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BERRYBANK WIND FARM
NEAR-FIELD COMPLIANCE TESTING REPORT

The Berrybank Wind Farm (BBWF) is located across the Golden Plains Shire and Corangamite Shire, near the township of Berrybank, Victoria.

The amended planning permits for the BBWF (Planning Permit No. 20092820A and Planning Permit No. 20092821A) include conditions which specify requirements for the control of environment noise associated with the project.

Specifically, Condition 19 of the amended planning permits requires a Noise Compliance Testing Plan[1] (NCTP) to be prepared to the satisfaction of the Minister of Planning before the development commences. Section 4 of the NCTP required the preparation of a Sound Power Level Test Report and a Near-field Compliance Testing Report.

The Sound Power Level Test Report is presented in MDA Report Rp 001 20210108 *Berrybank Wind Farm - Sound Power Test*, dated 9 February 2022.

In relation to Near-field Compliance Testing Report, the NCTP specifies the following:

> *A Near-field Compliance Testing Report shall be separately prepared on the basis of the Sound Power Level Test Report. This report shall assess the results of the sound power level testing by:*
>
> - *Verifying that the sound power levels and tonal audibility levels, accounting for test uncertainty, are equivalent to or less than the values adopted as the basis of the pre-construction noise report; or*
> - *Verifying that predicted noise levels determined on the basis of the sound power level test results are below the planning permit noise limits which apply at neighbouring noise sensitive locations, using the same prediction methodology used for the pre-construction noise assessment.*
>
> *If the results of the sound power level test indicate results (for the sound power level or tonal audibility levels) that are significantly different from the data referenced in the pre-construction noise assessment (in terms of sound power levels or tonality characteristics), the Near Field Compliance Testing Report must address these differences and outline whether additional sound power level testing is warranted to verify and assess the noise emissions of other wind turbines at the site.*

[1] Rp 001 R04 20180495 *Berrybank Wind Farm - Noise Compliance Test Plan*, dated 15 April 2019

The results of the sound power level testing are summarised in Table 1 and Table 2 together with the values adopted as the basis of the Pre-Construction Noise Report[2].

Table 1: Sound power levels, dB L_{WA}

Item	Hub height wind speed, m/s					
	8	9	10	11	12	13
Pre-development assessment L_{WA} [1]	103.8	104.9	104.9	104.9	104.9	104.9
Measured apparent L_{WA} [2]	102.7	103.5	103.4	103.7	103.6	103.7
Measurement uncertainty U_c, dB [2]	0.89	0.83	0.82	0.85	0.89	0.94

1 values detailed in Appendix I of the Pre-Construction Noise Report, including adjustment of +1 dB at each wind speed to provide a margin for typical values of test uncertainty

2 values detailed in Table 6 of the Sound Power Level Test Report

Table 2: Tonal audibility, dB $\Delta L_{a,k}$

Item	Hub height wind speed, m/s											
	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
Pre-development assessment	NRT	NRT	-1.1	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-	-
Highest measured values	0.4	0.2	0.0	-0.9	-0.7	1.5	3.5	3.0	3.8	4.7	4.7	4.8

1 values detailed in Table 2 of the Pre-Construction Noise Report, for the 3.6 MW variant of the Vestas V136 wind turbine model

2 values detailed in Table 7 of the Sound Power Level Test Report

NRT No Relevant Tone, indicates that no tones with tonal audibility higher than -3 dB were identified within the relevant wind speed bin

The following can be concluded for the above tables:

- Measured sound power levels, accounting for uncertainty, are lower than the values used in the Pre-Construction Noise Report.

  As such, predicted wind turbine noise levels have not been recalculated based on the measured values.

- Measured tonal audibility are higher than the values used in the Pre-Construction Noise Report.

  It must be noted that the presence of tonality in close proximity of a wind turbine (within 180 m ±20 %) does not mean that tonality would be present, or at a level sufficient to be penalisable in accordance with the applicable standard[3], at receivers in the vicinity of the wind farm.

  Notwithstanding the above, and in accordance with the NCTP, an objective assessment of tonality shall be conducted for all audio records obtained at receivers during the next unattended monitoring survey (as specified in Section 6.7.3 of the NCTP). It is also recommended that an additional sound power level test be undertaken at one of the wind turbines of Stage 2 of the wind farm to verify the levels of tonal audibility (as recommended in Section 4.0 of the NCTP).

2 Rp 002 R02 20180495 *Berrybank Wind Farm - Pre-construction noise assessment*, dated 8 April 2019

3 New Zealand Standard 6808: 2010 *Acoustics – Wind farm noise*

Yours sincerely

MARSHALL DAY ACOUSTICS PTY LTD

Christophe Delaire

CEO