



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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Tel (+ 27 12) 399 9372

DEA Reference: 14/12/16/3/3/2/881

Enquiries: Mahlatse Shubane

Telephone: 012-399-9417 E-mail: mshubane@environment.gov.za

Mr Prabashen Govender
ACWA Power Africa Holdings (Pty) Ltd
PO Box 650200
BENMORE
2010

Telephone Number: (011) 722 4100
Email Address: pgovender@acwapower.co.za

PER E-MAIL / MAIL

Dear Mr Govender

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R. 982/983/984/985: PROPOSED BOKPOORT II 75 MEGAWATT (MW) PV1 PHOTOVOLTAIC DEVELOPMENT ON THE REMAINING EXTENT OF THE FARM BOKPOORT 390 NEAR GROBLERSHOOP WITHIN THE KHEIS 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 reasons for the decision are attached herewith.

The following activities, which were applied for are not authorised as part of this application:

<p><u>GN R. 983 Item 14:</u> <i>"The development 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>This activity was not adequately assessed in the EIAR to enable the Department to make an informed decision regarding this activity.</p>
<p><u>GN R. 983 Item 10:</u> <i>"The development and related operation of infrastructure exceeding 1000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes –</i> <i>(i) With an internal diameter of 0.36m or more; or</i> <i>(ii) With a peak throughput of 120 litres per second or more."</i></p>	<p>This activity was not adequately assessed in the EIAR to enable the Department to make an informed decision regarding this activity.</p>

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In terms of regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 14 (fourteen) days of the date of the EA, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 2 of Government Notice No. R.993, which prescribes the appeal procedure to be followed. An appellant must submit an 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.

By post: Private Bag X447,
Pretoria, 0001; or

By hand: Environment House
473 Steve Biko,
Arcadia,
Pretoria, 0083

If the applicant wishes to lodge an appeal, it must also serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection, should you intend to submit an appeal.

Appeals must be submitted in writing to:

Mr Z Hassam, Director: Appeals and Legal Review, of this Department at the above mentioned addresses. Mr Hassam can also be contacted at:

Tel: (012) 399 9356
Email: Appealsdirector@environment.gov.za

Please note that in terms of section 43(7) of the National Environmental Management Act, 1998, an appeal under section 43 of that Act 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.

For guidance on appeals submitted to the Minister in terms of NEMA and the SEMAs, please find a copy of the guideline on the administration of appeals on the Department's website:
(https://www.environment.gov.za/documents/forms#legal_authorisations).

Kindly include a copy of this document with the letter of notification to interested and affected parties.

Yours faithfully


Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs
Date: 24/10/2016

CC:	Ms M Schlechter	Golder Associates Africa (Pty) Ltd	Tel: 011-254-4800	Email: Mschlechter@golder.co.za
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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

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

The proposed Bokpoort II 75MW PV1 Photovoltaic Solar Development on the Remaining Extent of the Farm Bokpoort 390 near Groblershoop within the Kheis Local Municipality in the Northern Cape Province

ZF Mgcawu District Municipality

Authorisation register number:	<i>14/12/16/3/3/2/881</i>
Last amended:	<i>First issue</i>
Holder of authorisation:	<i>ACWA Power Africa Holdings (Pty) Ltd</i>
Location of activity:	<i>Remaining Extent of the Farm Bokpoort 390 within the Kheis Local Municipality in the Northern Cape Province</i>

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.

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, 1998 and the EIA regulations.

