may “close” the grievance even if the complainant is not satisfied with the outcome. This option can be pursued by the Proponent in the case that the complainant is unable to substantiate a grievance, or if there is an obvious speculative or fraudulent attempt. In such situations, the Proponent’s efforts to investigate the grievance and to arrive at a conclusion will be well documented and the complainant advised of the situation. The Proponent (or contractors working for the Proponent) will not dismiss grievances based on a cursory review and close them in their grievance record unless the complainant has been notified and had the opportunity to provide supplementary information / evidence;
- Keep a record that tracks the progress and communications for each grievance.

#### **4. Processing Timeline**

- The Proponent will aim to bring the grievance to a resolution within 30 days of receiving the grievance. The grievance shall be acknowledged within 7 days by the responsible person, and responded to within 30 days. If the matter takes longer than 30 days to resolve, the complainant will be informed through dialogue and in writing, of the reason for the delay, any advances or difficulties encountered and the anticipated new resolution date.

### **RECOURSE**

If the complainant is not satisfied with the outcome of the grievance process the aggrieved party has the right to address the grievance via the judicial system.

### **MANAGING, TRACKING, RECORDING GRIEVANCES – INTERNALLY**

In terms of managing grievances the Proponent will:

- appoint a senior manager to oversee the Grievance Mechanism. Another member of staff will be appointed to carry out the day-to-day work in this area and involve specialist staff and external parties, where required, who may need to be consulted to resolve a grievance.
- maintain a register of grievances. All activities, including registration of the grievance and the progress through to outcome will be recorded.
- ensure that grievances and resolutions are communicated internally to all staff through monthly reports.
- launch the Grievance Mechanism and regularly remind communities that it is available to use.

Contractors are expected to follow this Grievance Procedure. Contractor shall be proactive and available to participate in the grievance resolution processes. Contractor participation is intended to allow for specific contractor grievances to be addressed efficiently.

Contractors shall ensure that all individual contractor employees are aware of the Grievance Procedure. Contractors will receive any grievance from an individual or community and notify the Proponent thereof immediately.

Contractors shall not make any direct agreements or resolution with local communities without prior coordination of such actions with the Proponent.

The Contractor’s community relations team (or equivalent) will attend all coordination meetings requested by the Proponent, as required. The contractor community relations management (or equivalent) will report to the the Proponent’s management team on a regular basis – in regards to social incidents and community relations issues. The Proponent, or their representative, will conduct regular audits on contractors to ascertain compliance with this Grievance Procedure.

### **DISCLOSURE OF THE GRIEVANCE MECHANISM**

The grievance mechanism will be made public through:

- Stakeholder engagement during the BA assessment; and
- Stakeholder engagement during the implementation phase.

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## 9.2 GRIEVANCE MECHANISM - INTERNAL

The Proponent will establish a Grievance Mechanism that will set out the process for workers to communicate their grievances. The grievance mechanism will be available to workers of the Proponent, Contractors and subcontractors.

A Code of Conduct will set out practice measures that the construction workers will have to adhere to, to ensure a positive relationship is built and maintained with the landowners and local communities.

# 10 CONCLUSION

In terms of NEMA, everyone (i.e. all persons engaging in any component of this project) is required to take reasonable measures to ensure that they do not pollute the environment. 'Reasonable measures' includes informing and educating employees about the environmental risks associated with their work and training them to operate in an environmentally responsible manner.

The Proponent also recognises that, in terms of NEMA, the cost to repair any environmental damage will be borne by the person responsible for the damage. Should the above-mentioned environmental guidelines and mitigation measures be adopted, it is anticipated that the negative environmental impacts of the proposed OHPL will be mitigated adequately. The Proponent and the selected Contractor shall appoint relevant personnel, as well as an independent ECO, to monitor the site periodically throughout construction to ensure that the required environmental controls are in place and working effectively. During operation and maintenance the area specific Environmental Manager and EO, with the support of the maintenance supervisor, will monitor environmental controls.

If you have any further enquiries, please feel free to contact:

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# APPENDIX

## A EAP CV



# APPENDIX

## **B** EAP DECLARATION OF INTEREST AND UNDERTAKING





# APPENDIX

## C LAYOUT MAP



# APPENDIX

## **D** POWERLINE GENERIC EMPR



# APPENDIX

# E SUBSTATION GENERIC EMPR







# APPENDIX

# F TRAFFIC MANAGEMENT PLAN

