



EF13/4990: DOC16/176983

Department of Planning & Environment
Resource Assessments - Planning Services
GPO Box 39
SYDNEY NSW 2001

Attention: Diana Mitchell - Senior Planning Officer

Dear Ms Mitchell

Re: Yass Valley Wind Farm Project – Mod 1

I refer to your email of 20 September 2017, advising that the Department of Planning and Environment (DP&E) has received an application to modify the consent for the Yass Valley Wind Farm (SSD 6698). You requested in your email that the NSW Environment Protection Authority (EPA) provide comment on the proposal, including advice on recommended conditions of consent.

It is understood that the proposed modification entails, amongst other things, changes to the size and configuration of turbines, and minor changes to the location of ancillary infrastructure.

The EPA has reviewed the additional information as displayed on DP&E's major projects website, and in particular those documents relating to the proposed change in wind turbine size and height. **Attachment A** provides commentary on these aspects of the Modification application.

Attachment B provides updated Recommended Conditions of Approval for noise which DP&E may wish to consider in any potential approval of the Modification application. The Coppabella Wind Farm – Modification Application Noise Assessment prepared by Marshall Day Acoustics (Ref. Rp 001 R01 20169260 dated 18 August 2017) shows that turbine noise emissions exceed the nominated criteria only at Receiver C04. Given that Appendix H of the Assessment indicates that the nominated 35 dBA criterion can be met at C04 by:

- using sound management mode on some turbines; or
- a sector management approach; or
- a combination of the above,

the proponent has shown that the predicted noise emissions at Receiver C04 can comply with the 35 dBA criterion. Receiver C04 is hence no longer explicitly included as a separate entry in the noise limit table in **Attachment B**. Predicted noise emissions at Receiver C74 comply with the nominated 35 dBA criterion, hence Receiver C74 is also no longer explicitly included as a separate entry in the noise limit table.

As advised in previous correspondence regarding this project, the proponent will need to make a separate application to the EPA for an Environment Protection Licence prior to undertaking any construction works. Additional information on EPA licensing is available through the EPA's *Guide to Licensing* document: (<http://www.epa.nsw.gov.au/licensing/licenceguide.htm>).

Thank you for the opportunity to provide comment on this matter. Should you wish to discuss this matter further, please contact me or Michael Heinze on 02 6229 7002.

Yours sincerely

Stefan Press 02/11/17

STEFAN PRESS
Acting Unit Head – South East Region
NSW Environment Protection Authority

Contact officer: MICHAEL HEINZE
6229 7002

ATTACHMENT A**NSW EPA - Review and comments on Modification Application Noise Assessment****Proposed Modification 1 – Yass Valley (Coppabella) Wind Farm – SSD 6698****November 2017****1. Correction - low frequency metric**

The Modification Application Noise Assessment prepared by Marshall Day Acoustics (Ref. Rp 001 R01 20169260 dated 18 August 2017) (the Assessment) should provide the correct low-frequency metric in Section 3.2. Section 3.2 (page 9) of the Assessment states that 'Excessive low frequency noise is defined as levels which repeatedly exceed 60 dB $L_{Aeq,10min}$ '. This is incorrect and most likely a typographical error as it is correctly shown in the remainder of the Assessment - the correct metric is 60 dB $L_{Ceq,10min}$.

2. Sector management mode

The EPA notes that sector management or operating some turbines in a sound management mode could be used to address the predicted 1.7 dB exceedance at one receiver and meet the adopted noise criteria. Sound management mode means specific turbines always operate in a low noise operation mode whereas sector management means specific turbines would only operate in a low noise mode under certain meteorological conditions.

The EPA suggests that DPE should confirm with the proponent whether the project would remain financially viable if sector management mode was used to enable compliance at one receiver where a predicted level of 36.7 dBA against the most conservative 35 dBA criterion is predicted. The Assessment recommends an updated background noise assessment and verification of sound power levels for the final installed turbines to refine these results and the magnitude of any exceedance.

3. Compliance monitoring

The proponent must also provide the parameters and meteorological conditions which trigger the use of sound management and sector management modes and an auditable process by which compliance can be independently confirmed.