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, 1998 (Act No.107 of 1998) and the Environmental Impact Assessment Regulations, 2014 the Department hereby authorises –

ACWA POWER AFRICA HOLDINGS (PTY) LTD

(hereafter referred to as the **holder of the authorisation**)

with the following contact details –

Mr Prabashen Govender

PO Box 650200

BENMORE

2010

Telephone number: (011) 722 4100

Cell Phone Number: (083) 273 1122

Email Address: pgovender@acwapower.co.za

to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notice 1 and Listing Notice 2 (GN R. 983, 984 and 985):

Activity number	Activity description
<p><u>GN R. 983 Item 9:</u> <i>"The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water</i></p> <p>(i) <i>With an internal diameter of 0.36m or more;</i> <i>or</i></p> <p>(ii) <i>With a peak throughput of 120 litres per second or more."</i></p>	<p>The proposed development will require facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water from the Orange River with a peak throughput of 120 litres per second.</p> <p>A 20km pipeline will be constructed from the Orange River to the proposed solar facility for the transportation of bulk water. The pipeline will have a throughput of 120 l/sec and a diameter of not more than 0.36m.</p>
<p><u>GN R. 983 Item 11:</u> <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>The proposed solar facility will require the construction of a 132 kV overhead powerline to connect the facility to the grid via the Garona Substation located on the Remaining Extent of the Farm Bokpoort 390. The new overhead powerline will be approximately 5km long with a servitude of 50m on either side. The powerline towers will be 35m high.</p>
<p><u>GN R. 983 Item 12:</u> <i>"The development of –</i></p> <p>(ii) <i>Channels exceeding 100 square metres in size;</i></p> <p>(x) <i>Buildings exceeding 100 square metres in size; or</i></p> <p>(xi) <i>Infrastructures or structures with a physical footprint of 100 square metres or more;</i></p> <p><i>Where such development occurs –</i></p> <p>(a) <i>Within a watercourse;</i></p> <p><i>Or if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse."</i></p>	<p>The proposed solar facility will require the construction of pumps on a floating pump platform within the Orange River. Due to the steep river bank at the area of pump installation, the river bank will be stabilised with a rock and cement foundation. Concrete plinths will be constructed on both sides to connect anchor cables to the pipes. The area that will be covered by the cement foundation will exceed 100 square metres.</p>

<p><u>GN R. 983 Item 19:</u></p> <p><i>"The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from –</i></p> <p><i>(i) a watercourse"</i></p>	<p>The installation of the water abstraction pumps and pump platform in the Orange River will probably require the dredging of silt along the river bottom to ensure adequate water depth for the pumps to operate without drawing excessive silt. The dredged material will not be removed from the river but merely moved downstream within the river.</p>
<p><u>GN R. 983 Item 28:</u></p> <p><i>"Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development</i></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>The development of the solar facility will involve the development of 250ha of agricultural land. The project site is located outside an urban area.</p>
<p><u>GN R. 983 Item 56:</u></p> <p><i>"The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre</i></p> <p><i>(ii) where no reserve exists, where the existing road is wider than 8 metres."</i></p>	<p>An access road leading from the current private Transnet Service Road will be constructed to create an access road for the proposed solar facility. The existing road will be lengthened by more than 1km and will be approximately 6m in width.</p>
<p><u>GN R. 984 Item 1:</u></p> <p><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 maximum electricity generation capacity of the proposed PV1 solar facility will be 75 MW and will be located outside an urban area.</p>
<p><u>GN R. 984 Item 15:</u></p> <p><i>"The clearance of an area of 20ha or more of indigenous vegetation."</i></p>	<p>The construction of the proposed PV1 facility will require the clearance of more than 20 ha of indigenous vegetation.</p>
<p><u>GN R. 985 Item 12:</u></p> <p><i>"The clearance of an area of 300 square metres or more of indigenous vegetation except where such</i></p>	<p>The abstraction of water will require the installation of water abstraction pumps on a floating pump platform</p>

