



## **environmental affairs**

Department:  
Environmental Affairs  
**REPUBLIC OF SOUTH AFRICA**

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko, Arcadia·PRETORIA  
Tel (+ 27 12) 399 9372

**NEAS Reference:** DEA/EIA/0001942/2013

**DEA Reference:** 14/12/16/3/3/2/568

**Enquiries:** Ms Mpho Monyai

**Telephone:** (012) 399 9413 **E-mail:** mmonyai@environment.gov.za

Mr Niel Theron  
Boegoeberg Hydro Electric Power (Pty) Ltd  
PO Box 50  
Airport Industria  
**CAPE TOWN**  
7525

Telephone Number: (021) 9345 503

Fax Number: (086) 2689 711

### **PER FACSIMILE / MAIL**

Dear Mr Theron

### **APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998: GN R. 543/544/545/546: PROPOSED CONSTRUCTION OF AN 11MW HYDROPOWER STATION AND ITS ASSOCIATED INFRASTRUCTURE AT BOEGOEBERG DAM ON THE ORANGE RIVER NEAR GROBLERSHOOP, 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.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2010 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 12 (twelve) 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 7 of the Regulations, which prescribes the appeal procedure to be followed. This procedure is summarised in the attached document. Kindly include a copy of this document with the letter of notification to interested and affected parties.

Should the applicant or any other party wish to appeal any aspect of the decision a notice of intention to appeal must be lodged by all prospective appellants with the Minister, within 20 days of the date of the EA, by means of one of the following methods:

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.

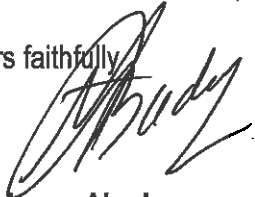
**Appeals must be submitted in writing to:**

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: AppealsDirectorate@environment.gov.za

The authorised activities shall not commence within twenty (20) days of the date of signature of the authorisation. Further, please note that the Minister may, on receipt of appeals against the authorisation or conditions thereof suspend the authorisation pending the outcome of the appeals procedure.

Yours faithfully



**Mr Isshaam Abader**  
**Deputy Director-General: Legal, Authorisations, Compliance and Enforcement**  
**Department of Environmental Affairs**

Date: 14/08/2014

CC:	Mr Simon Clark	Aurecon South Africa (Pty) Ltd	Tel: 021 526 9400	Fax: 021 526 9500
	Ms Anga Yaphi	Provincial Department	Tel: 054 3322 885	Fax: 054 3311 155
	The Municipal Manager	!Kheis Local Municipality	Tel: 054 8339 500	Fax: 054 8339 509

**APPEALS PROCEDURE IN TERMS OF CHAPTER 7 OF THE NEMA EIA REGULATIONS, 2010 (THE REGULATIONS) AS PER GN R. 543 OF 2010 TO BE FOLLOWED BY THE APPLICANT AND INTERESTED AND AFFECTED PARTIES UPON RECEIPT OF NOTIFICATION OF AN ENVIRONMENTAL AUTHORISATION (EA)**

<b>APPLICANT</b>	<b>INTERESTED AND AFFECTED PARTIES (IAPs)</b>
1. Receive EA from the relevant Competent Authority (the Department of Environmental Affairs [DEA]).	1. Receive EA from Applicant/Consultant.
2. Within 12 days of date of the EA notify all IAPs of the EA and draw their attention to their right to appeal against the EA in terms of Chapter 7 of the Regulations.	2. N/A.
3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA with the Minister of Water and Environmental Affairs (the Minister).	3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA. with the Minister of Water and Environmental Affairs (the Minister).
4. After having submitted your notice of intention to appeal to the Minister, provide each registered IAP with a copy of the notice of intention to appeal within 10 days of lodging the notice.	4. After having submitted your notice of intention to appeal to the Minister, provide the applicant with a copy of the notice of intention to appeal within 10 days of lodging the notice.
5. The Applicant must also serve on each IAP: <ul style="list-style-type: none"> <li>• a notice indicating where and for what period the appeal submission will be available for inspection.</li> </ul>	5. Appellant must also serve on the Applicant within 10 days of lodging the notice, <ul style="list-style-type: none"> <li>• a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.</li> </ul>
6. The appeal must be submitted in writing to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.	6. The appeal must be submitted to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.
7. Any IAP who received a notice of intention to appeal may submit a responding statement to that appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.	7. An Applicant who received notice of intention to may submit a responding statement to the appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.

