

**WIND FARM PROJECT AT SPRINGBOK, NORTHERN CAPE  
ADDENDUM TO 2010 SPECIALIST REPORT ON REPTILES**

Prepared by

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Submitted to

HOLLAND & ASSOCIATES ENVIRONMENTAL CONSULTANTS

On behalf of

Mulilo Springbok Wind Power (Pty) Ltd

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P.le F.N. Mouton holds a PhD in Zoology, is currently Professor in Zoology (Vertebrate Ecology) at the University of Stellenbosch, and is registered with SACNASP (Reg. no 400036/08). The author has no connections whatsoever with Mulilo Springbok Wind Power (Pty) Ltd and will not benefit in any way, should the proposed development be approved.

A handwritten signature in black ink, appearing to read 'P.le F.N. Mouton', written in a cursive style.

Prof. P.le F.N. Mouton

1 February 2017

## Executive Summary

Mulilo Springbok Wind Power (Pty) Ltd. proposes to amend the project description of the authorised Springbok Wind Energy Facility (WEF) in the Northern Cape, for which P.le F.N. Mouton in 2010 undertook the specialist report on reptiles, as part of the EIA for the project. The aim of this addendum to the original specialist report on reptiles is to address the implications of the proposed amended option in terms of potential impacts on reptiles. In the 2010 report, four risk sources were identified to be potentially associated with the construction of a WEF at the proposed site, namely, direct mortality of reptile species during construction, habitat destruction, increased road kills, and the barrier effect of roads and fences. The impacts have all been rated as *of low significance*. The proposed changes to size and number of turbines (including associated footprint changes), as well as positions and associated infrastructure of the proposed amended option will not alter the outcome of the original assessment in the authorised project in any significant way and the potential impacts will thus remain *of low significance*.

## Background and brief

Mulilo Springbok Wind Power (Pty) Ltd proposes to amend the project description of the authorised Springbok Wind Energy Facility (WEF) in the Northern Cape, for which P.le F.N. Mouton in 2010 undertook the specialist reptile impact assessment as part of the EIA for the project. The proposed amended option, which form the subject of the current Application for Amendment of the Environmental Authorisation (EA), will require re-assessment of the potential impacts associated with the proposed project, and will therefore require an update to the specialist studies undertaken. The aim of this addendum to the original specialist report on reptiles is to address the implications of the proposed amended option (i.e. amendments to the Project Description and Layout) in terms of potential impacts on reptiles.

## Proposed amendments to the project description

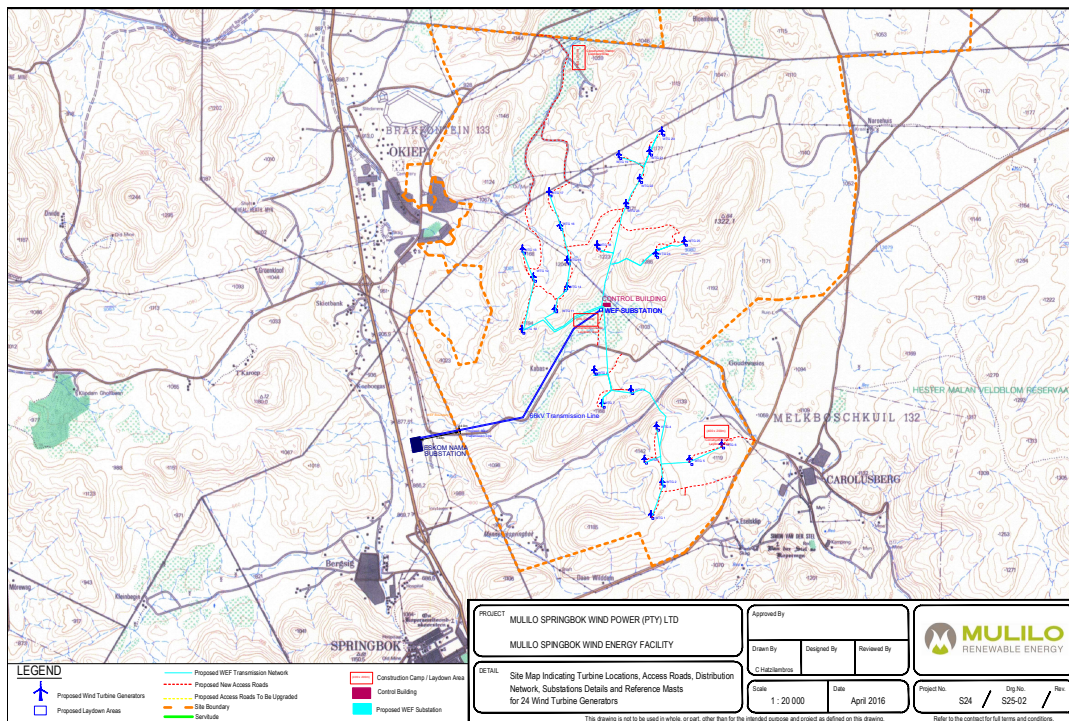
Mulilo Springbok Wind Power (Pty) Ltd wishes to increase the generating size of the wind turbine generators (WTGs) in order to align to current international WTG models, while reducing the number of WTGs at the WEF. In light of the above, the following amendments to the project description are proposed:

**Table 1:** Proposed amendments to project description

Component	Approved	Proposed amendment
Number of turbines	37	Maximum of 25 (i.e. potential range of 12 turbines @ 4.5 MW to 25 turbines @ 2.0 MW - 2.2 MW)
Generation capacity per turbine	1.5 MW	2.0 MW – 4.5 MW
Generation capacity of the WEF	55.5 MW	Same as authorised (55.5 MW)
Rotor diameter	88 m	Maximum of 160 m
Hub height	80 m	Maximum of 140 m
Temporary construction pad	40 x 20 m	40 x 40 m
Permanent affected area (foundation size)	16 x 16 m and 2 m deep	16 x 16 m and 3 m deep

Refinements to the WEF layout have also been made and are to be considered and assessed in the re-assessment of potential impacts. The total generation capacity of the wind energy

facility will remain 55.5 MW (as authorized by DEA). Assuming a worst case scenario of using the smallest turbines (2.0 MW - 2.2 MW), there will be a total of 25 turbines (refer to Figure 1 for the proposed amended layout). The proposed amended layout is similar to the proposed amended layout that was assessed as part of a previous Application for Amendment of the EA for this project in 2015. Minor refinements have however been made to some of the turbine positions to accommodate the recommendations of the 12 month pre-construction bat monitoring study.



**Figure 1.** WTG positions at the Springbok WEF for the proposed amended option.

### Terms of Reference

- Compile an addendum to the reptile specialist report addressing the following:
  - The implications of the proposed amendments, if any, in terms of the potential impacts within area of expertise;
  - A re-assessment of the significance (before and after mitigation) of the identified impact(s) in light of the proposed amendments (as required in terms of the 2014 EIA Regulations), for the construction, operational and decommissioning (where relevant) phases, including consideration of the following:

- Cumulative impacts;
- The nature, significance and consequence of the impact;
- The extent and duration of the impact;
- The probability of the impact occurring;
- The degree to which the impact can be reversed;
- The degree to which the impact may cause irreplaceable loss of resources;
- The degree to which the impact can be avoided, managed or mitigated;
- The addendum to the report must include an impact summary table outlining the findings of the re-assessment in terms of the abovementioned assessment criteria.
- A statement as to whether or not the proposed amendments will result in a change to the significance of the impacts assessed in the original EIA for the proposed project (within area of expertise), and if so, how the significance would change.
- An outline of the potential advantages and disadvantages of the proposed amendments in terms of potential impacts (within area of expertise)
- Provide confirmation as to whether or not the proposed amendments will require any changes or additions to the mitigation measures recommended in the original specialist report. If so, provide a detailed description of the recommended measures to ensure avoidance, management and mitigation of impacts associated with the proposed amendments.
- Should any comments be raised during the Public Participation Process for the Application for Amendment of the EA relating to the area of expertise of the specialist, provide responses to such comments raised (as part of the Comments and Response Report for the amendment application). Such comments would be provided to the specialist, on conclusion of the 30 day public comment period.

