

Appendix C

Construction Noise and Vibration Management Plan

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Mount Emerald WIND FARM

Mount Emerald Wind Farm
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Document Control

Details of Version Amendments:

Plan Control

The Project Management Team will maintain, review and update the listed controlled copies of this plan.

Amendments

From time to time throughout the construction phase of the project the Construction Noise Management Plan will be reviewed and revised as necessary in consultation with the relevant internal stakeholders to comply with specific project requirements, legislation and standards.

Draft/tender issues of this document shall be identified as DRAFT_00. Upon initial issue this shall be changed to a sequential number from the last issued under Draft.

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Each new version to the plan will be distributed and changes to the recent version will be highlighted. The version number is included at the bottom of each page at the end of the document number. When amendments occur, the entire document will be reissued with the revision number updated accordingly.

All amendments to the plan will be approved by key personnel. On the authorisation of the Project Management Team, minor amendments can be made to the electronic copy of this document without reissue, but will be tracked.

Revision	Date	Details	Created	Approved
A	8/12/2016	First Issue	JABRC	SEIZZ

Distribution

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1. Purpose

The purpose of this Construction Noise Management Plan is to describe how the Contractor intends to:

- Ensure that construction activities comply with the Environmental Protection (Noise) Policy 2008 (Qld), Workplace Health and Safety Act 1995 (Qld) and AS 2436: Guide to noise control on Construction, Maintenance and Demolition;
- Conform with the permitted working hours and clarify how noise and vibration will be managed for unavoidable works outside of these hours;
- Monitor compliance through planning construction works and regularly checking that noise or vibration is not disturbing nearby dwellings and public areas; and
- Manage Community complaints.

This plan is for the use of all Vestas employees and subcontractors during the construction stage of the project.

2. Legislative & Other Requirements

Element	Legislative and Other Requirements
Noise and Vibration	<p><i>Environmental Protection (Noise) Policy 2008 (Qld)</i></p> <p><i>Workplace Health and Safety Act 1995 (Qld)</i></p> <p>AS 1055.1 & .2: Acoustics—Description and measurement of environmental noise</p> <p>AS 2436: Guide to noise control on construction, maintenance and demolition sites</p> <p>Queensland Environmental Protection Act 1994 (EP Act)</p>
Blasting	<p><i>Department of Environment and Heritage Protection – Guideline Noise and Vibration from Blasting – EM2402 Version 3.00</i></p>

4. Work Requirements

During the construction of Mount Emerald Wind Farm there will be many noise and some potential vibration sources present. Table 2.1 below outlines the various construction activities that will be taking place and what month they will be occurring. All activities will be conducted between 6:00am to 6:00pm Monday to Saturday. No construction work is to be undertaken on Sundays or public holidays except as detailed in Section 4.2.

Table 4.1 Phases of Project Construction Activities

TIME	2017												2018											
ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Local Road Upgrades		✓	✓																					
Site Mobilisation	✓	✓	✓	✓	✓	✓																		
Roads Construction				✓	✓	✓	✓	✓	✓	✓														
Prepare Hardstands & Foundations				✓	✓	✓	✓	✓	✓	✓	✓													
Install Cabling					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
Sub Station Construction			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
O&M Building Construction							✓	✓	✓	✓	✓	✓												
Deliver Turbine Components										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Erect Towers, Nacelles and Rotors										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
De-mobilise Site																					✓	✓	✓	

To assist with the management of noise emissions associated with Mount Emerald Wind Farm construction, the following performance measures will be implemented on site for the duration of the Project:

- All mechanical plant will be silenced by the best practical means using current technology;
- Mechanical Plant will be maintained to manufacturer’s specification;
- Internal combustion engines will be fitted with a suitable muffler;
- Plant will be turned off when not in use; and
- All vehicular movements to and from the site must occur according to the Mount Emerald Traffic Management Plan.

4.1. Construction Traffic

All deliveries during the construction phase will be regulated and comply with Mount Emerald Traffic Management Plan.