**NOTES:**

**1. An appeal against a decision must be lodged with:-**

- a) the Minister of Water and Environmental Affairs if the decision was issued by the Director-General of the Department of Environmental Affairs (or another official) acting in his/her capacity as the delegated Competent Authority;
- b) the Minister of Justice and Constitutional Development if the applicant is the Department of Water Affairs and the decision was issued by the Director-General of the Department of Environmental Affairs (or another official) acting in his/her capacity as the delegated Competent Authority;

**2. An appeal lodged with:-**

- a) the Minister of Water and Environmental Affairs must be submitted to the Department of Environmental Affairs;
- b) the Minister of Justice and Constitutional Development must be submitted to the Department of Environmental Affairs;

**3. An appeal must be:-**

- a) submitted in writing;
- b) accompanied by:
  - a statement setting out the grounds of appeal;
  - supporting documentation which is referred to in the appeal; and
  - a statement that the appellant has complied with regulation 62 (2) or (3) together with copies of the notices referred to in regulation 62.





**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

## Environmental Authorisation

In terms of regulation 36 of the Environmental Impact Assessment Regulations, 2010

The construction of an 11MW Hydropower Station and its associated infrastructure at Boegoeberg Dam on the Orange River near Groblershoop, Northern Cape Province

ZF Mgcawu District Municipality

<b>Authorisation register number:</b>	<i>14/12/16/3/3/2/568</i>
<b>NEAS reference number:</b>	<i>DEA/EIA/0001942/2013</i>
<b>Last amended:</b>	<i>First issue</i>
<b>Holder of authorisation:</b>	<i>BOEGOEBERG HYDRO ELECTRIC POWER (PTY) LTD</i>
<b>Location of activity:</b>	<i>!Kheis Local Municipality 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 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 107 of 1998) and the Environmental Impact Assessment Regulations, 2010 the Department hereby authorises –

### **BOEGOEBERG HYDRO ELECTRIC POWER (PTY) LTD**

with the following contact details –

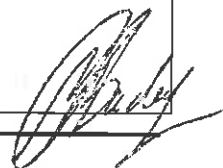
Mr Niel Theron  
Boegoeberg Hydro Electric Power (Pty) Ltd  
PO Box 50  
Airport Industria  
**CAPE TOWN**  
7525

Telephone Number: (021) 9345 503  
Fax Number: (086) 2689 711  
Cell phone Number: (082) 542 7194  
E-mail: [Niel@hydro-sa.com](mailto:Niel@hydro-sa.com)



to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notices 1 and 3 (GN R. 544 & 546):

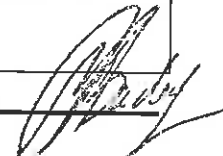
Listed activities	Activity/Project description
<p><u>GN R. 544 Item 1:</u>                      The construction of facilities or infrastructure for the generation of electricity where                      (i) the electricity output is more than 10 megawatts but less than 20 megawatts.</p>	<p>The proposed hydropower station would have an electricity output of approximately 11MW.</p>
<p><u>GN R. 544 Item 10:</u>                      The construction of facilities or infrastructure for the transmission and distribution of electricity                      (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.</p>	<p>The hydropower plant would connect to the Eskom grid at the Fibre Substation via a transmission line of not more than 132 kV capacity.</p>
<p><u>GN R. 544 Item 11:</u>                      The construction of:                      (i) canals;                      (xi) infrastructure or structures covering 50 square metres or more                      where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>The footprint of the proposed hydropower plant, which would be constructed within and adjacent to the Orange River, would exceed 50 square metres and a canal may be required.</p>
<p><u>GN R. 544 Item 18:</u>                      The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, pebbles or rock from                      (i) a watercourse.</p>	<p>During construction of the proposed hydropower plant more than 5 cubic metres of material could be removed from the Orange River. Infilling may be required just upstream of the weir on the northern side of the off-take structure near the intake structure. Furthermore a temporary coffer dam will be required for the construction phase.</p>
<p><u>GN R. 544 Item 23:</u>                      The transformation of undeveloped, vacant or derelict land to –                      (ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less</p>	<p>The footprint of the proposed hydropower plant, associated infrastructure including that of the construction site and access roads would exceed 1 hectare on undeveloped land.</p>