ATTACHMENT B

NSW EPA Recommended conditions for noise – Coppabella Wind Farm

Noise Limit Conditions

- L6.1** For wind speeds from cut in to rated power of the wind turbine generators, wind turbine noise generated from the premises must not exceed, at non-associated residential receivers, the greater of:
- 35 dBA or
 - the existing background noise level plus 5 dBA for each integer wind speed at 100 metres above ground level (hub height) at the wind farm site.
- L6.2** For the purpose of determining compliance with condition L6.1, the locations and noise limits in the table below apply.

Location	L _{eq} (10minute) NOISE LIMITS (dBA)								
	3 or less	4	5	6	7	8	9	10	11 or above
All non-associated residences	The higher of 35 dBA or the existing background level (L _{A90} (10minute)) plus 5 dB								

- L6.3** The noise limits specified in conditions L6.1 and L6.2 do not apply to any sensitive receiver location (residence) where a noise agreement is in place between the licensee and the respective land owner(s) in respect to noise impacts and/or noise limits.
- L6.4** For the purpose of condition L6.1, noise must be determined in accordance with the methodology in the *Environmental Noise Guidelines: Wind Farms* (SA EPA 2009). The modification factors in Section 4 of those guidelines must be applied, as modified by the NSW Wind Energy: Noise Assessment Bulletin For State significant wind energy development (2016), to the noise levels measured by the noise monitoring equipment.
- L6.5** For the purpose of condition L6.4, the presence of excessive tonality (a special noise characteristic) must be determined in accordance with ISO 1996.2:2007 *Acoustics - Description, measurement and assessment of environmental noise - Determination of environmental noise levels*.

If tonality is found to be a repeated characteristic of the wind turbine noise, 5 dBA should be added to measured noise level from the wind farm. If tonality is only identified for certain wind directions and speeds, the penalty is only applicable under these conditions.

The tonal characteristic penalty applies only if the tone from the wind turbine is audible at the relevant receiver. Absence of tone in noise emissions measured at an intermediate location is sufficient proof that the tone at the receiver is not associated with the wind farm's operation.

The assessment for tonality should only be made for frequencies of concern from 25 Hz to 10 kHz and for sound pressure levels above the threshold of hearing (as defined in ISO 389.7:2005 *Acoustics - Reference zero for the calibration of audiometric equipment - Part 7: Reference threshold of hearing under free-field and diffuse-field listening conditions*).

For the purposes of condition L6.4, the presence of excessive low frequency noise (a special noise characteristic) must be determined with reference to the NSW Wind Energy: Noise Assessment Bulletin For State significant wind energy development (2016).

The maximum penalty to be added to the measured noise level from the wind farm for any special noise characteristic individually or cumulatively is 5 dB(A).

- L6.6** For the purposes of condition L6.1, wind speed is to be measured directly in accordance with a method nominated by the proponent and at a location nominated by the proponent, consistent with the method and location used to determine the background noise regression curves in the Noise Impact Assessment.
- L6.7** To determine compliance:
- a) with the $L_{eq(10 \text{ minute})}$ noise limits in conditions L6.1 and L6.2, the noise measurement equipment must be located:
 - approximately on the property boundary, where any dwelling is situated 20 metres or less from the property boundary closest to the premises; or
 - within 20 metres of a dwelling façade, but not closer than 5m, where any dwelling on the property is situated more than 20 metres from the property boundary closest to the premises.
 - b) with the noise limits in conditions L6.1 and L6.2, the noise measurement equipment must be located:
 - at the most affected point at a location where there is no dwelling at the location; or
 - at the most affected point within an area at a location prescribed by condition L6.7(a).
- L6.8** A non-compliance of condition L6.1 or L6.2 will still occur where noise generated from the premises in excess of the appropriate limit is measured:
- at a location other than an area prescribed by conditions L6.7(a) and L6.7(b); and/or
 - at a point other than the most affected point at a location.

Additions to Definition of Terms of the licence

- Noise – ‘sound pressure levels’ for the purposes of conditions L6.1 to L6.8.
- “Noise sensitive locations” includes buildings used as a residence, hospital, school, child care centre, places of public worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building.

