

OPERATION ENVIRONMENTAL MANAGEMENT PLAN



Document Control

COLWF-RAC-PL-0001

Operation Environmental Management Plan						
Rev No	Date	Revision Details	Typist	Author	Verifier	Approver
А	1 Dec 2020	Draft Document	GW	GW		
В	8 Dec 2020	Draft Document incorporating internal comments	GW	GW	HT	HT
С	16 Dec 2020	Draft incorporating client comments	GW	GW	HT	HT
1	18 Jan 2021	Final draft for DPIE submission	GW	GW	HT	HT
2	17/02/2021	Updated to address DPIE Comments	GW	GW	HT	HT
3	14/09/2023	Update following C10 IEA	PM	PM	JL	JL
3.1	18/03/2024	Update to include DPHI name change	PM	PM	JL	JL
3.2	08/05/2024	Update of asset logo	ML	ML	PS	PS

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ACRONYMS AND DEFINITIONS

Acronym / Term	Meaning
APZ	Asset Protection Zone
AS/NZS	Standards Australia and Standards New Zealand
BBAMP	Bird and Bat Adaptive Management Program
BRMP	Bushfire Risk Management Plan
COLWF	Collector Wind Farm
DIPNR	Department of Infrastructure, Planning and Natural Resources
DPHI	Department of Planning, Housing and Infrastructure (formerly Department of Planning and Environment)
EES	Environment, Energy and Science Group
EMF	Electric and magnetic fields
EPA	Environment Protection Agency
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
ERSED	Erosion and sediment
ESD	Ecologically sustainable development
EWMS	Environmental Work Method Statement
IHMP	Indigenous Heritage Management Plan
ISO	International Organization for Standardization
LED	Light-emitting diode
LGA	Local government area
LVIA	Landscape and Visual Impact Assessment
NGERS	National Greenhouse and Energy Reporting
NPW Act	National Parks and Wildlife Act 1974
NPWS	National Parks and Wildlife Service
NSW	New South Wales
OEH	Office of Environment and Heritage (dissolved in 2019 and now EES)
OEMP	Operation Environmental Management Plan
ONMP	Operation Noise Management Plan
PIRMP	Pollution Incident Response Management Plan
POEO Act	Protection of the Environment Operations Act 1997
QSE	Quality, safety and environment
RFS	Rural Fire Service
SDS	Safety data sheet
SSD	State Significant Development
SWMS	Safe Work Method Statement
TSMP	Threatened Species Management Plan
WMS	Work Method Statement

1 INTRODUCTION

1.1 Overview

RATCH-Australia Corporation Limited, through its wholly owned subsidiary Collector Wind Farm Pty Ltd (COLWF) is the owner of the Collector Wind Farm. Vestas Australian Wind Technology Pty Ltd (Vestas) has been engaged to operate the wind farm and service the wind turbine generators under a Warranty Operation and Maintenance (O&M) Contract; under the overall management of a COLWF Site Manager.

The Collector Wind Farm is located on the southern side of the Hume Highway about 33 km south-west of Goulburn, and about 3.5 km northwest of the village of Collector (refer to **Figure 2-1**). The wind farm comprises 54 x 4.2-megawatt (MW) wind turbines that deliver a total gross output of 226.8 MW of power to the national electricity market via the 33kV:330kV substation installed at the northern end of the site. The wind farm is located within the Upper Lachlan Shire Council (ULSC) area and comprises farmland largely used for livestock grazing and limited cropping. Site access is via Lerida Road South, from the Hume Highway.

This Operation Environmental Management Plan (OEMP) has been prepared in response to the requirements of Conditions of Approval (CoA) E19 of the planning approval for the wind farm, with the objective of describing the approach and resourcing to be applied to the management of the operational phase of the wind farm.

The OEMP and associated sub-plans have been prepared to be consistent and compliant with the following:

- Post Approval Guidance Environmental Management Plan Guideline Guideline for Infrastructure Projects (DPIE, 2020);
- Australian and New Zealand environmental management international standard (AS/NZS ISO 14001) (Standards Australia, 2001);
- Project Approvals (ref. MP10_0156, Aug 2019), including the and Statement of Commitments (SoC);
- All applicable legislation (refer Appendix B).

The OEMP is subject to review and written approval by the Secretary of Department of Planning, Industry and Environment (DPIE) (now Department of Planning and Environment) prior to commencement of operations.

On approval, this OEMP will be made publicly available on the wind farm website as soon as practicable.

1.2 Scope and Objectives

This OEMP and associated sub-plans describe the management and mitigation measures to be implemented to minimise potential adverse impacts of the Collector Wind Farm on the environment and sensitive receivers.

The objective of this OEMP is to:

- Provide an overview of the wind farm (Figure 2-2);
- Describe the relevant legislation, policies, guidelines and standards which apply to the operation of the facility and influence the environmental management principles and procedures to be used on the site;
- Identify key environmental management issues relating to the operation of the wind farm;
- Provide a means of implementing appropriate mitigation measures for the key environmental issues;
- Provide a working environmental management tool to follow during operations;
- Define roles and responsibilities;
- Provide a guide for the interaction with relevant government authorities and other relevant stakeholders, including the community, during the operations;

- Provide standard operating procedures for the management of the site and key environmental issues;
- Provide a basis for monitoring, reporting and maintaining compliance.

This OEMP is a live document. The management strategies and control measures detailed within it will be reviewed and updated, where necessary, to reflect changes introduced by the operational team, site specific outcomes, non-conformances and recommendations arising out of inspections, meetings and audits.

The operation of the wind farm must be carried out in accordance with this OEMP as approved by the DPHI.

1.3 Supporting Documentation

This OEMP is supported by four sub-plans:

- Operation Noise Management Plan (ONMP) required by CoA E20;
- Bird and Bat Adaptive Management Program (BBAMP) required by CoA B6; and
- Bushfire Risk Management Plan (BRMP) required by CoA B18.
- Pollution Incident Response Management Plan (PIRMP) required by Section 5.7A of the POEO Act.

The sub-plans form part of the OEMP and can be found in **Appendix D**, **Appendix E**, **Appendix F** and **Appendix G** respectively.

A standalone Workplace Health and Safety Environmental Management Plan (WHSEMP) (Vestas, 2020) has also been prepared, to provide overall site management plans for the O&M team that is consistent for operations across the Vestas wind farm fleet in Australia.

1.4 Consultation

The OEMP and associated sub-plans have been prepared in consultation with 'relevant stakeholders' as required by CoA E19. Relevant details are provided in the plan content.