Listed activities	Activity/Project description
than 20 hectares.	
<u>GN R. 545 Item 10:</u> The construction of facilities or infrastructure for the transfer of 50 000 cubic metres or more water per day, from and to or between any combination of the following: (iii) impoundments.	The proposed hydropower station would involve the transfer of more than 50,000m <sup>3</sup> per day from and back into the Orange River.
<u>GN R. 546 Item 4:</u> The construction of a road wider than 4 metres with a reserve less than 13, 5 metres. (a) In Northern Cape province: (ii) Outside urban areas, in: (bb) National Protected Area Expansion Strategy Focus areas.	Access roads to the hydropower station would be upgraded to approximately 6 m in width and will be partly in a National Protected Area Expansion Strategy Focus Area.
<u>GN R. 546 Item 4:</u> The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.  Northern Cape (ii) Outside urban areas, (bb) National Protected Area Expansion Strategy Focus areas.	The associated infrastructure i.e. roads and transmission line, borrow pits, and construction site of the proposed hydropower station would be greater than 1 hectare (ha) and will be located in part of a National Protected Area Expansion Strategy Focus Area.

as described in the Environmental Impact Assessment Report (EIAr) dated March 2014 at:

component	Dimension (width x Length)	Coordinates	
		Latitude	Longitude
Permanent site infrastructure			
Off-take infrastructure	20m x 150M	29°2'28.68" S	22°12'15.93" E
Water Conveyance: tunnel	6m x 6.75m x 300m	29°2'23.41" S	22°12'10.53" E
Power station intake structure/ penstock	20m x 20m	29°2'19.88" S	22°12'7.04" E
Power chamber i.e. turbines and generator)	38m long x 30m wide	29°2'19.62" S	22°12'6.74" E



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NEAS Reference Number: DEA/EIA/0002030/2013

Outlet Works/tailrace	30m x 160m	29°2'19.29" S	22°12'4.29" E
Switch room/Transformer yard	20m x 20m	29°2'19.31" S	22°12'6.93" E
<b>Linear Activities</b>			
<b>High Voltage transmission infrastructure</b>	30m x 41 000m 132kV		
Starting point of activity		29°2'19.31" S	22°12'6.93" E
Middle point of activity		29°11'21.44" S	22°11'50.96" E
End point of activity		29°20'44.58" S	22°14'2.22" E
<b>Access roads (existing)</b>	8.5 km x 6m		
Starting point of activity		29°2'19.31" S	22°12'6.93" E
Middle point of activity		29°11'21.44" S	22°11'50.96" E
End point of activity		29°20'44.58" S	22°14'2.22" E
<b>Transmission route</b>	25km x 4m 16km x 4m		
Starting point of activity		29°2'19.31" S	22°12'6.93" E
Middle point of activity		29°11'21.44" S	22°11'50.96" E
End point of activity		29°20'44.58" S	22°14'2.22" E
<b>Spoil Material</b>			
Starting point of activity	Reuse options include farm revetments to prevent flooding of fields and/or in the upgrade and establishment of access roads as described above.	29°4'11.84" S	22°12'44.39" E
Middle point of activity		29°4'10.08" S	22°12'39.39" E
End point of activity		29°4'10.70" S	22°12'35.25" E
Borrow pits (Existing farm borrow pits)	Borrow pit 1: 250m circumference	29°3'4.27" S	22°14'4.01" E
	Borrow pit 2: 200m circumference	29°3'13.20" S	22°14'50.38" E
Sediment basins	3 x 30m x 30m	Centre basin 1 29°02'18.13" S	22°12'08.65" E
		Centre basin 2 29°02'16.28" S	22°12'07.37" E
		Centre basin 3	





