



forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X 447 PRETORIA 0001 Environment House 473 Steve Biko Road, Arcadia PRETORIA

DFFE Reference: 14/12/16/3/3/2/2448

Enquiries: Ms Matthodi Mogorosi

Telephone: (012) 399 9388 **E-mail:** MMogorosi@dff.gov.za

Mr Marshall Mabin
Kareekloof Energy (Pty) Ltd
240 Main Road
RONDEBOSCH
Cape Town
7700

Telephone Number: (071) 482 1315
Cell phone Number: (079) 578 4511
Email Address: marshall@merchant.energy

PER EMAIL / MAIL

Dear Mr Mabin

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT NO. 107 OF 1998, AS AMENDED: FOR THE DEVELOPMENT OF THE UP TO 900MW KAREEKLOOF SOLAR PHOTOVOLTAIC FACILITY AND A BATTERY ENERGY STORAGE SYSTEM (BESS), AND OTHER ASSOCIATED INFRASTRUCTURE LOCATED ON PORTION 1 OF THE FARM BAS BERG 88, PORTION 2 OF THE FARM KOPPY ALLEEN 83 AND PORTIONS 6, 11, 16 & 17 OF THE FARM KAREE KLOOF 85 NEAR DE AAR, WITHIN THE EMTHANJENI LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The Environmental Authorisation (EA) and the reasons for the decision are attached herewith.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within fourteen (14) days from the date of the decision, as well as the provisions regarding the submission of appeals that are contained in the Regulations.

In terms of the Promotion of Administrative Justice Act, Act No. 3 of 2000, you are entitled to the right to fair, lawful, and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further, your attention is drawn to the provisions of the Protection of Personal Information Act, Act No. 4 of 2013 which stipulate that the Department should conduct itself in a responsible manner when collecting, processing, storing, and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuse or compromise your personal information in any way.

Your attention is drawn to Chapter 2 of the National Environmental Management Act, Act No. 107 of 1998 National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribes the appeal procedure to be

followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

The Director: Appeals and Legal Review of this Department at the below-mentioned addresses:

By email: appeals@dffe.gov.za

By hand: Environment House
473 Steve Biko
Arcadia
Pretoria
0083; or

By post: Private Bag X447
Pretoria
0001

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, the lodging of an appeal will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@dffe.gov.za.

Yours faithfully


Dr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Date: *21/06/2024*

cc:	Mr. Dale Holder	Cape Environmental Assessment Practitioners (Pty) Ltd	Email: dale@cape-eaprac.co.za
	Mr. Denver Van Heerden	Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (NC)	Email: dvanheerden@daeardlr.gov.za
	DH Molaole	Emthanjeni Local Municipality	Email: Jdmolaole@emthanjeni.org.za

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forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of Regulation 25 of the Environmental Impact Assessment Regulations, 2014, as amended

The development of the up-to-900MW Kareekloof Solar Photovoltaic Facility and a Battery Energy Storage System (BESS), and other associated infrastructure located on portion 1 of the Farm Bas Berg 88, portion 2 of the Farm Koppy Alleen 83 and portions 6, 11, 16 & 17 of the Farm Karee Kloof 85 near De Aar, within the Emthanjeni Local Municipality in the Northern Cape Province

Pixley Ka Seme District Municipality

Authorisation register number:	14/12/16/3/3/2/2448
Last amended:	First issue
Holder of authorisation:	Kareekloof Energy (Pty) Ltd
Location of activity:	Portion 1 of the farm Bas Berg 88 Portion 2 of the farm Koppy Alleen 83 Portions 6, 11, 16 & 17 of the farm Karee Kloof 85 Emthanjeni Local Municipality Pixley Ka Seme District Municipality Northern Cape Province

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

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Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this Environmental Authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this Environmental Authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, Act No. 107 of 1998, as amended and the EIA Regulations, 2014, as amended.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment Regulations, 2014, as amended, the Department hereby authorises –

Kareekloof Energy (Pty) Ltd

with the following contact details –

Mr Marshall Mabin
240 Main Road
RONDEBOSCH
Cape Town
7700

Telephone Number: (071) 482 1315
Cell phone Number: (079) 578 4511
Email Address: marshall@merchant.energy

to undertake the following activities (hereafter referred to as “the activity”) indicated in Listing Notice 1, Listing Notice 2, and Listing Notice 3 of the EIA Regulations, 2014 as amended:

Activity number	Activity description
<p><u>Listing Notice 1, Item 11</u></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.”</i></p>	<p>Electricity will be transmitted from the PV arrays via 33kV underground powerlines, to the three On-Site / Facility Substations. At the On-Site / Facility Substations the 33kV electricity will be transformed to 132kV. The three onsite substations will have a capacity of up to 300MVA each.</p>
<p><u>Listing Notice 1, Item 12</u></p> <p><i>“The development of-</i></p> <p><i>(ii) infrastructure or structures with a physical footprint of 100 square metres or more;</i></p> <p><i>where such development occurs-</i></p> <p><i>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.”</i></p>	<p>The existing road access point 3 crosses a watercourse identified by the Aquatic Biodiversity Specialist. The project will require the construction of a causeway/bridge at this existing river crossing.</p>
<p><u>Listing Notice 1, Item 14</u></p> <p><i>“The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.”</i></p>	<p>The BESS proposed (particularly the Vanadium Redox Flow Technology) will include the storage of dangerous goods in excess of the threshold of this activity. The final volumes associated with the storage and storage and handling of dangerous goods will be dependent on the mix of battery technologies deployed.</p>
<p><u>Listing Notice 1, Item 28</u></p> <p><i>“Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:</i></p>	<p>The proposed PV and BESS development constitutes commercial/industrial use and will occur on a property currently used for limited agricultural purposes.</p>

<p><i>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.”</i></p>	
<p><u>Listing Notice 1, Item 48</u> <i>“The expansion of- (i) infrastructure or structures where the physical footprint is expanded by 100 square metres or more; where such expansion occurs- (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.”</i></p>	<p>The existing road access point 3 crosses a watercourse identified by the Aquatic Biodiversity Specialist. The project will require the construction of a causeway/bridge at this existing river crossing which will expand the existing road by more than 100 square metres.</p>
<p><u>Listing Notice 2, Item 1</u> <i>“The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more.”</i></p>	<p>The proposed Kareekloof Energy Project will have an electricity footprint of up to 900 megawatts.</p>
<p><u>Listing Notice 2, Item 4</u> <i>“The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.”</i></p>	<p>The BESS proposed (particularly the Vanadium Redox Flow Technology) will include the storage of dangerous goods in excess of the threshold of this activity. The final volumes associated with the storage and storage and handling of dangerous goods will be dependent on the mix of battery technologies deployed.</p>
<p><u>Listing Notice 2, Item 15</u> <i>“The clearance of an area of 20 hectares or more of indigenous vegetation.”</i></p>	<p>The proposed Kareekloof Energy Solar PV and BESS project will have a total development footprint of 1530ha and will require the clearance of more than 20ha of indigenous vegetation.</p>

<p><u>Listing Notice 3, Item 18</u></p> <p><i>"The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.</i></p> <p><i>(g) in Northern Cape;</i></p> <p><i>(ii) in areas outside urban areas;</i></p> <p><i>(ii) Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland."</i></p>	<p>The local public gravel roads are sufficiently maintained and wide enough to access the road access points.</p> <p>From the public gravel road access points to the laydowns and buildings/facilities, there is 6.25km of 7m wide access road that is needed. 4.3km of this will be new access routes and about 2km are existing farm roads.</p> <p>10km of the internal roads follow existing farm tracks that will need to be widened to 4m and 165km will be new internal road routes.</p>
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as described in the Environmental Impact Assessment Report (EIAR) dated April 2024 at:

SG 21 Code:

Farm names & Portion numbers	SG 21 Digit Code
Portion 1 of the Farm Bas Berg 88	C0570000000008300002
Portion 2 of the Farm Koppie Alleen 83	C0570000000008300002
Portion 6 of the Farm Karee Kloof 85	C0570000000008500006
Portion 11 of the Farm Karee Kloof 85	C0570000000008500011
Portion 16 of the Farm Karee Kloof 85	C0570000000008500016
Portion 17 of the Farm Karee Kloof 85	C0570000000008500017

Preferred Layout Alternative Coordinates:

Layout Alternative 3 – Mitigated Preferred	Latitude	Longitude
Area 1	024° 19' 26.24" E	30° 17' 05.81" S
	024° 19' 08.48" E	30° 17' 00.86" S
	024° 19' 03.68" E	30° 16' 53.48" S
	024° 18' 15.28" E	30° 16' 53.41" S
	024° 18' 07.53" E	30° 16' 48.95" S
	024° 18' 10.42" E	30° 16' 43.92" S
	024° 18' 03.60" E	30° 16' 16.82" S
	024° 17' 59.34" E	30° 16' 16.82" S