2 PROJECT DESCRIPTION

2.1 Wind Farm Description

As described in **Section 1.1**, the wind farm comprises 54 x 4.2MW Vestas wind turbines, with top tip height of 150 m above ground level (AGL). The wind turbines will deliver a total gross output of 226.8 MW of power to the national electricity grid, via the existing 330kV transmission lines that cross the northern end of the site.

In addition to the wind turbines, the project includes the operation of associated infrastructure, including:

- Site access tracks, providing safe access to each turbine and associated infrastructure;
- Underground electrical cabling connecting each turbine to the 33kV switchyard located at the northern end of the site;
- A combined 33kV switchyard and 330kV substation (with two high voltage transformers), connecting the wind farm to one of the 330kV transmission lines crossing the site; and
- A dedicated operations and maintenance facility, comprising an O&M building (providing a base for managing site operations) and a dedicated warehouse facility (providing secure storage of spare parts and maintenance materials).

The wind farm is located about 3.5 km northwest of Collector, to the south of the Hume Highway and is accessed via Lerida Road South. An overview of the wind farm location and the wind farm layout is provided in **Figure 2-1** and **Figure 2-2** respectively.

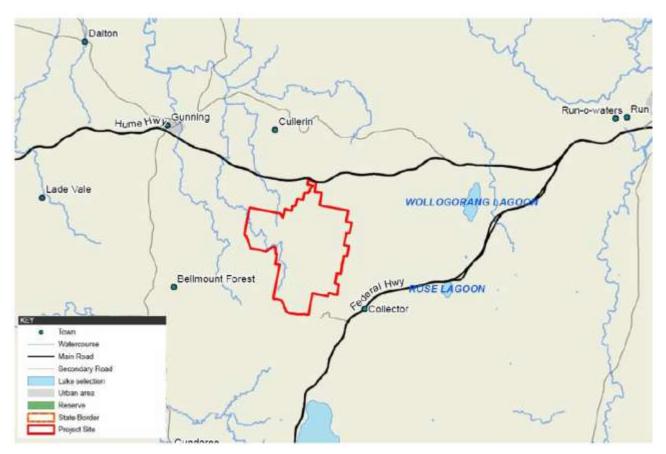


Figure 2-1: Collector Wind Farm location

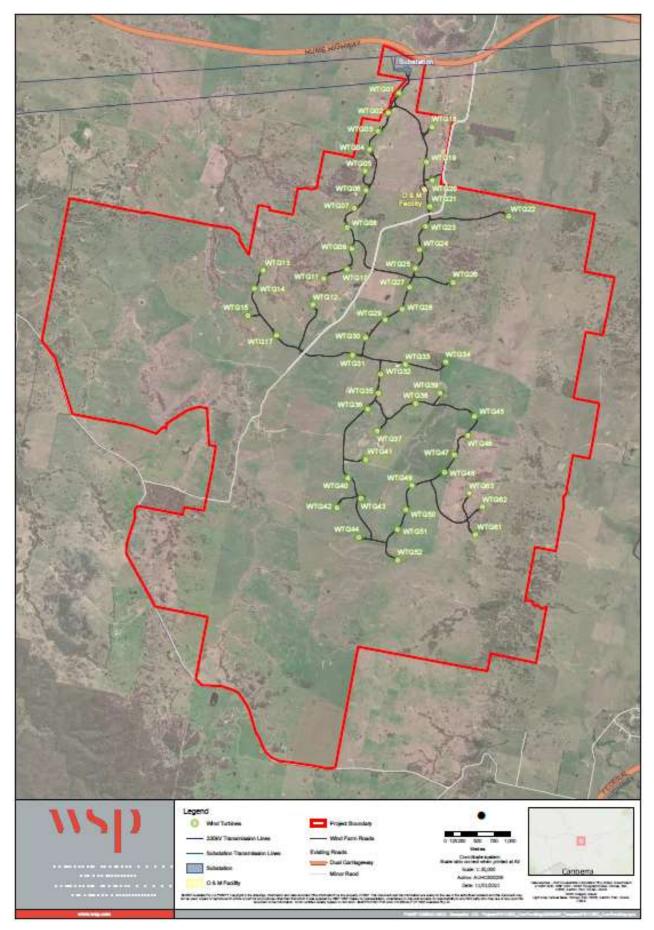


Figure 2-2: Collector Wind Farm layout

2.2 Operational Activities

The following activities are likely to occur during operation of the wind farm:

- · Generation of electricity through the use of wind turbine generators and associated electrical equipment;
- Switching turbines on/off depending on the suitability of the wind resource in generating electricity;
- Scheduled and unscheduled maintenance of turbines, nacelles, blades and towers;
- Transport of parts, tools and equipment to the O&M facility and turbine locations;
- Use of cranes, elevated work platforms, UAV/Drones and other mobile equipment;
- Balance of Plant (BOP) maintenance of:
 - Substation and switchyard;
 - Other electrical infrastructure, including underground cables;
 - Weather monitoring stations; and
 - Access roads and other civil infrastructure.

Scheduled maintenance would typically be undertaken on a routine basis, with major maintenance likely to be undertaken on each turbine at twelve-monthly intervals. Maintenance would involve a number of service vehicles, with maintenance on items such as turbine blades potentially involving the use of cranes and associated equipment.

In addition to the activities described above, ongoing routine activities would take place on the site, including (but not limited to):

- Waste management;
- Dangerous goods storage and refuelling;
- Landscaping and weed management;
- Fire safety management.

3 STATUTORY FRAMEWORK

3.1 Legal and Other Requirements

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed below and full details provided in **Appendix B**.

Legislation

- Environmental Planning and Assessment Act 1979;
- Protection of the Environment Operations (POEO) Act 1997 as amended;
- Biosecurity Act 2015;
- Biodiversity Conservation Act 2016;
- Heritage Act 1997
- Water Management Act 2000;
- Roads Act 1993;
- Waste Avoidance and Resource Recovery Act 2001;

Guidelines

- Post Approval Guidance Environmental Management Plan Guideline Guideline for Infrastructure Projects (DPIE, 2020);
- Wind Farms Environmental Noise Guidelines (South Australian EPA, 2009);
- Wind Energy: Noise Assessment Bulletin For State significant wind energy development (NSW Government, 2016);
- Planning for Bushfire Protection (NSW RFS, 2019)

Relevant Standards

• Australian and New Zealand environmental management international standard (AS/NZS ISO 14001) (Standards Australia, 2001).