		29°02'14.56" S	22°12'05.97" E
<b>Temporary site infrastructure</b>			
- site office - construction yard - staff accommodation	50m x 75m	29°2'27.23" S	22°12'24.42" E

- for the construction of an 11MW hydropower station and its associated infrastructure at Boegoeberg Dam on the Orange River near Groblershoop, !Kheis Local Municipality, Northern Cape Province, hereafter referred to as "the property".

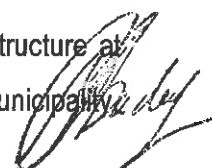
The infrastructures associated with this facility include:

- An off-take structure above the existing Boegoeberg weir to facilitate the abstraction of water;
- Intake structure;
- A temporary upstream and downstream caisson (cofferdam) to exclude water from the construction works;
- Water conveyance infrastructure comprising of a tunnel to convey the water to the head pond;
- Steel penstocks to transfer the water to the power chamber;
- A power chamber to house the turbines and generation equipment;
- Outlet channel (tailrace) to return the abstracted water back into the river, downstream of the power chamber;
- A switch room and transformer yard;
- A high voltage (HV) transmission line to evacuate the power to the nearby Fibre Substation;
- Sediment basins (for dredge spoil); and
- Access roads to the site and transmission line access tracks.

## Conditions of this Environmental Authorisation

### Scope of authorisation

1. The proposed construction of a 11MW hydropower station and its associated infrastructure at Boegoeberg Dam on the Orange River near Groblershoop, within the !Kheis Local Municipality in the Northern Cape Province with coordinates indicated above is approved.



2. Authorisation of the activity is subject to the conditions contained in this 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 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 authorisation in terms of the regulations.
6. This activity must commence within a period of three (3) years from the date of issue of this 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.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
8. The holder of an environmental authorisation must notify the competent authority of any alienation, transfer and change of ownership rights in the property on which the activity is to take place.

#### **Notification of authorisation and right to appeal**

9. The holder of the authorisation must notify every registered interested and affected party, in writing and within 12 (twelve) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
10. The notification referred to must –
  - 10.1. specify the date on which the authorisation was issued;
  - 10.2. inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment Regulations, 2010;
  - 10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and

- 10.4. give the reasons of the competent authority for the decision.
11. The holder of the authorisation must publish a notice –
  - 11.1. informing interested and affected parties of the decision;
  - 11.2. informing interested and affected parties where the decision can be accessed; and
  - 11.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in the newspaper(s) contemplated and used in terms of regulation 54(2)(c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.

### **Management of the activity**

12. A copy of the final development layout map must be made available for comments by registered Interested and Affected Parties and the applicant 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 biodiversity 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:
    - 12.1. Position of off-take and in-take as well as the all permanent infrastructure and its associated temporary infrastructure;
    - 12.2. Foundation footprint;
    - 12.3. Roads and cables;
    - 12.4. All sensitive features e.g. heritage sites, wetlands, pans and drainage channels that will be affected by the facility and associated infrastructure;
    - 12.5. Substation(s) inverters and/or transformer(s) sites including their entire footprint;
    - 12.6. Connection routes (including pylon positions) to the distribution/transmission network;
    - 12.7. All existing infrastructure on the site, especially roads;
    - 12.8. Buildings, including accommodation; and,
    - 12.9. All "no-go" and buffer areas.
  13. Furthermore, a shapefile of the approved 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 1:40 000.
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(please 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:**