### **Re-assessment of the potential impacts**

The original 2010 specialist report on reptiles was based on a desktop survey as well as a two-day survey of the affected area at the site near Springbok (referred to as the Springbok study area) in the Northern Cape. The report described the receiving environment in terms of its habitat and associated reptile fauna, and identified and described potential impacts that the wind energy facility and associated access roads and power lines could have on reptiles. Two reptile habitats were identified within the Springbok study area, namely open shrubland on yellow-brown loamy sand, and rocky habitat, mainly comprised of disintegrating boulder koppies and flat to gently sloping rock sheets. Sixty seven reptile species, including three tortoise, 21 snake and 43 lizard species, were identified as potentially occurring in the greater Springbok area. During the short field survey the presence of nine species in the Springbok study area was confirmed. It was concluded that only two of the seven threatened species,

potentially occurring in the greater Springbok area, are possibly present in the Springbok study area, namely the Speckled Padloper (*Homopus signatus*), listed as *Vulnerable*, and Fisk's House Snake (*Lamprophis fiskii*) listed as *Data Deficient*. In the new redlist for reptiles (Bates *et al.* 2014), the latter is now listed as *Of Least Concern*, meaning that only one threatened reptile species potentially occurs on the proposed WEF site.

Four risk sources were identified to be potentially associated with the construction of a wind energy facility on the proposed site. These are direct mortality of reptile species during construction, habitat destruction, increased road kills, and the barrier effect of roads and fences. The impacts have all been rated as *of low significance*. The impacts were assessed in a broad context of reptile habitats available at the Springbok site, as well as the number of threatened reptile species potentially present at the site. The precise location of WTGs, access roads and other infrastructure on the site was not considered of relevance to the assessment. The proposed amendments to WTG positions and associated infrastructure will therefore not result in a change to the significance of the impacts assessed in the original EIA for the authorised project and the potential impacts will thus remain *of low significance*, as summarized in Table 1. Furthermore, the proposed amended option will not require any changes or additions to the mitigation measures recommended in the original specialist report on reptiles. The original recommendations that, from a humanitarian point of view, it should be standard practice during site clearing and construction activities to assist stranded animals to escape, and secondly, that fencing off the facility and managing the site as a reserve will be beneficial to the resident reptile fauna, the Speckled Padloper in particular, remain applicable.

Although the impact ratings will not change, the potentially lower number of WTGs and associated decrease in road area coverage of the proposed amended option must be considered as advantageous as far as the impact of habitat loss, road kills, and the barrier effect of roads on reptiles are concerned. The disadvantage of the larger temporary construction pad per WTG in the proposed amended option would be offset by the lower number of WTGs.

Table 1. Summary assessment of potential impacts of the proposed Springbok wind energy facility on reptiles (the same for the proposed amended option and the authorised project).

Nature of Impact	Extent	Duration	Magnitude	Probability	Significance	Status	Reversibility	Irreplaceable loss of resources	Cumulative impacts
<i>Direct mortality during construction</i>	local	short-term	minor	probable	low	negative	reversible	low	none
					<u>After mitigation:</u> low				
<i>Loss of reptile habitat</i>	local	long-term	minor	probable	Low	negative	irreversible	low	none
					<u>After mitigation:</u> low				
<i>Increased road kill rate</i>	local	long-term	minor	improbable	Low	negative	reversible	low	none
					<u>After mitigation:</u> low				
<i>Barrier effect of internal roads and fencing</i>	local	long-term	minor	improbable	Low	negative	reversible	low	none
					<u>After mitigation:</u> low				

## References

Bates, M.F., Branch, W.R., Bauer, A.M., Burger, M., Marais, j., Alexander, G.J. & De Villiers, M.S. (eds). 2014. *Atlas and Red List of the Reptiles of South Africa, Lesotho and Swaziland*. Suricata 1. South African National Biodiversity Institute, Pretoria.