Policies

- RATCH-Australia Corporations Work Health and Safety Policy;
- Vestas Quality, Health, Safety and Environment Policy
- NSW Industrial Noise Policy (2017).

3.2 Project Approval

The wind farm was initially assessed under Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and was approved on 2 December 2013. The *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017* (Savings and Transitional Regulations) came into effect on 1 March 2018. The Savings and Transitional Regulations prevent further modifications being made to "transitional Part 3A projects" under the Part 3A modification power in section 75W after 1 March 2018. Accordingly, the project was transitioned to State Significant Development (SSD) on 6 July 2018 via an order made under clause 6 of Schedule 2 of the Savings and Transitional Regulations.

To date, three Project Modifications have been prepared (MOD1 was approved 22 July 2015, MOD2 was approved 15 May 2019 and MOD3 approved 19 August 2019). Approval was granted for the construction, operation and decommissioning of up to 55 wind turbines and associated infrastructure.

Relevant assessment and approval documents for the wind farm include:

- Collector Wind Farm Environmental Assessment (APP Corporation, June 2012) (the EA);
- Collector Wind Farm Preferred Project & Submissions Report (APP Corporation, March 2013);
- Collector Wind Farm Modification Report (NGH Environmental, September 2015) (MOD1);
- Collector Wind Farm Submissions Report (NGH Environmental, December 2015);
- Collector Wind Farm Second Modification Application (NGH Environmental, October 2018) (MOD2);
- Collector Wind Farm Submissions Report (NGH Environmental, March 2019)¹;
- Collector Wind Farm Third Modification Application (NGH Environmental, July 2019) (MOD3);
- Collector Wind Farm Project Approval MP10_0156 (Minister for Planning and Infrastructure, 2 December 2013, and as modified on 16 August 2019).

If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the Conditions of the Project Approval shall prevail to the extent of any inconsistency.

CoA E19 outlines the requirements for the OEMP. **Table 3-1** summarises the condition and also identifies where the requirements have been addressed. Further review of CoA's linked to operations is included in **Table 3-1**.

Table 3-1: Project Approval Requirements (MP10_0156)

CoA	Requirement	Section where addressed
Operation	al Environmental Management	
E19	Prior to the commencement of operation, or as otherwise agreed by the Secretary, the Proponent shall prepare and implement (following approval) an Operation Environmental Management Plan for the Project. The Plan shall outline the environmental management practices and procedures that are to be followed during operation, and shall be prepared in consultation with relevant agencies and in accordance with the <i>Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources (DIPNR), 2004)</i> ² . The Plan shall include, but not necessarily be limited to:	This Plan
(a)	a description of activities to be undertaken during operation of the Project (including staging and scheduling);	Section 2
(b)	statutory and other obligations that the Proponent is required to fulfil during operation, including approval/approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;	Section 3 Table 3-3 Appendix B
(c)	overall environmental policies, guidelines and principles to be applied to the operation of the Project;	Section 3.1 Section 4 Section 5
(d)	a description of the roles and responsibilities for relevant employees involved in the operation of the Project, including relevant training and induction provisions for ensuring that employees are aware of their environmental and compliance obligations under these conditions of approval;	Section 4.3 Section 4.4
(e)	an environmental risk analysis to identify the key environmental performance issues associated with the operation phase of the Project; and	Section 5.2

¹ Refer to Appendix E of this report for the latest Statement of Commitments

² The DIPNR guideline has now been superseded by the *Post Approval Guidance Environmental Management Plan Guideline for Infrastructure Projects,* prepared by DPIE and dated April 2020.

СоА	Requirement	Section where addressed
(f)	details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts, including those safeguards and mitigation measures detailed in the EA (and any impacts arising from the staging of the construction of the Project).	Section 4 Section 5 Section 6
	The Plan shall be submitted for the approval of the Secretary no later than one month prior to the commencement of operation, or as otherwise agreed by the Secretary. Operation shall not commence until written approval has been received from the Secretary. Upon receipt of the Secretary's approval, the Proponent shall make the Plan publicly available as soon as practicable.	
	Note: The approval of an Operation Environmental Management Plan does not relieve the Proponent of any other requirement associated with this Project Approval. If there is an inconsistency with an approved Operation Environmental Management Plan and the conditions of this Project Approval, the requirements of this Project Approval prevail.	Note

Table 3-2 summarises the applicable Statement of Commitments (SoC). The most recent SoCs are included in Appendix E of the Collector Wind Farm Submissions Report (NGH Environmental, March 2019).

SoC #	Statement of Commitment (SoC)	Section where addressed
-	Operation Environmental Management Plan An Operational Environmental Management Plan (OEMP) will be prepared by the Proponent to describe the environmental management measures to be implemented during the operational phase of the project. This plan will cover not only the operational and maintenance requirements of the wind farm but will also address ongoing monitoring and maintenance of the project site to minimise ecological impacts and to promptly respond to potential community amenity issues. The OEMP will include the following:	This Plan
	key operational and maintenance activities;	Section 2
	 identification of statutory obligations and planning approval commitments; 	Section 3 Appendix B
	 description of the roles and responsibility of site personnel and visiting contractors; 	Section 4.3 Table 4-1
	 monitoring of the following key environmental issues; noise; 	Section 5.3.1 ONMP – Appendix D
	 fauna impacts; 	Section 5.3.2 BBAMP – Appendix E
	 dust emissions (from within the wind farm development footprint); 	Section 5.3.4
	 fire risks; and 	Section 5.3.3 BRMP – Appendix F
	 operational traffic impacts. 	Section 5.3.5

Table 3-2: Statement of Commitments (Attachment 5 of MP10_0156 as Modified)

SoC #	Statement of Commitment (SoC)	Section where addressed
	The OEMP will be prepared in accordance with the <i>Guideline for the Preparation of Environmental Management Plans</i> (DIPNR, 2004) ³ and will be submitted for approval to the Secretary no later than one month prior to the commencement of operation of the wind farm.	Section 1.1 Section 1.2

3.3 Environment Protection Licence

Prior to construction commencement, the project obtained an Environment Protection Licence (EPL, ref 21250) to cover various scheduled activities under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act).

Following completion of relevant construction activities, the existing EPL has been revised to focus on the operating aspects of the facility and authorises the activity of *Electricity Generation - Electricity Works (wind farms)* at the premises.