Layout Alternative 3 – Mitigated Preferred	Latitude	Longitude
	024° 17' 59.25" E	30° 16' 11.29" S
	024° 18' 05.53" E	30° 16' 02.81" S
	024° 18' 12.78" E	30° 16' 00.71" S
	024° 19' 09.99" E	30° 16' 19.17" S
	024° 19' 59.96" E	30° 16' 59.69" S
	024° 19' 41.89" E	30° 17' 03.00" S
	024° 19' 26.24" E	30° 17' 05.81" S
Area 2	024° 19' 34.73" E	30° 17' 54.63" S
	024° 18' 48.10" E	30° 17' 44.32" S
	024° 18' 48.37" E	30° 17' 34.27" S
	024° 18' 31.79" E	30° 17' 33.97" S
	024° 18' 33.11" E	30° 17' 11.11" S
	024° 18' 47.65" E	30° 17' 19.48" S
	024° 18' 50.47" E	30° 17' 19.43" S
	024° 18' 50.37" E	30° 17' 28.01" S
	024° 19' 01.72" E	30° 17' 27.76" S
	024° 19' 01.79" E	30° 17' 16.98" S
	024° 20' 04.62" E	30° 17' 05.80" S
	024° 19' 53.40" E	30° 17' 45.56" S
	024° 19' 34.73" E	30° 17' 54.63" S
	Area 3	024° 18' 33.05" E
024° 17' 59.41" E		30° 18' 14.47" S
024° 17' 54.94" E		30° 17' 52.95" S
024° 18' 10.62" E		30° 17' 39.64" S
024° 18' 19.92" E		30° 17' 47.18" S
024° 18' 23.10" E		30° 17' 52.99" S
024° 18' 34.56" E		30° 17' 52.90" S
024° 18' 44.13" E		30° 17' 46.73" S
024° 19' 24.59" E		30° 17' 56.00" S
024° 19' 16.38" E		30° 17' 59.12" S
024° 19' 09.02" E		30° 18' 03.34" S
024° 19' 03.09" E		30° 18' 09.97" S
024° 18' 33.05" E		30° 18' 14.64" S
Area 4.		024° 18' 31.36" E
	024° 18' 29.43" E	30° 17' 38.73" S
	024° 18' 15.00" E	30° 17' 38.55" S
	024° 18' 15.06" E	30° 17' 34.30" S
	024° 18' 04.11" E	30° 17' 27.96" S
	024° 18' 04.02" E	30° 17' 10.51" S
	024° 17' 53.10" E	30° 17' 10.44" S
	024° 17' 52.82" E	30° 17' 21.25" S
	024° 17' 32.64" E	30° 17' 09.21" S
	024° 17' 38.86" E	30° 16' 46.93" S
	024° 17' 51.70" E	30° 16' 46.77" S

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Department of Forestry, Fisheries and the Environment
 Environmental Authorisation Reg. No. 14/12/16/3/3/2/2448

Layout Alternative 3 – Mitigated Preferred	Latitude	Longitude
	024° 18' 31.36" E	30° 17' 10.10" S
Area 5.	024° 16' 46.92" E	30° 15' 51.84" S
	024° 16' 34.40" E	30° 15' 30.68" S
	024° 16' 34.58" E	30° 15' 16.11" S
	024° 17' 15.33" E	30° 14' 59.18" S
	024° 17' 23.40" E	30° 15' 13.35" S
	024° 17' 22.98" E	30° 15' 28.06" S
	024° 17' 25.24" E	30° 15' 32.18" S
	024° 17' 25.58" E	30° 15' 51.76" S
	024° 16' 46.92" E	30° 15' 51.84" S
Area 6	024° 16' 48.49" E	30° 15' 54.54" S
	024° 17' 24.79" E	30° 15' 54.66" S
	024° 17' 26.84" E	30° 15' 55.26" S
	024° 17' 26.92" E	30° 16' 00.39" S
	024° 17' 23.28" E	30° 16' 05.30" S
	024° 17' 23.23" E	30° 16' 07.82" S
	024° 17' 11.92" E	30° 16' 18.56" S
	024° 16' 58.44" E	30° 16' 11.02" S
024° 16' 48.49" E	30° 15' 54.54" S	
Area 7	024° 15' 57.60" E	30° 15' 39.97" S
	024° 16' 37.58" E	30° 16' 03.41" S
	024° 16' 37.94" E	30° 16' 10.57" S
	024° 16' 49.16" E	30° 16' 10.30" S
	024° 16' 55.37" E	30° 16' 13.87" S
	024° 16' 52.79" E	30° 16' 36.96" S
	024° 16' 41.58" E	30° 16' 47.68" S
	024° 15' 56.39" E	30° 16' 25.67" S
	024° 15' 37.22" E	30° 15' 57.75" S
	024° 15' 57.60" E	30° 15' 39.97" S
Area 8	024° 15' 10.85" E	30° 15' 12.41" S
	024° 15' 54.29" E	30° 15' 37.89" S
	024° 15' 35.28" E	30° 15' 54.49" S
	024° 15' 09.18" E	30° 15' 15.95" S
	024° 15' 10.85" E	30° 15' 12.41" S
Area 9	024° 15' 54.65" E	30° 15' 36.53" S
	024° 15' 11.48" E	30° 15' 11.21" S
	024° 15' 13.79" E	30° 15' 06.41" S
	024° 15' 54.29" E	30° 15' 06.21" S
	024° 15' 54.65" E	30° 15' 36.53" S
Area 10	024° 16' 06.18" E	30° 15' 43.25" S
	024° 16' 12.14" E	30° 15' 35.06" S
	024° 16' 25.14" E	30° 15' 35.04" S
	024° 16' 37.54" E	30° 15' 55.93" S
	024° 16' 37.65" E	30° 16' 01.61" S