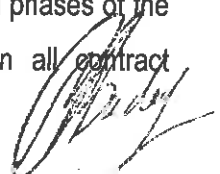
Department of Environmental Affairs  
Private Bag X447  
Pretoria  
0001

**Physical address:**

Department of Environmental Affairs  
Environment House  
473 Steve Biko,  
Arcadia,  
Pretoria, 0083

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

14. The Environmental Management Programme (EMPr) submitted as part of the EIAr dated March 2014 is not approved and must be amended to include measures as dictated by the final site layout 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 applicant 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.
15. The EMPr is amendable and must be implemented and strictly enforced during all phases of the project. It shall be seen as a dynamic document and shall be included in all contract documentation for all phases of the development when approved.

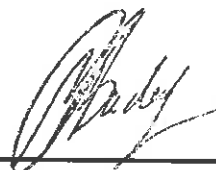


16. Changes to the EMPr, which are environmentally defensible, shall be submitted to this Department for acceptance before such changes could be effected.
  17. The Department reserves the right to amend the EMPr should any impacts that were not anticipated or covered in the EIAr dated March 2014 be discovered.
  18. The provisions of the approved EMPr including recommendations and mitigation measures in the EIAr dated March 2014 and specialist studies shall be an extension of the conditions of this EA and therefore noncompliance with them would constitute noncompliance with the EA.
  19. The EMPr amendment must include the following:
    - 19.1 All recommendations and mitigation measures recorded in the EIAr dated March 2014.
    - 19.2 All mitigation measures as listed in the specialist reports must be included in the EMPr and implemented.
    - 19.3 The requirements and conditions of this authorisation.
    - 19.4 The final site layout map.
    - 19.5 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.
    - 19.6 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.
    - 19.7 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.
    - 19.8 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 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.
    - 19.9 A storm 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
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- include the construction of appropriate 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.
- 19.10 An erosion management plan for monitoring and rehabilitating erosion events associated with the facility. Appropriate erosion mitigation must form part of this plan to prevent and reduce the risk of any potential erosion.
- 19.11 An effective monitoring system to detect any leakage or spillage of all hazardous substances during their transportation, handling, use and storage. This must include precautionary measures to limit the possibility of oil and other toxic liquids from entering the soil or storm water systems.
- 19.12 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.
- 19.13 An environmental sensitivity map indicating environmental sensitive areas and features identified during the EIA process.
- 19.14 A map combining the final layout map superimposed (overlain) on the environmental sensitivity map. This map must reflect the proposed location of the turbine as stated in the EIAr dated March 2104 and this authorisation.

#### **Environmental Control Officer (ECO) and duties**

20. The holder of this authorisation must appoint an independent Environmental Control Officer (ECO) with experience or expertise in the field for the construction phase of the development. The ECO will have the responsibility to ensure that the conditions referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMPr.
21. The ECO must be appointed before commencement of any authorised activity.
22. Once appointed, the name and contact details of the ECO must be submitted to the Director: Compliance Monitoring of this Department.
23. The ECO must meet with the contractors to discuss the conditions of the EA and the contents of the EMPr prior to any site clearing occurring.
24. 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.



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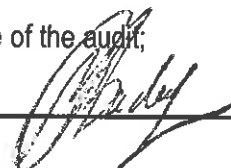
25. The ECO must:
- 25.1. Keep record of all activities on site, problems identified, transgressions noted and a schedule of tasks undertaken by the ECO.
  - 25.2. Keep and maintain a detailed incident (including spillage of bitumen, fuels, chemicals, or any other material) and complaint register on site indicating how these issues were addressed, what rehabilitation measures were taken and what preventative measures were implemented to avoid re-occurrence of incidents/complaints.
  - 25.3. Keep and maintain a daily site diary.
  - 25.4. Keep copies of all reports submitted to the Department.
  - 25.5. Keep and maintain a schedule of current site activities including the monitoring of such activities.
  - 25.6. Obtain and keep record of all documentation, permits, licences and authorisations such as waste disposal certificates, hazardous waste landfill site licences etc. required by this facility.
  - 25.7. Compile a monthly monitoring report.