Site operations and reporting will be undertaken in accordance with the obligations of the EPL, a copy of which is available on the EPA public register, on the Collector Wind Farm website and a hard copy is available at the site office.

Annual returns are provided to the Environmental Protection Agency confirming ongoing compliance with the Licence obligations.

3.4 Key Stakeholders and Agencies

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed in **Appendix B**.

Key authorities and stakeholders are summarised in Table 3-3:

Table 3-3:	Key stakeholders	and agencies
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Agency / Stakeholder	Requirements
Upper Lachlan Shire Council (ULSC)	 Handover of completed Lerida Road South upgrade Section 138 under the Roads Act 1993 Agreement with ULSC on process for post-dilapidation survey and 'make good' (as required) in compliance with Condition D20B (b)
TransGrid	Agreement with TransGrid on the ongoing management and operation of the grid connection and high voltage substation
AirServices Australia (ASA)	 Provision of wind turbine and other infrastructure "as built" co-ordinates, updating requirements under Condition B13
Civil Aviation Safety Authority (CASA)	 Provision of wind turbine and other infrastructure "as built" co-ordinates, updating requirements under Condition B13
Royal Australian Air Force (RAAF) Aeronautical Information Services	 Provision of wind turbine and other infrastructure "as built" co-ordinates, updating requirements under Condition B13

³ As per footnote 2. The DIPNR guideline has now been superseded by the *Post Approval Guidance Environmental Management Plan Guideline for Infrastructure Projects,* prepared by DPIE and dated April 2020.

Agency / Stakeholder	Requirements		
Aerial Agricultural Association of Australia (AAAA)	 Provision of wind turbine and other infrastructure "as built" co-ordinates, updating requirements under Condition B13 		
Rural Fire Service (RFS)	 Updating of existing bushfire risk management plan prepared under Condition B18, for operations stage. 		
	Ongoing consultation between RFS and site operations team		

4 ENVIRONMENTAL MANAGEMENT

4.1 Environmental Management

Project Approval was granted to COLWF with ultimate responsibility for the project implementation resting with COLWF. Vestas has been engaged by COLWF to operate Collector Wind Farm on its behalf according to the Project Approval conditions and to the extent of the contract arrangement.

Figure 4-1 shows the environmental management organisation structure for the wind farm as predicted at the time of developing this OEMP.

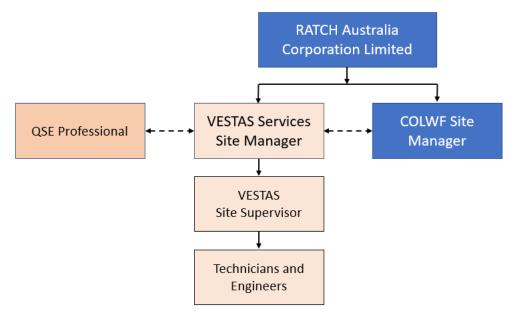


Figure 4-1: Organisation chart for operation

4.2 Workplace Health and Safety Environmental Management System

Vestas has prepared a Workplace Health and Safety Environmental Management Plan (WHSEMP) which details the Vestas' arrangements for ensuring health, safety, environmental, reliability and technical standards are established and complied with during wind farm operation.

The WHSEMP will be used in conjunction with this OEMP and other Vestas Global systems (including the Vestas Process Portal (VPP), the Occupational Health Safety and Environment (OHS&E) Manual and procedures / work instructions) to facilitate Vestas' obligations for Workplace (or Work) Health, Safety & Environment (WSH&E).

The WHSEMP provides details on:

- Site contacts detail, site layout, maps and general location;
- The WSH&E framework, including health and safety values, lifesaving rules;
- Quality Health, Safety and Environment (QHSE) Policy;
- Management planning structure and hierarchy, including safety leadership commitments and WHS&E objectives and targets, resourcing and responsibilities;
- Legislative requirements and change management;
- Risk management and the risk management process for managing high risk activities (e.g. working at heights, working within confined spaces, working near electrical installation and services);

- Requirements for job safety analysis (JSA), Procedure Risk Assessment (PRA) and Safe Work Method Statement (SWMS);
- Hazard identification, risk assessment and controls, and monitoring of controls;
- Site inspections, environmental checks and WHS&E audits;
- Communication with site staff (e.g. safety induction, toolbox meetings, safety walks, pre-starts) and consultation with key stakeholders and external providers;
- Details the WHS&E representation and safety committees;
- Training and competencies;
- Contractor management and permits to work;
- Incidents (including notifications of incidents) and injury management;
- All documentation reference numbers and titles to support the above processes;
- WHSEMP review.

The WHSEMP outlines all necessary measures required to implement, monitor and maintain standards for safe workplaces and practices and governance under the terms of the Generation Licence issued by the Independent Pricing and Regulatory Tribunal New South Wales (IPART).

This plan is subject to revision based on, but not limited to:

- Annual review
- Risk review,
- Experience,
- Continual improvement,
- Changes in practices and technology,
- · Legislation and statutory requirements, and
- Findings identified in lessons learned from significant incidents.

4.2.1 Inspection and Testing

Wind turbine servicing requires that critical elements of work are inspected, tested, checked and verified to ensure that all items comply with specifications and/or work practices.

Technical documents (including manuals, procedures, work instructions and checklists) that relate to service provisions, monitoring, inspection, testing and measurement are included in the Operation and Maintenance (O&M) Manuals for the wind farm.

- The Procedures and checklists will be used to ensure proper maintenance and service of processes and equipment.
- Inspection and Test Plans will be used to record inspections, tests and verifications to ensure that all work activities meet the required specifications.

4.2.2 Legislative Requirements and Change Management

The Vestas QSE Department are responsible for ensuring that the wind farm O&M management team are regularly updated of any changes to legislation and standards affecting the WHSEMP.

Where changes are likely to affect the systems of work, technical reliability and processes affecting safety and environment the Site Supervisor will consult as necessary with the Area Services Manager, QSE Department and the affected designated work groups (DWG) to determine potential impacts and to develop (where applicable) Action Plans for continual improvement.

Any required changes identified will be communicated through the following mechanisms as relevant:

• Site Meetings;

- Monthly H&S Committee Meeting;
- Toolbox talks (to relevant teams);
- Daily Pre- Start Meetings;
- Hold Points and cease work Safety Alerts;
- Briefings on JSA / PRA / SWMS which have been affected by the change.