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<p><i>clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan</i></p> <p><i>(a) <u>Northern Cape Province:</u></i></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>and the construction of cement and rock foundation (for the stabilisation of the river bank).</p> <p>The indigenous riparian vegetation that will be cleared during the construction of the cement and rock river bank foundation will exceed 300 square metres and will be located within the endangered Lower Gariep Alluvial Vegetation ecosystem.</p>
<p><u>GN R. 985 Item 14:</u></p> <p><i>“The development of</i></p> <p><i>(iv) Infrastructure or structures with a physical footprint of 10 square metres or more where such development occurs within a watercourse, or if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse</i></p> <p><i>(a) <u>Northern Cape Province:</u></i></p> <p><i>(ii) Outside urban areas, in:</i></p> <p><i>(dd) sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority</i></p> <p><i>(ff) critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.”</i></p>	<p>The abstraction of water will require the installation of water abstraction pumps on a floating pump platform and the construction of cement and rock foundation (for the stabilisation of the river bank).</p> <p>The construction of the cement and rock river bank foundation will have a physical footprint in excess of 10 square metres and will be located on the Orange River bank within the endangered Lower Gariep Alluvial Vegetation ecosystem.</p>

as described in the Environmental Impact Assessment Report (EIAR) dated July 2016 at:

21 SG Code:

C	0	2	8	0	0	0	0	0	0	0	0	0	3	9	0	0	0	0	0	0
C	0	2	8	0	0	0	0	0	0	0	0	0	3	9	1	0	0	0	0	0
C	0	2	8	0	0	0	0	0	0	0	0	0	3	9	1	0	0	0	0	5

PV1 Facility	Latitude	Longitude
	28°43'29.15"S	22°0'39.05"E
	28°42'36.83"S	21°59'55.18"E
	28°42'37.24"S	21°59'55.54"E
	28°42'47.36"S	21°59'55.63"E
	28°42'47.27"S	22°0'7.62"E
	28°42'47.96"S	22°0'8.79"E
	28°42'48.63"S	22°0'9.98"E
	28°42'57.78"S	22°0'10.07"E
	28°42'57.46"S	22°0'53.07"E
	28°43'7.98"S	22°0'53.18"E
	28°43'8.04"S	22°0'46.01"E
	28°43'18.57"S	22°0'46.11"E
	28°43'18.62"S	22°0'38.94"E
	28°43'29.15"S	22°0'39.05"E
	28°43'29.2"S	22°0'31.87"E
	28°43'39.73"S	22°0'31.98"E
	28°43'39.83"S	22°0'17.64"E
	28°43'8.25"S	22°0'17.34"E
	28°43'8.69"S	21°59'17.48"E
	28°43'2.94"S	21°59'12.77"E
	28°42'58.2"S	21°59'12.73"E
	28°42'47.67"S	21°59'12.63"E
	28°42'47.73"S	21°59'5.46"E

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	28°42'36.83"S	21°59'55.18"E
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Pipeline	Latitude	Longitude
Start Point	28°48'18.46"S	21°53'16.21"E
Middle	28°45'48.11"S	21°57'10.34"E
End	28°42'24.81"S	21°59'24.63"E

Overhead powerline	Latitude	Longitude
Start	28°43'47.26"S	22°0'22.22"E
First Turn	28°43'50.98"S	22°0'22.25"E
Second turn	28°44'12.52"S	22°0'4.99"E
End at substation	28°44'17.84"S	21°59'48.63"E

Construction laydown area	Latitude	Longitude
	28°42'19.78"S	21°59'26.29"E
	28°42'19.67"S	21°59'41.47"E
	28°42'34.27"S	21°59'41.6"E
	28°42'34.38"S	21°59'26.43"E
	28°42'26.28"S	21°59'26.35"E
	28°42'19.78"S	21°59'26.29"E

- for the construction of the proposed Bokpoort II 75 MW PV1 Photovoltaic Solar Development on the Remaining Extent of the Farm Bokpoort 390 near Groblershoop within the Kheis Local Municipality in the Northern Cape Province, hereafter referred to as "the property".

The project components for the Bokpoort II 75 MW PV1 Photovoltaic Solar Development include:

- Solar generator comprised of polycrystalline PV modules (JINKO Solar modules JKM 310Wp) that will be able to deliver up to 75 MW to the Eskom National Grid;
- Inverters that convert direct current (DC) generated by the PV modules into alternating current (AC) to be exported to the electrical grid. The inverter is a HSC2160S Solar Station manufactured by Helios Systems. The inverter is an 11.28 m high cube container which includes the DC distribution, the inverter, the medium voltage transformer and the medium voltage switchgear;

- A transformer that raises the system AC low voltage (LV) to medium voltage (MV). The transformer converts the voltage of the electricity generated by the PV panels to the correct voltage for delivery to Eskom;
- Transformer substation; and
- Instrumentation and control consisting of hardware and software for remote plant monitoring and operation of the facility.