#### **Recording and reporting to the Department**

- 26. The holder of this authorisation must keep all records relating to monitoring and auditing on site and make it available for inspection to any relevant and competent authority in respect of this development.
- 27. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the Director: Compliance Monitoring at this Department.

#### **Environmental audit report**

- 28. The holder of the authorisation must submit an environmental audit report to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.
- 29. The environmental audit report must:
  - 29.1. Be compiled by an independent environmental auditor;
  - 29.2. Indicate the date of the audit, the name of the auditor and the outcome of the audit;



- 29.3. Evaluate compliance with the requirements of the approved EMPr and this environmental authorisation;
- 29.4. Include measures to be implemented to attend to any non-compliances or degradation noted;
- 29.5. Include copies of any approvals granted by other authorities relevant to the development for the reporting period;
- 29.6. Highlight any outstanding environmental issues that must be addressed, along with recommendations for ensuring these issues are appropriately addressed;
- 29.7. Include a copy of this authorisation and the approved EMPr;
- 29.8. Include all documentation such as waste disposal certificates, hazardous waste landfill site licences etc. pertaining to this authorisation; and
- 29.9. Include evidence of adherence to the conditions of this authorisation and the EMPr where relevant such as training records and attendance records.

#### **Commencement of the activity**

30. The authorised activity shall not commence within twenty (20) days of the date of signature of the authorisation.
31. An appeal under section 43 of the National Environmental Management Act (NEMA), Act 107 of 1998 (as amended), does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister, MEC or delegated organ of state directs otherwise.
32. Should you be notified by the Minister of a suspension of the authorisation pending appeal procedures, you may not commence with the activity until such time that the Minister allows you to commence with such an activity in writing.
33. The holder of this authorisation must obtain a Water Use Licence from the Department of Water Affairs (DWA) prior to the commencement of the project should the holder impact on any wetland or water resource. A copy of the license must be kept by the ECO.

#### **Notification to authorities**

34. Fourteen (14) days written notice must be given to the Department that the activity will commence. 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. This
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notification period may coincide with the Notice of Intent to Appeal period, within which construction may not commence.

### **Operation of the activity**

35. Fourteen (14) days written notice must be given to the Department that the activity operational phase will commence.
36. The holder of this authorisation must compile an operational EMPr for the operational phase of the activity or alternatively, if the holder has an existing operational environmental management system, it must be amended to include the operation of the authorised activity.
37. The EMPr must form part of the contract with the EPC Contractor appointed to construct the proposed facility, and must be used to ensure compliance with environmental specifications and management measures.

### **Site closure and decommissioning**

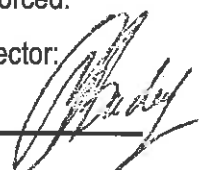
38. Should the activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