Layout Alternative 3 – Mitigated Preferred	Latitude	Longitude
	024° 16' 06.18" E	30° 15' 43.25" S

BESS Area:

BESS Area	Latitude	Longitude
BESS 1	24° 16' 36.88" E	30° 15' 42.49" S
BESS 2	24° 18' 42.37" E	30° 17' 01.12" S
BESS 3	24° 18' 54.39" E	30° 17' 02.66" S

Substations:

IPP Substation	Latitude	Longitude
Substation 1	24° 16' 42.60" E	30° 15' 55.81" S
Substation 2	24° 18' 29.80" E	30° 16' 57.26" S
Substation 3	24° 19' 04.38" E	30° 17' 05.68" S

Access Road Points:

Access Road	Latitude	Longitude
Access 1 (RAP 1)	24° 18' 28.70" E	30° 17' 43.62" S
Access 2 (RAP 2)	24° 20' 04.39" E	30° 17' 01.67" S
Access 3 (RAP 3)	24° 17' 40.06" E	30° 14' 55.92" S

- for the development of the up to 900MW Kareekloof Solar Photovoltaic Facility and a Battery Energy Storage System (BESS), and other associated infrastructure located on portion 1 of the Farm Bas Berg 88, portion 2 of the Farm Koppie Alleen 83 and portions 6, 11, 16 & 17 of the Farm Karee kloof 85 near De Aar, within the Emthanjeni Local Municipality in the Northern Cape Province, hereafter referred to as "the property".

The main infrastructure associated with the facility includes the following:

- PV modules and mounting structures with a footprint of approximately 1498ha;
- Inverters and transformers;
- Cabling;
- 3600MWh Battery Energy Storage System (BESS) with a footprint of approximately 43ha;
- Access and internal access roads;
- Auxiliary buildings (33kV switch room, gatehouse and security, control centre, office, warehouse, canteen & visitors centre, staff accommodation/lockers, laydown areas etc.) with a footprint of approximately 13ha;

- Access roads approximately 5ha;
- Perimeter fencing and security infrastructure;
- Rainwater tanks;
- Temporary and permanent laydown areas; and
- Three (3) facility substations with a total footprint of approximately 14ha.

Below is a table for the details or dimensions of the up to 900MW Kareekloof Solar Photovoltaic Energy Facility and a BESS, and other associated infrastructure:

Site Details		
Size of the property	Description and Size in hectares of the affected property (Size as per the Deed is in brackets).	PV/BESS Site: <ul style="list-style-type: none"> - Portion 1 of the farm Bas Berg 88: size 1878.04 (1881.98) - Portion 2 of the farm Koppie Alleen 83: size 44.95 (38.10) - Portion 6 of the farm Karee Kloof 85: size 631.61 (630.34) - Portions 11 of the Farm Karee Kloof 85: size 576.63 (662.25) - Portion 16 of the Farm Karee Kloof 85: size 23.08 (23.00) - Portion 17 of the Farm Karee Kloof 85: size 357.60 (355.60)
Size of the study area	Size in ha of initial study area.(this is also the total of all the properties affected)	3512 ha (3591 ha)
Development Footprint	This includes the total footprint of PV panels, BESS auxiliary buildings, On-site Substation, Mini-substations, inverter stations and internal roads.	The total development area is 1530ha: including <ul style="list-style-type: none"> - PV= 1498ha, (within the PV footprint of 1498ha: optional 3 x BESS 43ha, internal 4m wide roads 70ha, temporary lay downs 6ha, string inverters, mini-subs,) - 3 x On-Site Substations each with a capacity of 132kv and a total footprint of 14ha, (The On-site Substations will be in areas of overlap of the PV/BESS and the Electrical Grid Infrastructure (EGI). <u>The Electrical Grid Infrastructure (i.e. the components that will be transferred to Eskom) have been assessed as part of a separate environmental application process.</u>) - permanent auxiliary structures (buildings, permanent lay-down areas) =13ha and - access 7m wide roads =5ha. Total Fenced Area is 1787ha

PV Technology Details		
Capacity of the facility	Capacity of the PV facility (in MW)	Net generation (contracted) capacity of up to 900MW _{AC} , which will consist of 18 stages or projects that may be developed singly or in groups in a phased development approach. Each of the 18 x 50MW stages will be self-sufficient up to the point of an On-site Substation or a collective BESS.
Solar Technology selection	Type of technology	<ul style="list-style-type: none"> - Solar photovoltaic (PV) technology (mono-facial or bifacial) with single-axis tracking or the fixed-tilt, or double-axis tracking mounting structures, as well as associated infrastructure, which will include: - Laydown area; - Access and Internal Road network; - Auxiliary buildings (33kV switch room, gatehouse and security, control centre, office, warehouse, canteen & visitors centre, staff accommodation/lockers etc.); - Facility (IPP or On-Site) substation; - Inverter-station, transformers and internal electrical reticulation (underground cabling); - Rainwater Tanks; and - Perimeter fencing and security infrastructure.
	Structure height	PV panels with a maximum height of ± 4m above the ground
	Surface area to be covered (including associated infrastructure such as roads)	1530ha
	Structure orientation	Preferred technology - single-axis track used in portrait orientation with strings of 1x ±30 panels. Mounting using hammered-in uprights and stabilising cables (as a worst case there will be 400mm diameter holes). Alternative technologies: fixed-tilt: north-facing at a defined angle of tilt, single or double axis tracking: mounted in a north-south orientation, tracking from east to west.
	Laydown area dimensions	Approximately 2ha temporary laydown area will be required for each development site of 50MW and will be situated within the assessed footprint. Temporary laydown area total at any one time will not exceed 12ha due to development in stages.
BESS Technology Details		
BESS technology section	Capacity of BESS facility (in MWh)	3600 MWh

Type of technology (preferred)	Redox Flow, for example Vanadium Redox Flow Battery (VRB)
Type of technology (alternatives)	Lithium-Ion, Sodium-Ion, Solid State, Liquid Metal (https://ambri.com/) and other technology types will be considered
Structure height	Containerised batteries less than 5m high except for lightning conductors and vent pipes. Storage tanks may be required for the VRB and could be 7m high if the non-containerised type of VRB battery is installed.
Surface area to be covered (including associated infrastructure such as roads)	43ha (3 x ±14ha) (including electrolyte storage tanks of 27ha (3 x ±9ha) for redox flow battery)
Structure locations	Three BESS sites, each ± 14ha near each of the 3 On-Site Substations-

Conditions of this Environmental Authorisation

Scope of authorisation

1. The development of the up to 900MW Kareekloof Solar Photovoltaic Energy Facility and a Battery Energy Storage System (BESS) and other associated infrastructure on portion 1 of the Farm Bas Berg 88, portion 2 of the Farm Koppie Alleen 83 and portions 6, 11, 16 & 17 of the Farm Karee kloof 85 near De Aar, within Ward 6 of the Emthanjeni Local Municipality in the Pixley Ka Seme District Municipality in the Northern Cape Province, as per the geographic coordinates cited in the tables above is hereby approved.
2. The site layout plan attached in Figure 25 of the EIAr and labelled "*Layout Alternative 3 (Mitigated Preferred Layout) for Kareekloof Solar PV*" for the Kareekloof Solar Photovoltaic Energy Facility and a BESS is approved.
3. Authorisation of the activity is subject to the conditions contained in this Environmental Authorisation, which form part of the Environmental Authorisation and are binding on the holder of the authorisation.
4. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this Environmental Authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant, or person rendering a service to the holder of the authorisation.
5. The activities authorised may only be carried out at the property as described above.
6. Any changes to, or deviations from, the project description set out in this Environmental Authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further Environmental Authorisation in terms of the regulations.
7. The holder of an Environmental Authorisation must apply for an amendment of the Environmental Authorisation with the Competent Authority for any alienation, transfer, or change of ownership rights in the property on which the activity is to take place.
8. This activity must commence within a period of ten (10) years from the date of issue of this Environmental Authorisation. If the commencement of the activity does not occur within that period, the authorisation lapses, and a new application for Environmental Authorisation must be made in order for the activity to be undertaken.