Associated infrastructure includes:

- Mounting structures for the solar panels will be either rammed steel piles or piles with pre-manufactured concrete footings to support the PV panels;
- Cabling between the structures, to be laid underground where practical;
- A new 132 kV overhead powerline which will connect the facility to the national grid via Eskom's existing Garona Substation; the powerline will be approximately 5km in length and will be located within a servitude spanning 50 metres on both sides. The powerline towers will be 35 metres high;
- Approximately 20km water pipeline extending from the Orange River to the project site with a maximum diameter of 0.36m and a maximum throughput of 120l/s. The pipeline will be shared between the three projects, i.e. Bokpoort II CSP (DEA Reference: 14/12/16/3/3/2/879), the Bokpoort II PV1 (DEA Reference: 14/12/16/3/3/2/881) and Bokpoort II PV2 (DEA Reference: 14/12/16/3/3/2/880);
- Internal access roads (4 – 6 m wide roads will be constructed but existing roads will be used as far as possible) and fencing (approximately 3 m in height); and
- Associated buildings, including a workshop area for maintenance, storage (i.e. fuel tanks, etc.).

Technical details of the proposed facility:

Component	Description/ Dimensions
Location of the project site	Remaining Extent of the Farm Bokpoort 390
Area of PV array	250ha
Export capacity	75 MW
Height of PV panels	4m
Width of internal roads	4m

Conditions of this Environmental Authorisation

Scope of authorisation

1. The construction of the proposed Bokpoort II 75 MW PV1 Photovoltaic Solar Development on the Remaining Extent of the Farm Bokpoort 390 near Groblershoop within the Kheis Local Municipality in the Northern Cape Province as described above is hereby approved.
2. 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.
3. 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.
4. The activities authorised may only be carried out at the property as described above.
5. 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.
6. 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.
7. This activity must commence within a period of five (05) years from the date of issue of this environmental authorisation. If 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.
8. Construction must be completed within 5 years of the commencement of the activity on site.
9. Commencement with one activity listed in terms of this environmental authorisation constitutes commencement of all authorised activities.

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.
12. The holder of the authorisation must publish a notice –
 - 12.1. informing interested and affected parties of the decision;
 - 12.2. informing interested and affected parties where the decision can be accessed; and
 - 12.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in terms of the National Appeal Regulations, 2014.

Commencement of the activity

13. The authorised activity shall not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014. In terms of section 43(7), an appeal under section 43 of the National Environmental Management Act, 1998 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

14. A copy of the final development layout map must be made available for comments by registered Interested and Affected Parties and the holder of this environmental authorisation must consider such comments. Once amended, the final development layout map must be submitted to the Department for written approval prior to commencement of the activity. All available information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible e.g. roads. The layout map must indicate the following:

- 14.1. Position of solar facilities and its associated infrastructure;
 - 14.2. All sensitive features e.g. heritage sites, wetlands, pans and drainage channels that will be affected by the facility and its associated infrastructure;
 - 14.3. All existing infrastructure on the site, e.g. roads, buildings, substations, powerlines etc.; and,
 - 14.4. All "no-go" and buffer areas.
15. Furthermore, a shapefile of the development layout/footprint must be submitted to this Department within two months from the date of this decision. The shapefile must be created using the Hartebeesthoek 94 Datum and the data should be in Decimal Degree Format using the WGS 84 Spheroid. The shapefile must include at a minimum the following extensions i.e. .shp; .shx; .dbf; .prj; and, .xml (Metadata file). If specific symbology was assigned to the file, then the .avl and/or the .lyr file must also be included. Data must be mapped at a scale of 1:10 000 or specify if an alternative scale was used. The metadata must include a description of the base data used for digitizing. The shapefile must be submitted in a zip file using the EIA application reference number as the title. The shape file must be submitted to:

Postal Address:

Department of Environmental Affairs
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Environment House
473 Steve Biko
Arcadia
Pretoria

For Attention: Mr Muhammad Essop
Integrated Environmental Authorisations
Strategic Infrastructure Developments
Telephone Number: (012) 399 9406
Email Address: MEssop@environment.gov.za

16. The Environmental Management Programme (EMPr) submitted as part of the EIAr is not approved and must be amended to include measures as dictated by the final site lay-out map and micro-siting, and the provisions of this environmental authorisation. The EMPr must be made available for comments by registered Interested and Affected Parties and the holder of this environmental authorisation must consider such comments. Once amended, the final EMPr must be submitted to the Department for written approval prior to commencement of the activity. Once approved the EMPr must be implemented and adhered to.
 17. The EMPr amendment must include the following:
 - 17.1. All recommendations and mitigation measures recorded in the EIAr and specialist studies attached as part of the EIAr.
 - 17.2. The requirements and conditions of this environmental authorisation.
 - 17.3. The final site layout map.
 - 17.4. An alien invasive management plan to be implemented during construction and operation of the facility. The plan must include mitigation measures to reduce the invasion of alien species and ensure that the continuous monitoring and removal of alien species is undertaken.
 - 17.5. A plant rescue and protection plan which allows for the maximum transplant of conservation important species from areas to be transformed. This plan must be compiled by a vegetation specialist familiar with the site in consultation with the ECO and be implemented prior to commencement of the construction phase.
 - 17.6. A post construction avifaunal monitoring plan to be implemented during the operational phase of the facility. This plan must be compiled by an avifaunal specialist familiar with the site and the plan must adhere to Birdlife's most recent avifaunal guideline.
 - 17.7. A re-vegetation and habitat rehabilitation plan to be implemented during the construction and operation of the facility. Restoration must be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.
 - 17.8. A storm water and wash water management plan to be implemented during the construction and operation of the facility. The plan must ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion. The plan must include the construction of 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 storm water run-off.
 - 17.9. A traffic management plan for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan
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- must include measures to minimize impacts on local commuters e.g. limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time and avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations including farming operations.
- 17.10. An erosion management plan for monitoring and rehabilitating erosion events associated with the facility. Erosion mitigation must form part of this plan to prevent and reduce the risk of any potential erosion.
 - 17.11. An effective monitoring system to detect any leakage or spillage of any hazardous substances during their transportation, handling, use or storage. This must include precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or storm water systems.
 - 17.12. Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.
 - 17.13. A fire management plan to be implemented during the construction and operation of the facility.
 - 17.14. An environmental sensitivity map indicating environmentally sensitive areas and features identified during the EIA process.
 - 17.15. The final site layout map.
 - 17.16. The final site layout map superimposed (overlain) on the environmental sensitivity map. This map must reflect the approved location of the PV as stated in the EIAR and this environmental authorisation.
18. The final amended EMPr (once approved) must be implemented and strictly enforced during all phases of the project. It must be seen as a dynamic document and must be included in all contract documentation for all phases of the development when approved.
 19. Should the holder of this environmental authorisation propose any changes to the EMPr, the holder of this environmental 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.
 20. The Department reserves the right to amend the approved EMPr should any impacts that were not anticipated or covered in the EIAR be discovered.

Frequency and process of updating the EMPr

21. The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 28 below, indicate insufficient mitigation of environmental impacts associated with the
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- undertaking of the activity, or insufficient levels of compliance with the environmental authorisation or EMPr.
22. The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.
 23. The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of GN R. 982. 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.
 24. 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 GN R.982. 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.
 25. The holder of the authorisation may apply for an amendment of an EMPr, if such amendment is required before an audit is required. The holder must notify the Department of its intention to amend the EMPr at least 60 days prior to submitting such amendments to the EMPr to the Department for approval. In assessing whether to grant such approval or not, the Department will consider the processes and requirements prescribed in Regulation 37 of GN R. 982.