### **Specific conditions**

39. The final power line route must be endorsed by a suitably qualified and experienced avifaunal specialist. Bird flappers must be placed on the power lines at appropriate locations.
  40. The footprint of the development must be limited to the areas required for actual construction works and operational activities and the areas outside of the footprint must be clearly demarcated and regarded as "no-go" areas. Construction activities must be restricted to demarcated areas to restrict the impact on sensitive environmental features.
  41. Vegetation clearing must be limited to the authorised footprint.
  42. All areas of disturbed soil must be reclaimed using only indigenous grass and shrubs. Reclamation activities shall be undertaken according to the rehabilitation plan to be included in the final EMPr.
  43. 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
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- 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 kept by the ECO.
44. Topsoil from all excavations and construction activities must be salvaged and reapplied during reclamation.
  45. The plant must be completely shut down during its maintenance period, to allow maximum water flow on the river.
  46. The holder of this authorisation must provide the rafting operators with an annual maintenance plan of the plant to allow them to plan for increased utilisation of the river during the plant maintenance.
  47. The water quality downstream of the Orange River must be monitored to prevent any fish mortality at various strategic locations which must be decided on by the ECO during the operational phase.
  48. The applicant must install flood bypass tunnels or small-scale weirs to reduce or eliminate sediment flowing into reservoirs.
  49. The ecological reserve must be protected through the management of floods and possible high water levels during the construction and operation period.
  50. The integrity of riparian vegetation must be protected at all times to prevent or minimize riverbank erosion.
  51. Watercourse pollution by effluents from the construction activities must be prevented.
  52. The water-bearing channel must not be completely blocked to prevent degrading of quantity and quality of water used by downstream users.
  53. All human movement and activities must be contained within designated construction areas to avoid destruction of vegetation.
  54. All areas disturbed by development activities must be rehabilitated on completion of the construction phase. Exotic plants must not be used for rehabilitation purposes, only indigenous plants of the area must be utilised.
  55. The transmission line and associated roads must be moved outside of any riparian zone, except where direct crossing is necessary.
  56. Soil erosion must be controlled as siltation may impact on aquatic ecosystems and sensitive aquatic habitats downstream of the site.
  57. Mitigation measures, such as screens, must be installed to prevent fish from entering the intakes or passing through the turbines. Measures that promote fish migration must also be implemented.
  58. Faunal species must not be trapped, killed or hunted during the construction phase.
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59. Dumping of any excess rubble, building material or refuse must be prohibited within the riparian habitat.
60. Alien invasive plants must be controlled on site by establishing an on-going monitoring program to detect and quantify any alien species that may become established. An on-going monitoring programme must be established to detect, quantify and manage any alien species. Clearing and removal of the detected invasive plants must be done in accordance with the Conservation of Agricultural Resources Act (Act No.43 of 1983).
61. Hazardous substances such as diesel and oil required by the contractors must be stored in dedicated areas to minimize spills and protect the environment.
62. Hazardous substances must not be stored where there could be accidental leakage into surface or subterranean water.
63. Hazardous waste such as bitumen, oils, oily rags, paint tins etc. must be disposed of at an approved hazardous waste landfill site.
64. During the construction phase of the development, an effective monitoring system must be put in place to detect any leakage or spillage of all hazardous materials such as cement and battery acid during their transportation, handling, installation and storage. All activities (storage and offloading of material, and construction) must be restricted to the demarcated area to minimise any potential disturbance to the surrounding area.
65. Topsoil and subsoil must be protected from contamination by means of proper site management.
66. Polluted run-off water must be isolated and not be allowed to enter drainage lines, wetland areas or storm water canals and the Orange River.
67. Cement mixing on site during construction must take place within a designated area, on an impermeable surface where the run-off can be appropriately contained and areas where mixing occurs must be cleaned up after use to avoid permanent soil contamination.
68. Appropriate dust suppression techniques must be implemented on all exposed surfaces during periods of high wind.
69. Erosion and loss of soil must be prevented by minimizing the construction site exposed to surface water run-off. Where necessary erosion stabilizing actions such as gabions or re-vegetation must be implemented to prevent further habitat deterioration.
70. Any local hydraulic effects and/or actions that could result in erosion must be negated.
71. The applicant must train safety representatives, managers and workers in workplace safety. All applicable safety standards and regulations, including for subcontractors must be enforced.
72. Any significant spillage of hazardous substance must be reported to the Regional Director:  
Department of Water Affairs (DWA), within 24 hours of a spill.