9. Construction must be completed within five (05) years of the commencement of the activity on site. The continuation of any such activities after the above-mentioned period may trigger one or more listed and/or specified activities, including activity 32 of LN1. Such continuation without the required environmental authorisation will constitute an offence or offences in terms of section 49A(1)(a) read with section 24F(1)(a) of NEMA:

Notification of authorisation and right to appeal

10. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this Environmental Authorisation, of the decision to authorise the activity.
11. The notification referred to must –
- 11.1. specify the date on which the authorisation was issued;
 - 11.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;
 - 11.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
 - 11.4. give the reasons of the Competent Authority for the decision.

Commencement of the activity

12. The authorised activity shall not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014, and no appeal has been lodged against the decision. In terms of Section 43(7), an appeal under Section 43 of the National Environmental Management Act, Act No. 107 of 1998, as amended will suspend the Environmental Authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal has been finalised.

Management of the activity

13. The Environmental Management Programme (EMPr) for the Kareekloof Solar Photovoltaic Facility and a BESS, and other associated infrastructure, submitted as part of the EIAr dated April 2024 is approved and must be implemented and adhered to.

14. The Generic Environmental Management Programme (EMPr), *“for the development and expansion of substation infrastructure for the transmission and distribution of electricity”* for the three (3) On-site Substation Hubs/Complexes, specifically Part C: Site Specific Environmental Attributes, dated 18 April 2024 submitted as part of the EIAr, is approved and must be implemented and adhered to.
15. The approved Generic Environmental Management Programme (EMPr) must be updated to include the project layout plan before the commencement of construction activities.
16. The EMPrs must be implemented and strictly enforced during all phases of the project. They shall be seen as dynamic documents and shall be included in all contract documentation for all phases of the development when approved.
17. Changes to the approved EMPrs must be submitted in accordance with the EIA Regulations applicable at the time.
18. The Department reserves the right to amend the approved EMPrs should any impacts that were not anticipated or covered in the EIAr be discovered.

Frequency and process of updating the EMPr

19. The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 26 below, indicate insufficient mitigation of environmental impacts associated with the undertaking of the activity, or insufficient levels of compliance with the environmental authorisation or EMPr.
20. The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.
21. The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of the EIA Regulations, 2014 as amended. The updated EMPr must have been subjected to a public participation process, which process has been agreed to by the Department, prior to submission of the updated EMPr to the Department for approval.
22. In assessing whether to grant approval of an EMPr which has been updated as a result of an audit, the Department will consider the processes prescribed in Regulation 35 of the EIA Regulations, 2014 as amended. Prior to approving an amended EMPr, the Department may request such amendments to the EMPr as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management, and mitigation of environmental impacts associated with the undertaking of the activity.
23. The holder of the authorisation must apply for an amendment of an EMPr if such amendment is required before an audit is required. The amendment process is prescribed in Regulation 37 of the EIA Regulations, 2014, as amended. The holder of the authorisation must request comments on the proposed amendments

to the impact management outcomes of the EMPr or amendments to the closure objectives of the closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days.

Monitoring

24. The holder of the authorisation must appoint an experienced Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.
 - 24.1. The ECO must be appointed before the commencement of any authorised activities.
 - 24.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
 - 24.3. The ECO must keep a record of all activities on site, problems identified, transgressions noted, and a task schedule of tasks undertaken by the ECO.
 - 24.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

Recording and reporting to the Department

25. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this environmental authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department.
26. The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPr remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPr are audited and that the audit reports are submitted to the *Director: Compliance Monitoring* of the Department.
27. The frequency of auditing and submission of the environmental audit reports must be as per the frequency indicated in the EMPr, taking into account the processes for such auditing as prescribed in Regulation 34 of the EIA Regulations, 2014 as amended.
28. The holder of the authorisation must, in addition, submit environmental audit reports to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.