Monitoring

26. The holder of the authorisation must appoint an experienced independent 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.
 - 26.1. The ECO must be appointed before commencement of any authorised activities.
 - 26.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
 - 26.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
 - 26.4. 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

27. 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.
28. 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.
29. The frequency of auditing and of 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 GN R. 982.
30. 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.
31. The environmental audit reports must be compiled in accordance with Appendix 7 of the EIA Regulations, 2014 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.
32. 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

33. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to 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

34. 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

35. 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

36. Watercourses and its associated buffers outside the approved footprint/layout must be treated as "no-go" areas and demarcated as such. No vehicles, machinery, personnel, construction material, fuel, oil, bitumen or waste must be allowed into these areas without the express permission of and supervision by the ECO, except for rehabilitation work in these areas.
37. Should any heritage resources of archaeological or paleontological significance be discovered during construction activities, construction must cease and a Phase 2 rescue operation must be undertaken by a qualified specialist. The findings must be submitted to SAHRA and should they have implications to the layout or mitigation measures, these must be submitted to this Department with SAHRA's recommendations for review and consideration.
38. The footprint of the development must be limited to the areas required for actual construction works and operational activities. Vegetation clearing must be limited to the required footprint.
39. Areas outside of the footprint, including sensitive areas and buffer areas, must be clearly demarcated (using fencing and appropriate signage) before construction commences and must be regarded as "no-go" areas.
40. Contractors and construction workers must be clearly informed of the no-go areas.
41. Before the clearing of the site, the appropriate permits must be obtained from the Department of Agriculture, Forestry and Fisheries (DAFF) for the removal of plants listed in the National Forest Act and from the relevant provincial department for the destruction of species protected in terms of the specific provincial legislation. Copies of the permits must be made available to this Department on request.
42. Construction activities must be restricted to demarcated areas to restrict the impact on sensitive environmental features.
43. Monitoring for erosion must take place to ensure that no erosion problems are occurring at the site as a result of the roads and other infrastructure. All erosion problems observed must be rectified as soon as possible as outlined in the erosion management plan within the EMPr.
44. Vehicle speeds must be kept low (<30 km/h) on unpaved roads.
45. Chemical binders such as Dustex or Dust-A-Side must be considered for unpaved roads.

46. Dust fall must be monitored by dust collection buckets located downwind of the construction area.
47. Cleared alien vegetation must be temporarily stored in a demarcated area. Once clearing is completed, they must be moved to a licenced waste disposal facility.
48. No construction activities are allowed within 1.5km of the identified Martial Eagle's nest.
49. Prior to construction, an avifaunal specialist must conduct a site walkthrough covering the road, pipeline, powerline route as well as the PV facility layout to identify any nests, breeding or roosting activity of sensitive species as well as any sensitive habitats.
50. Signs must be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information.
51. A formal grievance or complaints mechanism must be implemented.
52. Topsoil from all excavations and construction activities must be salvaged and reapplied during reclamation.
53. No discharge of effluents or polluted water must be allowed into any rivers or wetland areas.
54. No spoil material, including stripped topsoil, must be temporarily stockpiled within 30 m of freshwater ecosystems identified to be of low or moderate conservation importance and 50 m of freshwater ecosystems identified to be of high conservation importance.
55. Underground cables and internal access roads must be aligned as much as possible along existing infrastructure to limit damage to vegetation and watercourses.
56. Anti-erosion measures such as silt fences must be installed in disturbed areas.
57. No activities will be allowed to encroach into a water resource without a Water Use License being in place from the Department of Water and Sanitation.
58. Cleared alien vegetation must not be dumped on adjacent intact vegetation during clearing but must be temporarily stored in a demarcated area.
59. Disturbed areas must be rehabilitated as soon as possible after construction and only local indigenous plants must be used to enhance the conservation of existing natural vegetation on site.
60. Workers must be made aware of the importance of not polluting rivers or wetlands and the significance of not undertaking activities that could result in such pollution, and this awareness must be promoted throughout the construction phase.
61. Signs must be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration should be given to limiting construction vehicles travelling on public roadways during the morning and late afternoon commute time.
62. Signage must be erected at appropriate points warning of turning traffic and the construction site.

