

Proposed amendments to the environmental authorisation for the Kokerboom 1 Wind Energy Facility in the Northern Cape, and the impacts on bats (DEA Ref. 14/12/16/3/3/2/985)

Animalia Consultants (Pty) Ltd undertook the pre-construction bat monitoring and impact assessment for the 256MW Kokerboom 1 Wind Energy Facility (WEF) in 2015 and 2016. Business Venture Investments No. 1788 (Pty) Ltd wishes to undertake amendments to the Environmental Authorisation (EA) for the Kokerboom 1 WEF, which involves expanding the turbine envelope and allow for use of the newer larger turbines that are now available in the market place. The proposed amendments are summarized in **Table 1** which also indicates the minimum rotor swept height above ground.

Table 1: Originally authorized as well as proposed amendments.

Aspect	Authorised	Proposed
Rotor diameter	Up to 150m.	Up to 180m.
Hub height	Up to 150m.	No amendment required.
Minimum lower blade tip height	40m	40m
Maximum upper blade tip height	225m	240m
Number of turbines	Up to 64 turbines.	Up to 60 turbines.
Substation location	30°27'36.92"S 19°26'1.58"E	A new location is proposed approximately 850m south east (30°28'6.42"S 19°26'15.88"E) of the authorised substation location.
Turbine generation capacity	Up to 4MW.	Up to 6.5MW ¹ .

¹ Note that the capacity of the WEF will be capped at 256MW despite the increased turbine generation capacity. The number of turbines would be adjusted accordingly (depending on the available turbine technology).

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c o n s u l t a n t s

Aspect	Authorised	Proposed
Width and length of internal roads	<p>Total: approximately 1,960,000m²</p> <ul style="list-style-type: none"> Construction: up to approximately 20m (width) x approximately 70km (length) =1,400,000m². Permanent: approximately 8m (width) x approximately 70km (length) = 560,000m². 	<p>Total: approximately 1,820,000m²</p> <ul style="list-style-type: none"> Construction: up to approximately 20m (width) x approximately 65km (length) =1,300,000m². Permanent: approximately 8m (width) x approximately 65km (length) = 520,000m².
Locations of construction camps / laydown areas	<ul style="list-style-type: none"> Construction camp/laydown area 1: 30°29'10.54"S 19°29'38.18"E Construction camp/laydown area 2: 30°27'43.14"S 19°25'57.72"E 	<p>The two construction camps/ laydown areas (combined footprint of approximately 34,100m²) will be located in the most practical location/s as determined by the contractor closer to the time of construction. These locations will remain outside sensitive areas and must be approved by the Environmental Control Officer prior to construction commencing.</p>
Internal powerlines / cables	<p>The final layout included in the final Environmental Impact Assessment (EIA) Report includes Medium Volt (MV) powerlines that does not follow internal access roads. However, Condition 58 of the EA states that: "All internal powerline/cables must follow internal access roads." In addition, Condition 59 requires "all powerlines linking the turbines to the onsite substation must be buried."</p>	<p>Where feasible, internal powerlines/cables have been aligned with internal access roads. However, approximately 32km of MV overhead lines have been proposed in order to provide efficiencies in the plant design and to reduce the footprint through some ecologically sensitive areas.</p>
Facility area	<ul style="list-style-type: none"> Proposed project footprint: 6,716ha. Temporary construction footprint: approximately 155ha. Permanent footprint: approximately 80ha. 	<ul style="list-style-type: none"> Proposed project footprint: 6,716ha. Temporary construction footprint: approximately 154ha. Permanent footprint: approximately 79ha.

Although the proposed amendment of larger turbine dimensions will result in a larger airspace of moving blades per turbine, the subsequent iteration of the turbine layout still respects the bat sensitivity map in the sense that the proposed larger 90m blades are all outside of the high bat sensitivity buffer zones. Meaning

turbines are proposed to be further from bat sensitivities. Bat activity measured during the preconstruction assessment showed a negative correlation with height, since less bat passes as well as a lower species diversity was recorded on higher microphones. Therefore, the proposed maximum hub height above ground is preferable, even though the minimum lower blade tip height remains at 40m. The proposed amendment to the turbine dimensions does not significantly change the impacts ratings as identified in the original bat EIA report.

The proposed amendments on the locations of the substation and construction/laydown areas are acceptable, as long as all high bat sensitivity areas and their buffers are avoided. All other proposed amendments do not significantly influence the risk levels on bats in the area and are therefore also acceptable.

It is recommended that **Table 2** below, be included in the Environmental Management Programme to guide and inform future operational monitoring and adaptive management/mitigation measures.

Table 2: The periods and weather conditions during which peak bat activity was recorded.

Peak Activity Period 1	Time period: 20 August – 10 October from the time of sunset to 02:00 Environmental Conditions: Wind speed below 6m/s; AND Temperature above 17°C
Peak Activity Period 2	Time period: 1 March – 15 May from the time of sunset to 23:00 Environmental Conditions: Wind speed below 6m/s; AND Temperature above 16°C

In summary, the proposed amendments are acceptable from a bat sensitivity perspective if the recommended mitigation measures as identified in the EIA phase are adhered to, and a bat mortality monitoring study is conducted for a minimum duration of 3 years during the operational phase.

If there are any queries, please do not hesitate to contact me.



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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

File Reference Number:	(For official use only)
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Proposed Amendment of the Kokerboom 1 Wind Energy Facility in the Northern Cape Province.

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:

Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	Animalia Consultants (Pty) Ltd		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Level 4	Percentage Procurement recognition
			100% (EME)
Specialist name:	Werner Marais		
Specialist Qualifications:	MSc (Biodiversity and Conservation)		
Professional affiliation/registration:	Pr.Sci.Nat. (Zoological Science) 400169/10		
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E-mail:	werner@animalia-consult.co.za		

2. DECLARATION BY THE SPECIALIST

I, Werner Marais, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

Animalia Consultants (Pty) Ltd

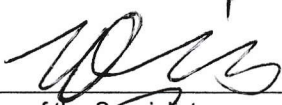
Name of Company:

05 March 2019

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Werner Marais, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct, to the best knowledge and intentions of the specialist.



Signature of the Specialist

Animalia Consultants (Pty) Ltd

Name of Company

05 March 2019

Date

Signature of the Commissioner of Oaths

Date