4.3 Roles and Responsibilities

All personnel undertaking operational activities at the wind farm are responsible for the implementation of this OEMP and have the responsibility to stop works if there is potential for a safety or environmental incident to occur. The key roles and responsibility for wind farm operation are outlined in **Table 4-1**.

Table 4-1:	: Key roles	and responsibilities
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Role	Responsibility				
RATCH Australia	Ensure environmental requirements are communicated throughout business				
Management Team / COLWF	 Responsible for providing the required resources to complete the required tasks and to facilitate company corporate support. Resources being financial, technical and includes external resources 				
	 Develop and implement objectives and targets for environmental and safety management 				
Vestas Services Site Manager	 Responsible for delivery of operational activities including routine and non-routine maintenance works 				
	Ensure mitigation measures/plans are appropriate and resourced				
	Determines sequence and interaction of staff, resources and processes				
	 Oversee the implementation of all environmental management plans and monitoring programs required under the planning approval 				
	 Ensure environmental impacts are minimised and environmental obligations set out in the OEMP and subplans are met 				
	Ensures communications and reporting framework are in place				
	Ensures the goals of the OEMP (and sub-plans) are achieved and maintained				
	Designs and Implements environmental induction				
	 Ensure inductions and training are completed in accordance with the OEMP and sub- plans 				
	Ensures records are maintained				
COLWF Site Manager (Ratch-	 Oversee the implementation of all environmental management plans and monitoring programs required under the planning approval 				
Australia Corporation)	 Ensure environmental impacts are minimised and environmental obligations set out in the OEMP and subplans are met 				
	Ensures communications and reporting framework are in place				
	Ensures the goals of the OEMP (and sub-plans) are achieved and maintained				
	 Make changes to OEMP and communicate to relevant stakeholders 				
	 Communication with stakeholders including agencies, public and other identified stakeholders 				
	Reviews OEMP				

Role	Responsibility
	Manages environmental compliance obligations and any consultants required in relation to this work
	Reports incidents to agencies.
Vestas Site	Responsible for the day-to-day management / compliance of the wind farm
Supervisor	Responsible for implementing the OEMP in relation to maintenance activities
	• Ensure all activities on site are undertaken in accordance with the OEMP and sub-plans
	Reporting of environmental incidents
	Ensure management measures relating to wind farm performance are maintained
	 Responsible for ensuring any subcontractors engaged in relation to this project are inducted and the OEMP (and sub-plans) are implemented
	Identifies all environmental and safety risks associated with maintenance works
	Reviews SWMS for operational staff and contractors
	Approves SWMS
	Reports incidents to agencies
	Maintains site records.
Vestas QSE	Ensures goals of OEMP are achieved
Professional	• Ensures that environmental auditing is undertaken in accordance with all relevant project Environmental Management Systems and Safety Management System and their associated ISO standards (where applicable)
	Reports incidents to agencies.
Contractors and	As per contractual agreements:
Subcontractors	Undertake Site Inductions and comply with all aspects of this OEMP and all associated compliance documents, permits, procedures and standards
	 Conduct risk assessments and provide SWMS to obtain approval prior to commencement of works
	Identify all hazardous substances (contained within SDS) proposed for use on the Site
	Provide other environmental related data as part of the SWMS process as defined by this OEMP
	Attend Site meetings when requested
	Report, investigate and implement corrective measures arising from associated environmental incidents associated with their work
	• Attend environmental training and awareness sessions where relevant to their work.
All employees (irrespective of	 Immediately cease, and report, any workplace activity (including that of other persons) which presents an immediate risk to safety, property or environment
position)	• Where possible, take immediate steps to control identified hazards in the workplace
	• Working in a safe manner without risk to themselves, others or the environment
	Comply with site rules
	 Participate in toolbox meetings & training programs relating to safety, quality and environment

Role	Responsibility
	 Participate in incident investigations, risk assessments, inspections and audits as required by Vestas.
	Create SWMS prior to commencing any tasks onsite

4.4 Training and Awareness

All site personnel, contractors and sub-contractors will undergo site specific induction training, which has been developed with an emphasis on understanding and managing risks associated with the wind farm operations, prior to undertaking any activities on site. The aim of the training is to ensure that all employees (including site personal, contractors and visitors to site) are made aware of their environmental and compliance obligations under Project Approval conditions.

Operator training will be undertaken / updated as required to ensure adequate skills and expertise are available to enable all tasks and activities to be carried out successfully.

4.4.1 Environmental Induction

As a minimum, the site induction will include an environmental section which will detail the following:

- An overview of this OEMP, its purpose and content;
- Obligations under the Project Approval conditions;
- The roles and responsibilities of site staff, subcontractors and consultants in relation to environmental management;
- Activities undertaken during operations that have the potential to impact on the environment;
- Environmental controls to be implemented during operations;
- Reporting environmental incidents;
- Emergency and spill response procedures.

Records of induction attendance will be kept at the wind farm O&M office.

4.4.2 Pre-starts and Toolbox Talks

Toolbox meetings will be held weekly. The purpose of the toolbox meetings is to inform personnel of upcoming activities to be undertaken, as well as to discuss safe work practices, environmental protection practices, hazards and other information that may be relevant.

Topics covered in toolbox meetings include health, safety and environmental issues relevant to upcoming works, works that have the potential to impact on sensitive receivers or environmentally sensitive areas or incidents that have occurred.

Pre-starts will be undertaken daily before any maintenance or operational activities to inform staff of potential environmental issues, hazards and other information that may be relevant to the particular activities being undertaken.

4.5 Complaints Management

4.5.1 Enquiries and Complaints Procedure

In accordance with CoA C3, multiple means of contact have been established to facilitate community enquiries and complaints for the life of the Project, as provided on the wind farm website https://ratchaustralia.com/collector/

Table 4-2: Contact details for community enquiries and complaints

Contact type	Details
A 24-hour telephone number on which complaints and enquiries about the wind farm can be registered:	1800 280 013
A Postal address to which written complaints and enquires can be sent:	PO Box 1058, North Sydney NSW 2059 Level 7, 111 Pacific Highway North Sydney, NSW, 2060
An email address to which electronic complaints and enquiries can be transmitted	enquiries@ratchaustralia.com

Additionally, a complaints management and mediation system is in place for complaints unable to be successfully resolved.

4.5.2 Complaints Management

As noted, in accordance with CoA C5, a Complaints Management System has been set up for the life of the wind farm, from construction through operations to decommissioning. The Complaints Management System is publicly available on the wind farm website, as required by CoA C6 and SoC 14.02 (https://ratchaustralia.com/collector/).