4.2. Unavoidable Works

Unavoidable works are works that cannot practically meet the schedule requirements and to avoid injury, property damage and/or prevent environmental harm they must be completed in a continuous shift. For Mount Emerald Wind Farm this will potentially include:

- Delivery of oversize loads or materials as requested by Police or other authorities for safety reasons;
- Completion of concrete pours past the standard hours of work due to climatic considerations;
- Any works(including turbine erection works) that do not cause a noise nuisance at nearby dwellings; and
- Emergency work to avoid injury, property damage and / or to prevent environmental harm.

In the event that work is forecasted to begin or extend outside of the scheduled working hours then affected premises will be notified of the intended works, its duration and times of occurrence.

In these cases the following performance criteria will apply:

Table 4.2 After Hours Noise Emissions Limits

Time Period	Short Term	Medium Term	Long Term
6:00 pm - 10:00 pm	10dB	8dB	5dB
10:00 pm – 6:00 am	3dB	3dB	3dB

The noise emission limits specified above are taken from the Queensland Environmental Protection Act 1994 (EP Act) which deals with controlling background creep. Any works occurring during these timeframes must not exceed background noise by these limits.

4.3. Blasting

Blasting is expected to be required to assist with the civil works during the construction of Mount Emerald Wind Farm. Blasting events will be designed to align with the Guideline Noise and Vibration from Blasting – EM2402 Version 3.00 requirements and comply with Australian Standard AS2187 Part 2 relative to explosives. Blasting will occur between the hours of 9am and 3pm on Monday to Friday and between 9 am and 1pm Saturday as specified by the Queensland Government and the forecast blasting schedule will be communicated to the surrounding community.

4.3.1. Performance Targets (Blasting)

To assist the management of blasting events associated with Mount Emerald Wind Farm construction, the following performance targets have been set and will remain the responsibility of the Vestas Site Manager for the duration of the Project:

- Zero damage to non-project associated buildings or structures;
- Zero blasting related actions taken by regulators;
- Zero blasting nuisance complaints;
- Noise does not spread to sensitive areas and isn't more than 115dB (linear) peak for 9 out of 10 consecutive blasts, regardless of the intervals between blasts;
- Noise doesn't exceed 120 dB (linear) peak for any blast; and
- Vibration does not exceed peak particle velocity of 5mm per second for 9 out of 10 consecutive blasts, regardless of the interval between blasts and 10mm per second for any blast

Where these targets cannot be met, the Vestas Site Manager will immediately investigate the issue, implement suitable mitigation and investigate the outcomes.

All blasting will be conducted by a licensed professional who will supply all the expected and appropriate documentation prior to any works occurring.

5. Monitoring Compliance

During construction regular review of the location and type of works will be undertaken to understand potential impacts of noise and vibration and to define mitigation. This planning process will be undertaken as part of the normal construction planning works and will be performed by the Site Manager or other suitably trained and qualified construction personnel.

While construction activities are in progress the Site Manager or other suitably train personnel will visit publicly accessible locations surrounding the site to determine if potentially impacting noise or vibration events are perceptible. Noise and vibration checks will be undertaken once per week where construction planning indicates potential for disturbance.

6. Community Liaison Complaint Handling

The Project is committed to maintaining the amenity of the surrounding environment as far as is practical in the context of construction works. Some impacts are to be expected however these will be temporary and occur over short durations and will not be permanent.

Notifications in relation to traffic movements or works will be done in accordance with the Mount Emerald Traffic Management Plan.

Specific consultation on a case by case basis may be required if scheduled works are expected to be intrusive.

Complaints arising from the project works will be dealt with in accordance with the Mount Emerald Wind Farm Complaint Management / Register. Special consideration will be given to complaints related to noise and vibration during highly intrusive works (particularly those activities when increased impacts are anticipated) in order that additional mitigation can be implemented in a timely manner.