RECOMMENDED CONDITIONS FOR ANY PROJECT APPROVAL

Pre-commissioning validation monitoring

If any wind turbine is operated before the project commences operation, then the proponent must perform a compliance test on each one of those turbines within three months of it coming in to operation.

Operational Noise Monitoring

The Applicant must prepare a Noise Compliance Strategy which must be submitted to and approved by the Secretary prior to commissioning of the wind turbines. The Noise Compliance Strategy must describe the process by which any noise management modes or sector management can be verified and outline how the noise criteria will be achieved.

Within 3 months of the commencement of operations (or the commencement of operation of a cluster of turbines, if the development is to be staged), the Applicant must:

- a) undertake noise monitoring to determine whether the development is complying with the relevant conditions of this consent; and
- b) submit a copy of the monitoring results to the Department and the EPA.

The Applicant must undertake further noise monitoring of the development if required by the Secretary.

Mode checking

Before using sector management or a noise management mode for any operational wind turbine, the proponent must provide a method by which the Department of Planning and Environment, EPA and community can easily verify that each wind turbine is operating in the correct mode at any time.

Noise Management Plan

Prior to commissioning of the turbines, the Proponent must prepare and implement a Noise Management Plan to manage noise emissions from the operation of the project. The Plan must include, but not necessarily be limited to:

- a) compliance monitoring within one year of commissioning, in accordance with the *Environmental Noise Guidelines: Wind Farms* (SA EPA 2009)
- b) procedures to certify noise
- c) identification and implementation of best practice management techniques for minimisation of noise emissions where reasonable and feasible
- d) measures to be undertaken to rectify annoying characteristics resulting from the operation of the project such as excessive low frequency noise, excessive tonality or adverse mechanical noise from component failure
- e) procedures and corrective actions to be undertaken if non-compliance is detected.

Recommended Construction Hours

Construction must only take place within the hours of 7:00am to 6:00pm Monday to Friday, 8:00am to 1:00pm Saturday. No construction may take place on Sundays or Public Holidays.

Exceptions to construction hours

The following activities may be carried out outside the recommended construction hours:

- a) construction that causes $L_{Aeq(15minute)}$ noise levels that are:
 - i. no more than 5dB above Rating Background Level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and
 - ii. no more than the Noise Management Levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive land uses; or

- b) for the delivery of materials required by the police or other authorities for safety reasons; or
- c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
- d) as approved through the process outlined in "Variation of construction hours" of this approval.

Variation of construction hours

The hours of construction activities specified under "Exceptions to construction hours" d) of this approval may be varied with the prior written approval of the Secretary. Any request to alter the hours of construction shall be:

- a) considered on a case-by-case or activity-specific basis
- b) accompanied by details of the nature and justification for activities to be conducted during the varied construction hours
- c) accompanied by written evidence that appropriate consultation with potentially affected sensitive receivers and notification of relevant Council(s) (and other relevant agencies) has been and will be undertaken
- d) all feasible and reasonable noise mitigation measures have been put in place
- e) accompanied by a noise impact assessment consistent with the requirements of the *Interim Construction Noise Guideline* (DECCW, 2009).

Construction Noise Management Plan

The proponent must prepare and implement a detailed construction noise management plan, prior to commencement of construction activities, including but not necessarily limited to:

- a) identification of each work area, site compound and access route (both private and public)
- b) identification of the specific activities that will be carried out and associated noise sources at the premises and access routes
- c) identification of all potentially affected sensitive receivers
- d) the construction noise and vibration objectives identified in accordance with the *Interim Construction Noise Guideline* and *Assessing Vibration: A Technical Guideline*
- e) assessment of potential noise and vibration from the proposed construction methods (including noise from construction traffic) against the objectives identified in (d)
- f) where the objectives are predicted to be exceeded an analysis of feasible and reasonable noise mitigation measures that can be implemented to reduce construction noise impacts
- g) description of management methods and procedures and specific noise mitigation treatments that will be implemented to control noise and vibration during construction.