In summary, any third-party complaints will be managed as follows:

- Record complaints as an incident;
- Investigate and verify complaints and assess if off-site impacts have occurred;
- Implement corrective measures including modification of operational activities to avoid recurrence or minimise ongoing adverse impacts;
- Complete monitoring/additional investigations to verify the adequacy of the recommendations, as required;
- Notify the complainant of actions taken;
- Continue to monitor activity, if required.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the compliance reports required by the Approval.

The information contained within the system shall be made available to the Secretary on request.

4.6 Information Availability

In accordance with CoA C6 and SoC 14.02 all relevant project information will continue to be made available on the wind farm website (<u>https://ratchaustralia.com/collector/</u>). This will include the approved OEMP and all associated sub-plans, and other information associated with project operations.

4.7 Environmental Incidents

4.7.1 Incident Management

An environmental incident is defined as an event that has, or has the potential to, cause harm to the environment and requires action to minimise the impact or restore the environment. Common types of potential environmental incidents include:

Spills;

- Sediment discharge into waterways and paddocks;
- Unexpected finds (cultural heritage);
- Traffic incident causing environmental spill;
- Damage to heritage items or protected flora and fauna;
- Breach of any Project Approval or EPL conditions.

In the event of an environmental incident appropriate levels of investigation, consultation and reporting will occur to ensure mitigation actions are undertaken and corrective actions are identified and implemented. Incidents will be recorded in the incident register and outcomes and any actions assigned to the appropriate personnel and followed-up through to completion will also be registered.

All incidents that require reporting to external stakeholders will be completed as per Section 4.7.2.

4.7.2 Incident Notification Requirements

Consistent with CoA C8, DPHI will be notified in writing immediately after COLWF or Vestas becomes aware of an incident. The notification will include details identifying the Project and will also set out the location and nature of the incident.

The EPA will be notified as per the requirements of the operational EPL.

4.7.3 Pollution Incident Response Management Plan

In accordance with Part 5.7 of the POEO Act a Pollution Incident Response Management Plan (PIRMP) has been prepared and maintained for the wind farm (available at https://www.collectorwindfarm.com.au/). The key elements of the plan include:

- Names and contact details for emergency response personnel;
- Contact details for emergency services;
- Location of onsite information regarding hazardous material;
- Steps to follow to minimise damage and control an environmental emergency;
- Instructions and contact details for notifying relevant stakeholders.

The PIRMP will be refined for operations and tested once a year prior to the anniversary date of the EPL. Lessons learnt as a result of the testing may influence plan updates.

4.7.4 Emergency Contact Details

Emergency contact details are included in Table 4-3 which will be updated as required.

Table 4-3: Emergency contact details

Role / Authority	Name / Role	Telephone Number
Vestas Regional Service Manager	Nicholas Warren	0457 047 799
COLWF Site Manager	Peter Sprott	0447 598 280
Fire and Rescue NSW	Fire & Rescue Goulburn 157-161 Bourke Street Goulburn	000 (02) 4822 1608
NSW Rural Fire Service	Goulburn Rural Fire Service 82-88 Combermere Street Goulburn	000 (02) 4822 2900

Role / Authority	Name / Role	Telephone Number	
NSW Police Force	Goulburn Police Station	000	
	274 Sloane Street Goulburn	(02) 4824 0799	
NSW Ambulance	Goulburn Ambulance Station:	000	
	18 Clifford Street Goulburn	(02) 4822 1822	
NSW EPA Environmental Hotline	-	131 555	
		(02) 9995 5000	
Workcover NSW	-	132 360	
Public Health Unit	NSW Health (Goulburn Base Hospital)	(02) 4827 3111	
Upper Lachlan Shire Council	-	(02) 4830 1000	

5 IMPLEMENTATION

This section addresses the key risks and environmental performance issues associated with the operation of the wind farm and the environmental controls established to manage the key risks.

5.1 Operational Environmental Impacts

Operational environmental impacts for the wind farm were identified and evaluated as part of the environmental assessment process at the planning application stage of the project, as detailed in the EA Report (APP Corporation, June 2012).

A summary of the key potential environmental issues identified, which may require appropriate mitigation / management during the operation of the wind farm, and which form the basis of the environmental risk assessment, are listed as follows:

- Noise and vibration;
- Flora and fauna;
- Fire and bushfire;
- Traffic and transport;
- Visual amenity and landscape;
- Air quality;
- Indigenous heritage;
- Water quality;
- Soil and landform;
- Aeronautical;
- Telecommunications;
- Electric and magnetic fields (EMF);
- Social and economic.

Contractors undertaking site activities at the wind farm will be required to work under this OEMP but may utilise their own business and risk management systems and processes to develop any necessary site-specific safety and environmental management documentation and induction materials. The developed documentation and materials take into account the activity risk assessment, any relevant mitigation measures and any site / task specific risks that may require other or additional mitigation measures and controls to be applied. Any contractors who utilise their own business and risk management systems and processes would do so in accordance with Section 17 of the WHSEMP.

5.2 Risk Assessment

A risk assessment was undertaken as part of the EA (2012) that included assessment of the operational stage. The risk assessment used qualitative risk ratings to identify the likelihood of occurrence ("probability") and the associated outcome ("consequence") for each issue. **Table 5-1** outlines the measures used to determine probability and outlines the criteria used to determine the consequence. **Table 5-3** combines both probability and consequence in a matrix which is subsequently referenced to provide a risk rating.

Table 5-1: Measure of probability categories

Rank	Probability	Description
А	Almost certain	Happens often and is expected to occur
В	Likely	Could easily happen and would probably occur
С	Possible	Could happen and has occurred elsewhere
D	Unlikely	Unlikely to happen but may occur
Е	Rare	Could happen but only in extreme circumstances

Table 5-2: Measure of consequence categories

Rank	Consequence	Description
1	Extreme	Permanent and catastrophic impacts on the environment; large impact area; reportable incident to external agency; large fines and prosecution; operational constraints; substantial community concern.
2	Major	Permanent and detrimental impacts on the environment; large impact area; reportable incident to external agency; may result in large fines and prosecution; operational constraints; high level of community concern.
3	Moderate	Substantial temporary or minor long-term detrimental impacts on the environment; moderate impact area; reportable incident to external agency; action required by reportable agency; community interested.
4	Minor	Minor detrimental impacts on the environment; small impact area; reportable incident internally; no operational constraints; some local community interest.
5	Low	Nil or temporary impacts on the environment; small or isolated impact area; not reportable incident; no operational constraints; uncontroversial project no community interest.