63. Internal access roads must be located to minimize stream crossings. All structures crossing streams must be located and constructed so that they do not decrease channel stability or increase water velocity.
64. Roads must be designed so that changes to surface water runoff are avoided and erosion is not initiated.
65. A designated access to the site must be created and clearly marked to ensure safe entry and exit.
66. Construction vehicles carrying materials to the site should avoid using roads through densely populated built-up areas so as not to disturb existing retail and commercial operations.
67. Should abnormal loads have to be transported by road to the site, a permit must be obtained from the relevant Provincial Government.
68. All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.
69. The holder of this authorisation must reduce visual impacts during construction by minimising areas of surface disturbance, controlling erosion, using dust suppression techniques and restoring exposed soil as closely as possible to their original contour and vegetation.
70. The holder of this authorisation must train safety representatives, managers and workers in relation to workplace safety. The construction process must be compliant with all safety and health measures as prescribed by the relevant act.
71. Liaison with land owners/farm managers must be done prior to construction in order to provide sufficient time for them to plan agricultural activities.
72. No unsupervised open fires for cooking or heating must be allowed on site.
73. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling and re-use options where appropriate. Where solid waste is disposed of, such disposal shall only occur at a landfill licensed in terms of section 20(b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).
74. The holder of this authorisation must provide sanitation facilities within the construction area and along the road so that workers do not pollute the surrounding environment. These facilities must be removed from the site when the construction phase is completed as well as associated waste to be disposed of at a registered waste disposal site.
75. The holder of this authorisation must take note that no temporary site camps will be allowed outside the footprint of the development area as the establishment of such structures might trigger a listed activity as defined in the Environmental Impact Assessment Regulations.