73. The applicant must consult with DWA regarding the authorisation and/or registration of water uses in terms of Section 21 of the National Water Act, 1998 (Act No.36 of 1998).
  74. The base-rate in the Orange River between the abstraction and return points must meet the requirements of the Department of Water Affairs.
  75. The proposed structure must not interfere with any of DWA structures or Hydro gauging weir without approval from the DWA.
  76. The potential fire hazard must be managed by ensuring that no open fires are permitted on site and that the construction personnel are aware of the consequences of starting a fire on site to avoid damage to the neighbouring farms.
  77. Chemical ablution facilities must be available for the use of construction staff at all times during the construction period. 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 site.
  78. All noise generated during all phases of the proposed development must comply with the relevant SANS codes and standards.
  79. Areas around fuel tanks must be bunded or contained in an appropriate manner as per the requirements of SABS 089:1999 Part 1.
  80. Leakage of fuel must be avoided at all times and if spillage occurs, it must be remedied immediately.
  81. No dumping or temporary storage of any materials may take place outside designated and demarcated laydown areas, and these must all be located within areas of low environmental sensitivity.
  82. Temporary bunds must be constructed around chemical storage to contain possible spills.
  83. Spill kits must be made available on-site for the clean-up of spills.
  84. 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).
  85. Any solid waste must be disposed of at waste disposal facility permitted in terms of Section 20(b) of the National Environment Management Waste Act, 2008 (Act No. 59 of 2008).
  86. Extensive monitoring on fish functioning, at both the inlet and outlet must be undertaken during the construction and operational phases, to prevent negative impacts on fish species and to ensure that the reserve is met and to prevent further degradation of the river.
  87. The recommendations of the EAP in the EIAR (prepared by Aurecon South Africa (Pty) Ltd and dated March 2014) and the specialist studies attached as Appendix D of the EIAR must be
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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.

### General

88. A copy of this authorisation and the approved EMPr must be kept at the property where the activity will be undertaken. The authorisation and approved EMPr must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
89. The holder of the authorisation must notify both the Director: Integrated Environmental Authorisations and the Director: Compliance Monitoring at the Department, in writing and within 48 (forty eight) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.
90. 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 applicant or his 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 applicant 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: 14 August 2014

  
Mr Ishaam Abader

Deputy Director-General: Legal, Authorisations, Compliance and Enforcement  
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 application form dated April 2014 and received by the Department on 08 April 2014;
- b) The information contained in the EIAR dated March 2014;
- c) The comments received from the Organs of State; the Department of Agriculture, Land Reform and Rural Development, the Department of Agriculture, Forestry and Fisheries, the Department of Water Affairs, the Department of Energy, ESKOM, SAHRA, the Civil Aviation Authority (CAA), WWF-SA, SANRAL, and !Kheis Local Municipality as well as the interested and affected parties as included in the EIAR dated March 2014;
- d) Mitigation measures as proposed in the EIAR dated March 2014 and the EMPr;
- e) The information contained in the specialist studies contained within Appendix D of the EIAR dated March 2014 included, *inter alia*:

Title	Prepared by	Date
Aquatic Impact Assessment	MacKenzie Ecological & Development Services	October 2013
Botanical Impact Assessment	Bergwind Botanical Surveys & Tours cc	October 2013
Avifaunal Impact Assessment	AVISENSE Consulting cc	October 2013
Palaeontology impact assessment	Natura Viva cc	September 2013
Archaeological Impact Assessment	ACO Associates cc	November 2013
Traffic Impact Statement	Aurecon South Africa (Pty) Ltd	October 2013

- f) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998).



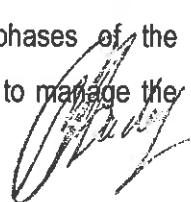
## 2. Key factors considered in making the decision

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) Details provided of the qualifications of the Environmental Assessment Practitioner (EAP).
- b) The findings of all the specialist studies conducted and their recommended mitigation measures.
- c) The need for the proposed project stems from the provision of electricity to the national grid in terms of the Renewable Energy Independent Power Producers Procurement Programme (RRIPPPP) as required by the Department of Energy.
- d) The EIA dated March 2014 identified all legislation and guidelines that have been considered in the preparation of the EIA.
- e) The description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.
- f) The methodology used in assessing the potential impacts identified in the EIA dated March 2014 and the specialist studies have been adequately indicated.
- g) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2010 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 March 2014 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 EIA dated March 2014 is deemed to be accurate and credible.
  - 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 process.
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In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity 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 proposed activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

A handwritten signature in black ink, appearing to be a stylized name, located in the bottom right corner of the page.