Table 5-3: Risk matrix

	Consequence				
Probability	1 Extreme	2 Major	3 Moderate	4 Minor	5 Low
A – Almost certain	Е	Е	Е	Н	Н
B – Likely	Е	Е	н	М	М
C – Possible	Е	Е	н	М	L
D – Unlikely	Е	Н	М	L	L
E – Rare	н	Н	М	L	L

E - Extreme, H - High, M- Medium, L - Low

Aspect	Potential impact	Probability	Consequence	Risk rating	Key issue? (Yes/No)
Noise and vibration	Operation of wind turbines	С	4	М	Yes Section 5.3.1
	Increased vehicle movements	С	4	М	No
Flora and fauna	Increased traffic and human movement	С	4	М	No
	Blade strike and barotraumas from the operation of turbines	В	4	М	Yes Section 5.3.2
Fire and bushfire	Turbine fire	E	4	L	Yes
	Substation/transmission line fire	E	4	L	Section 5.3.5
	Ignition of fires due to lightning strike	E	4	L	
	Bushfire resulting from the operation of the wind farm	E	1	М	

Table 5-4: Operational environmental risk assessment after application of mitigation measures

Aspect	Potential impact	Probability	Consequence	Risk rating	Key issue? (Yes/No)
Traffic and transport	Additional vehicle movements adversely impacting local traffic conditions	E	4	L	Yes Section 5.3.5
	Additional vehicle movements increasing risk of vehicular accidents	D	3	М	
Air quality	Dust generation	С	4	L	Yes Section 5.3.3
Visual amenity and landscape	Obstacle (turbine) lighting	E	4	L	No Section 5.3.10
Indigenous heritage	Reduction in cultural significance of the landscape	D	5	L	No Section 5.3.9
	Damage or disturbance of items/places of non-indigenous heritage	D	4	L	
Water quality	Damage to local aquifer recharge points	E	4	L	No
	Potential spills and leaks of fuels, oils and chemical used during operation of the wind farm	С	4	L	No
Soils and landform	Reduction in quality and potential beneficial use of land within the project site	D	4	L	No
	Increased erosion and land instability	E	3	М	No
Aeronautical	Aircraft impact with infrastructure	E	2	Н	No
	Disruption of flight paths and local aeronautical activities	E	5	L	No
Telecommunications	Disruption of telecommunications, navigation and radar signals interference	С	4	М	No Section 5.3.12
EMF	Human exposure to elevated levels of EMF	E	4	L	No
Social and	Changes in local employment		N/A – pos	tive impact	
economic	Community division	D	3	М	No
	Impacts on amenity of the neighbouring properties	D	4	L	No

5.3 Key Environmental Issues

The following key environmental issues were identified via the risk assessment and outlined in Section 16.3 of the EA (2012):

- Noise;
- Fauna;
- Fire risks;
- Operational traffic;
- Dust emissions.

Noise and fauna have been addressed in the subplans appended to this OEMP (ONMP as per CoA E20 and fauna in the form of a BBAMP as per CoA B6) and summarised in **Sections 5.3.1** and **Section 5.3.2** respectively.

Management plans in relation to, fire risks, dust emissions and operational traffic are provided in **Section 5.3.3**, **Section 5.3.4** and **Section 5.3.5** respectively. These management plans include identified mitigation measures.

A summary of mitigation measures for all environmental aspects is also provided in Appendix A.

5.3.1 Noise

Introduction

CoA E20 requires the preparation of an ONMP. Consistent with the requirement of CoA E20 the ONMP outlines the measures to minimise noise emission from operation of the wind farm, details the procedures to ensure ongoing compliance with the operational noise limits and identifies procedures and corrective actions to be implemented if a non-compliance is detected.

The ONMP is included in **Appendix D** and is summarised below in the sections below.

Summary

Noise generated by the operation of the wind turbines was measured in accordance with the requirements of the South Australian Environment Protection Authority's *Wind Farms – Environmental Noise Guidelines 2009*, as modified by Attachment 4 of the Project Approval. Noise modelling undertaken thus far (for the EA (2012) and MOD1 (2015)) concluded that noise predictions for non-Project associated landowners is within the applicable noise criteria. Note, in December 2016 the NSW Department of Planning and Environment published *Wind Energy: Noise Assessment Bulletin - For State significant wind energy development* (the NSW Noise Assessment Bulletin). Noise measurements will hereby be measured in accordance with the NSW Noise Assessment Bulletin as per the requirement of CoA E6.

Operational Noise Criteria – Wind Turbines

Operational noise criteria for wind turbines on the wind farm are provided in CoA E6 as outlined in Table 5-5.

Residence	Criteria (dB(A)) with Reference to Hub Height Wind Speed (m/s)										
Residence	3	4	5	6	7	8	9	10	11	12	13
FF	35	35	35	35	37	39	41	43	45	47	49
All other non-associated residences	The higher of 35 dB(A) or the existing background noise level (LA90 (10-minute)) plus 5 dB(A)										

Operational Noise Criteria – Ancillary Infrastructure

As per CoA E7, noise generated by the operation of ancillary infrastructure is not to exceed 35 dB(A) LAeq(15 minute) at any non-associated residence. Noise generated by ancillary infrastructure is to be measured in accordance with the *NSW Industrial Noise Policy* as modified by Attachment 4 of the Project Approval.

Noise Monitoring

Consistent with CoA E8, noise monitoring has been undertaken assessing the operations of the wind farm against compliance criteria. This assessment concluded compliance with the criteria specified in the approval.

A copy of the post construction noise assessment (Rp 002 20201163) has been submitted to DPHI, the NSW EPA and is available at the project website. Consistent with CoA E9, further noise monitoring of the Project will be undertaken if required by DPHI.

Third-party complaints

Any noise related complaints received will be managed in accordance with the Complaints Management System described in **Section 4.5.2** of this OEMP.

Specific actions will be taken to assess noise related complaints, including analysis of:

- Weather conditions;
- Wind speed and direction;

- Individual turbine and overall wind farm activity;
- Any curtailment or de-rating affecting the facility;
- Turbine alarms and system logs, and
- Turbine condition monitoring systems.

Where abnormal activity is not identified, site specific assessments may be undertaken under similar weather and operational conditions to assist in further targeted investigations.

If required, further quantitative assessment may be undertaken as considered in the ONMP.

