



Name: Morné de Jager
Cell: 082 565 4059
E-mail: morne@menco.co.za
Date: 30 March 2016
Ref: Great Karoo WEF

Savannah Environmental (Pty) Ltd
PO Box 148
SUNNINGHILL
2157

Attention: Ms. Tebogo Mapinga

Dear Madam

SPECIALIST STUDY: NOISE IMPACT ASSESSMENT: PROPOSED GREAT KAROO WIND ENERGY FACILITY NEAR SUTHERLAND: CHANGE OF WIND TURBINE SPECIFICATIONS

The above-mentioned issue as well as report ACED-HV/NIS/201202-Rev 0 is of relevance.

I conducted an Environmental Noise Impact Assessment (ENIA) during end 2012 for the proposed Hidden Valley Wind Energy Facility (WEF). This larger WEF was divided into the Karusa, Soetwater and Great Karoo Wind farms. This review specifically covers the Great Karoo Wind Farm.

With the input data as used, this assessment indicated that the proposed wind farm will have a noise impact of a **low significance** on all potential noise-sensitive developments (only NSD07 being closer than 1,000 m from wind turbines with a projected noise level of 44 dBA during operational phase) in the area during both the construction and operational phases using the Vestas V90 3.0MW wind turbine for all wind speeds.

The developer of the Great Karoo Wind Farm has since optimized the layout of the wind farm, reducing the number of wind turbines and micro-siting the wind turbines at optimal locations (the closest wind turbine is slightly further away from NSD07 than with the previous layout). The developer also wants to increase the rotor diameter from 120 to 140 m, likely using the Vestas V126 3.3-3.6MW or Acciona AW125 3-3.15MW wind turbines (previous communication).

These turbines are louder than the Vestas V90 3.0MW wind turbine with about 1 – 2 dB, but noise emissions from these wind turbines can be managed by means of different operational modes, as well as the use of blades with the optional serrated trailing edge. The sound power emission levels of the Vestas V126 turbine with the two different blades are illustrated in **Figure 1** (similarly, the operating modes of the Acciona turbine). It is recommended that the turbine with such noise management option be used at locations closer than 1,200m from NSD07.

Considering the location of the wind turbines and the potential noise impact, it is my opinion that the change will not increase the significance of the noise impact. A full noise impact assessment with new modeling will not be required and the recommendations as contained in the previous document will still be valid.

Should you require any further details, or have any additional questions, please do not hesitate to call me on the above numbers.

Yours Faithfully,

Morné de Jager
Enviro-Acoustic Research cc

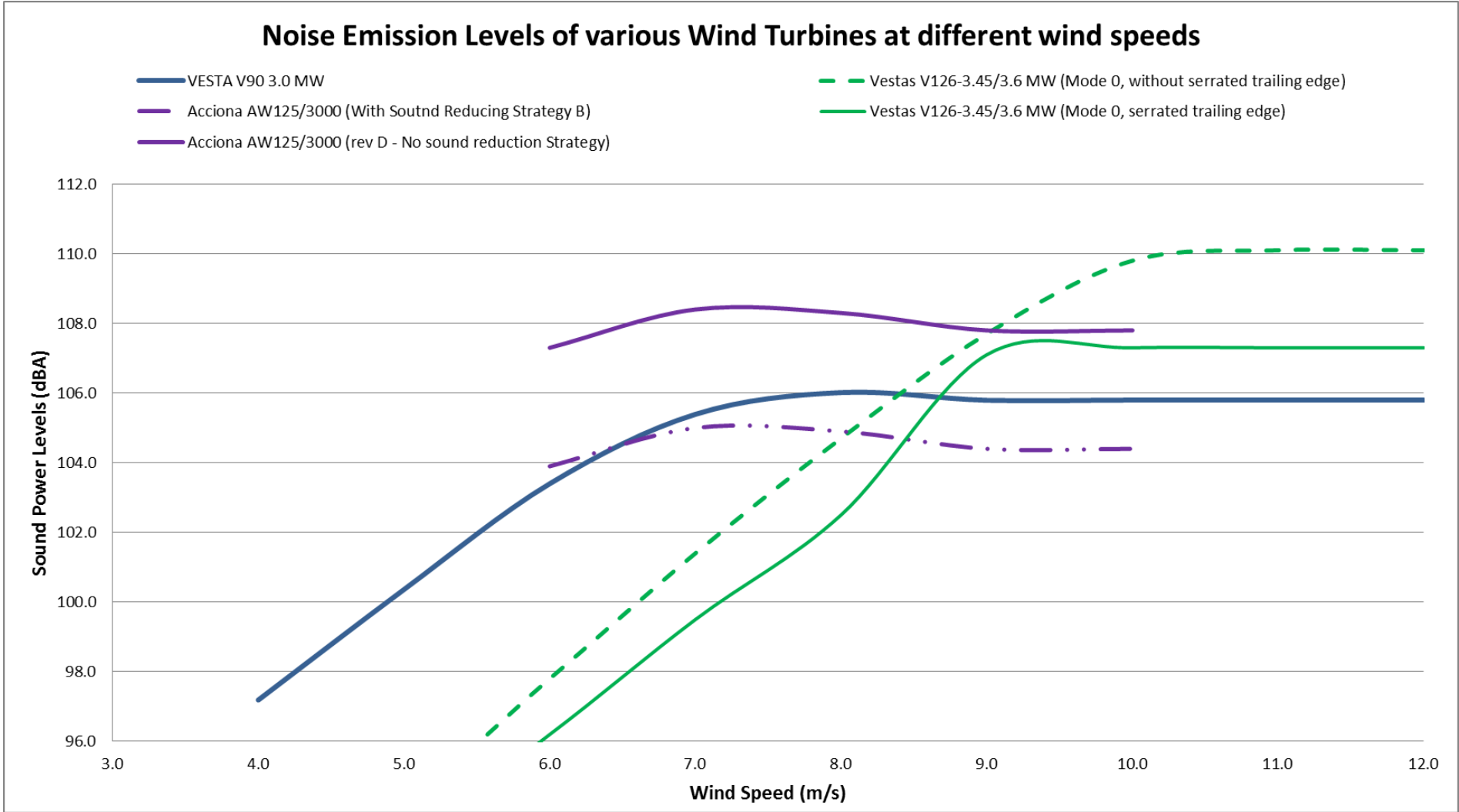


Figure 1: Noise emission levels of various wind turbines