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Amendments to the turbine specifications for the proposed Castle Wind Energy Facility and the impacts on bats

Animalia Zoological and Ecological Consultation (Pty) Ltd was appointed by juwi Renewable Energies (Pty) Ltd to undertake the pre-construction bat monitoring for the proposed Castle Wind Energy Facility (WEF). An amendment to the turbine specifications has been proposed. The amendments are summarised in the table below:

Current EA	**Proposed amendment**
3.5 MW Turbines	4.5MW Turbines
120m Hub height	130m Hub height
132m Rotor diameter	150m Rotor diameter

The proposed increase in rotor diameter, in combination with the proposed increased hub height will result in an increase of 1m for the minimum rotor swept ground clearance.[1] Such a difference is minimal and insignificant. However, the larger rotor diameter will result in a larger airspace occupied per turbine and therefore will slightly increase the probability of impacting bats. Additionally, the closest rotor swept point to any high sensitivity buffer will be 9m closer to such a buffer/sensitivity with the proposed amendment. To compensate for this, Turbines 1, 20, 24 and 28 (closest to high sensitivity buffers) will need to receive special attention during the operational monitoring, not necessarily excluding any of the other turbines on site. And the wind farm operator will need to be made aware of the higher possibilities of these turbines requiring mitigation measures, if proven to be required by the operational monitoring.

But in conclusion, it is important to note that even with the proposed amendments no turbines will intrude onto any high or moderate sensitivities or their buffers and is respective of the bat sensitivity

[1] The stated 1m increase in sweep ground clearance is due to the 10 m increase in hub height offset by the 9 m increase in blade length. The result is an increase in 1m between the ground and lower blade tip.

map. Considering all factors, and on condition that the above recommendations are met, the proposed amendments will not affect the larger outcomes, conclusions and impact assessment as assessed during the bat EIA and long term preconstruction study, and is therefore still acceptable from a bat sensitivity perspective.

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

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