29. The environmental audit reports must be compiled in accordance with Appendix 7 of the EIA Regulations, 2014 as amended and must indicate the date of the audit, the name of the auditor, and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPr.
30. Records relating to monitoring and auditing must be kept on-site and made available for inspection to any relevant and competent authority in respect of this development.

Notification to authorities

31. A written notification of commencement must be given to the Department no later than fourteen (14) days before the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.

Operation of the activity

32. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

Site closure and decommissioning

33. Should the activity ever cease or become redundant, the holder of the authorisation must undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and Competent Authority at that time.

Specific conditions

34. No activities, which require a water use license, must be allowed to encroach into a water resource without a water use authorisation being in place from the Department of Water and Sanitation.
35. A permit must be obtained from the relevant Department for the removal or destruction of indigenous, protected, or endangered plant or animal species (if any) and a copy of such permit/s must be submitted to the Department for record keeping.
36. No exotic plants may be used for rehabilitation purposes. Only indigenous plants of the area may be utilised.

37. Foundations and trenches must be backfilled with originally excavated materials as much as possible. Excess excavation materials must be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
38. The washing of panels during maintenance must be done with biodegradable soaps to avoid soil contamination.
39. If any evidence of archaeological sites or remains (e.g., remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, marine shell, and charcoal/ash concentrations), unmarked human burials, fossils or other categories of heritage resources are uncovered during construction, work in the immediate area must be halted, and SAHRA must be alerted immediately, and a professional archaeologist or palaeontologist (depending on the nature of the finds) must be contacted as soon as possible to inspect the findings.
40. Construction must include design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of stormwater run-off.
41. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, reuse, and disposal where appropriate. Any solid waste must be disposed of at a landfill licensed in terms of Section 20 (b) of the National Environment Management Waste Act, 2008 (Act No.59 of 2008).

General

42. A copy of this Environmental Authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying-
- 42.1. at the site of the authorised activity;
 - 42.2. to anyone on request; and
 - 42.3. where the holder of the Environmental Authorisation has a website, on such publicly accessible websites.
43. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation after construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of the authorisation.

Date of Environmental Authorisation: 21/06/2024



Dr Sabelo Malaza

Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment

Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The listed activities as applied for in the amended application form received by the Department on 22 April 2024.
- b) The information contained in the EIAr dated April 2024.
- c) The comments received from interested and affected parties as included in the EIAr dated April 2024.
- d) Mitigation measures as proposed in the EIAr dated April 2024 and the EMPRs.
- e) The findings of the site visit undertaken on 05 June 2024.
- f) The information contained in the specialist studies contained within the appendices of the EIAr dated April 2024 and as appears below:

Title	Prepared by	Date
Terrestrial Biodiversity Impact Assessment	Enviro-Insight CC	February 2024
Aquatic Biodiversity Impact Assessment	Tate Environmental Specialist Services / Enviro-Insight CC	January 2024
Avifauna Impact Assessment	Enviro-Insight CC	January 2024
Heritage Impact Assessment	Beyond Heritage Cultural Resource Consultants	April 2024
Agriculture Compliance Statement	Johann Lanz	September 2023
Visual Impact Assessment	Visual Resource Management Africa cc	March 2024
Socio-Economic Impact Assessment	Tony Barbour Environmental Consulting	November 2023
BESS Risk Assessment	Ishecon	March 2024
EMPr	Cape Environmental Assessment Practitioners (Pty) Ltd	March 2024

2. Key factors considered in making the decision.

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The findings of all the specialist studies conducted and their recommended mitigation measures.
- b) The need for the proposed project stems from the response to the growing electricity demand, fuelled by increasing economic growth and social development and placing increasing pressure on South Africa's existing power generation capacity. Coupled with this, is the growing awareness of environmentally responsible development, the impacts of climate change, and the need for sustainable development. In addition, the primary rationale for the proposed solar photovoltaic (PV) facility is to add new generation capacity from renewable energy to the national electricity mix and to aid in achieving the targeted goal of all new installed generating capacity being derived from renewable energy forms, as targeted by DMRE.
- c) The EIA dated April 2024 identified all legislations and guidelines that have been considered in the preparation of the EIA.
- d) The location of the proposed up to 900MW Solar Photovoltaic Energy Facility and a BESS, and other associated infrastructure.
- e) The methodology used in assessing the potential impacts identified in the EIA dated April 2024 and the specialist studies have been adequately indicated.
- f) A sufficient public participation process was undertaken, and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014 as amended for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

