

30 July 2018

Proposed amendment to the environmental authorisation for the Kareebosch Wind Energy Facility in the Northern Cape and Western Cape (DEA ref. 14/12/16/3/3/2/807), and the impacts on bats: TURBINE DIMENSIONS

Animalia Consultants (Pty) Ltd undertook the pre-construction bat monitoring and impact assessment for the Kareebosch Wind Energy Facility (WEF) in 2014. Importantly, it must be stated that there have not been any material changes on site that would change the diversity and / or population of the bats previously recorded in the area. Therefore, the data collected in the original pre-construction monitoring study remains valid and sufficient to inform the current proposed amendment of the wind turbine specifications. Kareebosch Wind Farm (Pty) Ltd wishes to undertake an amendment to the turbine specifications originally authorized in the environmental authorization (EA) dated 29th January 2016 and amended on 10 July 2016. The proposed amendments are to allow for the possible use of the newer, larger turbines that are now available in the market place and future turbines currently under development. The original wind turbine specifications within the EA include for wind turbines with a rotor diameter of 140m (blade length of 70m), a hub height of 100m and a wind turbine output capacity of 2MW to 3.3 MWs each. The current amendment is proposing an increase to a maximum rotor diameter of 160m (increase the blade length to 80m), increase the hub height to up to 125m and to increase the wind turbine output capacity to between 2MW to 5.5MW. These changes are summarized in Table 1 which also indicates the minimum rotor swept height above ground. Although the probability is much higher for the larger dimensions to be used, the original authorized dimensions are still possible and therefore considered as the minimum in the range of possible dimensions.

Bat activity was significantly higher at 10m than at 50m during the pre-construction assessment, therefore the original wind turbine dimension's rotor swept height above ground is considered as a worst-case scenario.

Table 1: Originally authorized as well as proposed amended turbine dimensions.

Aspect	Original EA	Amendment
Rotor diameter	140m	160m
Hub height	100m	125m
Lowest rotor swept height above ground	30m	45m

The advantage of the proposed amendment is that it will increase the rotor swept height above ground and therefore decrease the likelihood of impacts on bats, but the disadvantage is that it will also result in a larger airspace of moving blades. Although the larger airspace of moving blades is in a lower risk zone and therefore the proposed amendment does not influence risk levels enough to change significance ratings in the impact assessment as assessed during the EIA process. However, the larger turbine dimensions are preferable in keeping the likelihood of impacts on bats to a minimum. The mitigation and management measures specified in the EIA is sufficient and remain unchanged.

No additional impacts as a result of the proposed amendments to the turbine specifications are anticipated on bats. From a bat perspective, the proposed changes will result in no (zero) changes to the significance rating within the original bat impact assessment report that was used to inform the approved EIA. In addition to this, no new mitigation measures are required. The proposed amendments can therefore be supported provided that the recommended mitigation measures as per the original bat pre-construction monitoring report (dated 2014) are adhered to.

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



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