76. 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.
 77. Borrow materials must be obtained only from authorised and permitted sites. Permits must be kept on site by the ECO.
 78. Dust abatement techniques must be used before and during surface clearing, excavation, or blasting activities.
 79. Appropriate dust suppression techniques must be implemented on all exposed surfaces during periods of high wind. Such measures may include wet suppression, chemical stabilisation, the use of a wind fence, covering surfaces with straw chippings and re-vegetation of open areas.
 80. A pre-construction survey of the final development footprint must be conducted to ascertain the identity and exact number of individuals of protected species affected by the proposed development. Prior to the commencement of construction, a rescue and rehabilitation operation for these species which could survive translocation must be conducted.
 81. No construction activities can commence without having obtained the necessary permits for threatened or protected species (ToPS) listed and provincially protected species within the study area.
 82. Any vegetation clearing that needs to take place as part of maintenance activities, should be done in an environmentally friendly manner, including avoiding the use of herbicides and using manual clearing methods wherever possible.
 83. All construction vehicles must remain on properly demarcated roads. No construction vehicles should be allowed to drive over the vegetation except where no cleared roads are available. In such cases a single track should be used and multiple paths should not be formed. Where temporary access roads are created, they should be rehabilitated as outlined in the rehabilitation plan after completion of construction.
 84. Regular monitoring for erosion must take place to ensure that no erosion problems are occurring at the site as a result of the roads and other infrastructure. All erosion problems observed should be rectified as soon as possible as outlined in the erosion management plan within the EMPr.
 85. Excavations must be inspected regularly in order to rescue trapped animals.
 86. An appropriately designed and effective stormwater management system must be implemented.
 87. Kerbs and storm water channels must be designed in such a way that they can allow small animals and reptiles to move freely.
 88. Top soil and subsoil must be stockpiled separately and replaced according to the correct profile i.e. topsoil replaced last. Stockpiles must not be situated such that they obstruct natural water pathways and drainage channels.
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89. Top soil stockpiles must not exceed 2m in height, stockpiles older than 6 months must be enriched before they can be used to ensure the effectiveness of the topsoil.
 90. Any fauna directly threatened by the construction activities must be removed to a safe location by a suitably qualified person.
 91. The collection, hunting, or harvesting of any plants or animals at the site is strictly forbidden.
 92. Lighting for both the construction period and through the operation of the facility must be of low-pressure sodium type, preferably yellow. All perimeter and security lighting must be attached to motion detectors, and should be dark-sky friendly.
 93. Electric fencing must not have any strands within 30cm of the ground, which should be sufficient to allow smaller mammals, reptiles and tortoises to pass through (tortoises retreat into their shells when electrocuted and eventually succumb from repeated shocks), but still remain effective as a security barrier.
 94. The fuel required for on-site construction vehicles and equipment must be secured in a temporary bunded facility to prevent leakages and soil contamination.
 95. Road borders should be regularly maintained to ensure that vegetation remains short and that they therefore serve as an effective firebreak.
 96. All declared aliens must be identified and managed in accordance with the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). There should be an alien species monitoring and eradication program to prevent encroachment of these problem plants for the duration of the operation.
 97. The washing of panels during maintenance must be done with biodegradable soaps to avoid soil contamination and poisoning of small animals.
 98. All new powerlines must be marked with bird flight diverters along their entire length. To create a net benefit, where possible, the new lines must run parallel to existing marked lines so as to reduce the collision risk posed by the older lines.
 99. The poles should be fitted with bird perches on top of the poles to draw birds, particularly vultures away from the potentially risky insulators.
 100. All pylons to be constructed should make use of "bird friendly" monopole structures, fitted with a bird perch, as per Eskom standard guidelines.
 101. During operation, any electrocution and collision events that occur should be recorded, including the species affected and the date. If repeated collisions occur within the same area, then, further mitigation and avoidance measures may need to be implemented.
 102. The recommendations of the EAP in the EIAR dated July 2016 and the specialist studies attached must be adhered to. In the event of any conflicting mitigation measures and conditions of the Environmental Authorisation, the specific condition of this Environmental Authorisation will take preference.
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General

103. A copy of this environmental authorisation, the audit and compliance monitoring reports, and the approved EMPr, must be made available for inspection and copying-
- 103.1. at the site of the authorised activity;
 - 103.2. to anyone on request; and
 - 103.3. where the holder of the environmental authorisation has a website, on such publicly accessible website.
104. 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 subsequent to 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 authorisation.

Date of environmental authorisation: 24/10/2016



Mr Sabelo Malaza

Chief Director: Integrated Environmental Authorisations

Department of Environmental Affairs

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 dated 26 May 2016.
- b) The information contained in the EIAr dated July 2016.
- c) The comments received from the Kheis Local Municipality, SANRAL, Birdlife South Africa, the Northern Cape Department of Environment and Nature Conservation, the Department of Agriculture, Forestry and Fisheries, and interested and affected parties as included in the EIAr dated July 2016.
- d) The mitigation measures as proposed in the EIAr and the EMPr.
- e) The information contained in the specialist studies conducted.

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 provision of electricity to the national grid.
- c) The EIAr dated July 2016 identified all legislation and guidelines that have been considered in the preparation of the EIAr dated July 2016.
- d) The methodology used in assessing the potential impacts identified in the EIAr dated July 2016 and the specialist studies have been adequately indicated.
- e) Comments from Interested and Affected Parties.
- f) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2014 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 EIAr dated July 2016 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 proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- d) The information contained in the EIAr dated July 2016 is deemed to be accurate and credible.
- e) EMPr measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the EIAr and will be implemented to manage the identified environmental impacts during the construction phase.
- f) The following activities were not authorised as it was not adequately assessed in the EIAr: GN R. 983 Item 10 and GN R. 983 Item 14 to enable the Department to make an informed decision.

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.