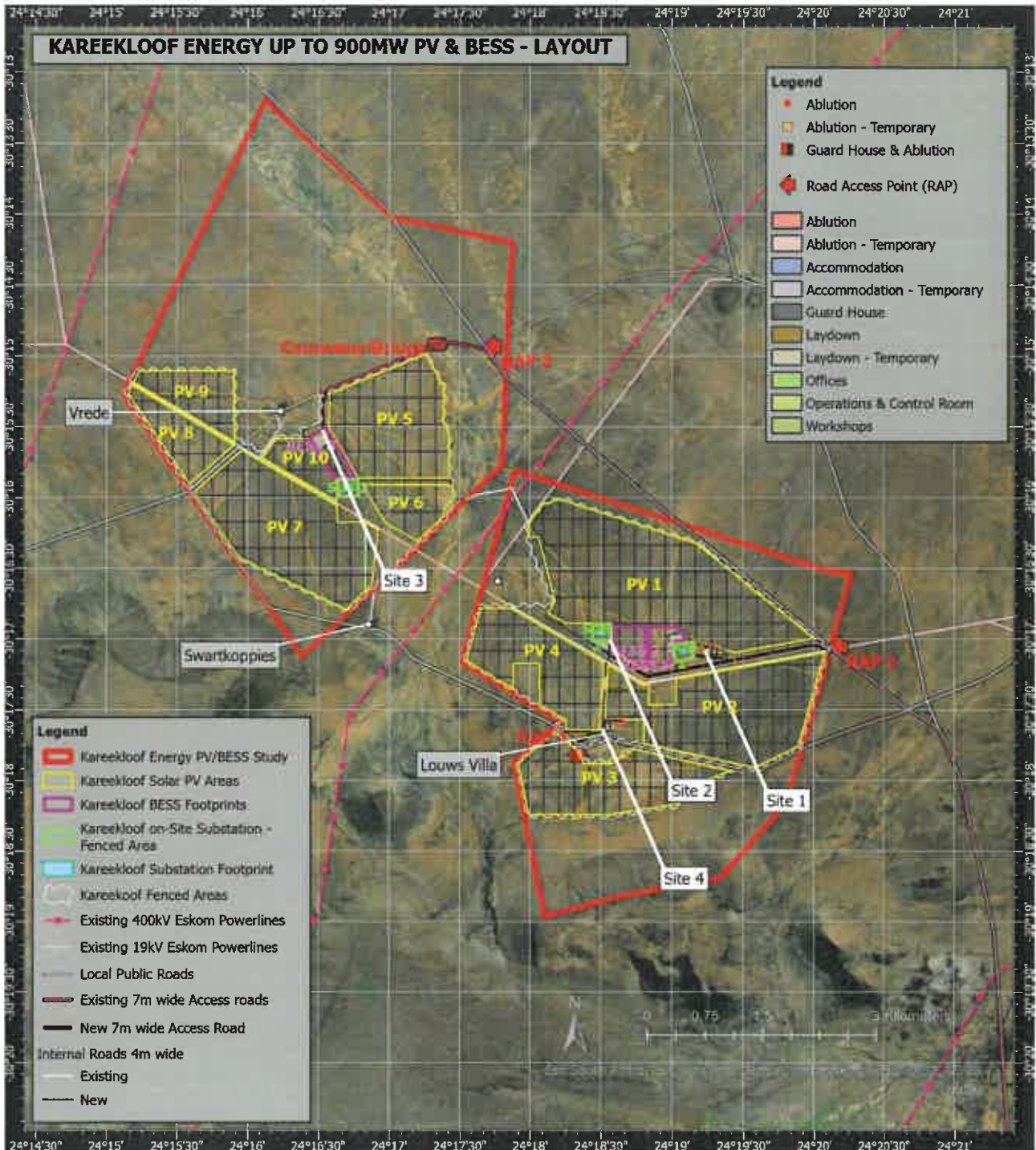
- a) The identification and assessment of impacts are detailed in the EIA dated April 2024 and sufficient assessment of the key identified issues and impacts have been completed.
- b) The procedure followed for impact assessment is adequate for the decision-making process.
- c) The information contained in the EIA dated April 2024 is deemed to be accurate and credible.
- d) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- e) EMP measures for the pre-construction, construction, and rehabilitation phases of the development were proposed and included in the EIA and will be implemented to manage the identified environmental impacts during the construction phase.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the authorised activities will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the authorised activities can be mitigated to acceptable levels. The environmental authorisation is accordingly **granted**.

Annexure 2: Locality Map



Annexure 3: Project Layout Plan



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