Management

Mitigation measures to be implemented during operation of the wind farm are summarised in Table 5-6.

Table 5-6: ONMP operational management measures

ID #	Mitigation measure	Timing	Responsibility
NM-01	Establish and maintain a Project Hotline to allow affected residents to register noise concerns.	Throughout operation	COLWF Site Manager
NM-02	Within five months of commencement of operations, noise compliance monitoring would be undertaken to assess compliance with noise criteria.	Within five months of commencement of operations	Noise consultant
NM-03	A complaints management system will be established and maintained to respond to noise complaints from the community.	Throughout operation	COLWF Site Manager Vestas Site Manager

5.3.2 Fauna – Bird and Bat Management

Introduction

CoA B6 requires the preparation and implementation of a Bird and Bat Adaptive Management Plan (BBAMP). The BBAMP sets out the bird and bat monitoring requirements for the wind farm and includes a decision making framework that sets out when management actions should be implemented, identifies 'at risk' bird and bat groups, identifies seasons and areas within the wind farm site which may attract high levels of mortality, identifies mitigation measures and strategies, includes a program to monitor the effectiveness of mitigation measures / strategies and a program for reporting bird and bat strikes.

The BBAMP has been approved by the Secretary and is included in Appendix F.

Monitoring Requirements Summary

During operation, monitoring requirements include bird utilisation surveys and bat activity surveys twice a year for the first 3 years. Additionally, a carcass search program will be implemented to detect any birds and bats that fatally collide with wind turbines. This data will be used to estimate the potential impacts on local avifauna and hence any additional management / mitigation measures to be implemented. The structure and methodology for the operational phase surveys is to be agreed in consultation with the EES Group. The surveys will commence as soon as possible after commissioning of the final wind turbine and will be maintained in accordance with the requirements of the BBAMP.

For further details on the operational monitoring requirement refer to Section 3 of the BBAMP.

Management

Mitigation measures to be implemented during operation of the Project are included in Section 4 of the BBAMP and are summarised in **Table 5-7**.

Table 5-7: BBAMP operational management measures

ID #	Impact / issue	Mitigation measure	Timing	Responsibility
FF-03	Eastern Bentwing Bat migration	Post-construction bat surveys and carcass and mortality monitoring will be undertaken as outlined in the BBAMP. The results will be included in the annual reporting of the BBAMP. Should Eastern Bentwing Bats be identified as migrating through COLWF (or parts of it) further mitigation measures may need to be considered.	Up to three years following commissioning	Ecologist
FF-04	Carrion removal program	In order to reduce the risk of raptors colliding with wind turbines, a regular carrion removal program will be implemented during operation. The carrion removal program will be consistent with the requirements of Section 4.2 of the BBAMP.	Monthly during year one of operation. To be determined after year one.	Ecologist
FF-05	Lighting	Building lighting has been installed to avoid excessive light spillage, with security lighting baffled to direct it towards the area requiring lighting and not skyward.	Throughout operation	COLWF Site Manager Vestas Site Manager

Trigger impacts

Supplementary mitigation measures are outlined in Section 5.3 of the BBAMP. These will be implemented if an impact trigger occurs. An impact trigger is where there is evidence of death or injury to birds and/or bats by collision or other interaction with turbines.

5.3.3 Fire risks

Introduction/Summary

A BRMP has been prepared in accordance with CoA B18 and is included in **Appendix F**. The BRMP will be updated for operations and identifies potential bushfire risks and management measures.

The bushfire season for the wind farm is generally October – April. Bushfires in the surrounding region are most likely to occur as a result of lightning, escapes from legal or illegal burning off, human error (e.g. farming practices or discarded cigarette butts) or arson. No fires have been identified as occurring in or near the wind farm site in the last 35 years; however during operation of the wind farm additional bushfire risks exist, such as; sparks from tool use, ignition of bushfire caused by Catalytic converters on petrol driven vehicles and inappropriate storage of combustible or flammable substances on site.

Management

Table 5-7 documents the mitigation measures and monitoring requirements would be implemented to manage potential fire risks:

T-11- C 0	-			
1 able 5-8:	Fire	risk	management	measures

ID #	Mitigation measure	Timing	Responsibility
FR-01	Dedicated monitoring systems (e.g. SCADA) in use to automatically shut down wind turbines if ambient temperatures exceed the safe operating range.	Throughout operation	COLWF Site Manager Vestas Site Manager
FR-02	Wind turbines will be shut down if directed by the Rural Fire Service (RFS) in the event of nearby wildfire.	When required	All staff

ID #	Mitigation measure	Timing	Responsibility
FR-03	All wind farm components on site are designed, constructed, operated and housed to minimise ignition risks, provide for asset protection including communication infrastructure consistent with relevant RFS design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection) and provide for necessary emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bush fire. Similarly, site buildings have been constructed in compliance with Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas.	Throughout operation	COLWF Site Manager Vestas Site Manager
FR-04	The substation is surrounded by a gravel and area to prevent the spread of fire from the substation and to reduce any bushfire impacts. An Asset Protection Zone (APZ) of 10m will be maintained around the wind turbines, control building and substation, compliant with the RFS guidelines.	Throughout operation	COLWF Site Manager Vestas Site Manager
FR-05	Consultation will be undertaken with the RFS after the commencement of operations and any other time thereafter as required by the RFS, to ensure that the local RFS is familiar with the development, including location and identification of wind turbines for the purpose of fast access in emergencies.	Throughout operation	COLWF Site Manager Vestas Site Manager

5.3.4 Dust Emissions and Air Quality

Introduction

During operation of the wind farm there is the potential for the generation of fugitive dust emissions. The primary source of fugitive dust emissions will be vehicle movements on the access roads and hardstands, as part of the regular maintenance of the wind turbines. Other potential sources include any clearance or excavation that may be required for BOP maintenance activities.

Management

Table 5-9 documents the mitigation measures and monitoring requirements that will be implemented to manage potential dust emissions.

Table 5-9:	Fugitive dust	operational	management	measures

ID #	Mitigation measure	Timing	Responsibility
AQ-01	Vehicle speeds limited to 40km/hr on unsealed access tracks within the wind farm site to minimise dust generation.	Throughout operation	Site Supervisor All staff
AQ-02	Where there is high potential for dust to impact surrounding residences additional dust suppression controls such as water carts may be utilised.	When required	Site Supervisor
AQ-03	Any stockpiled material would be covered, seeded or otherwise bound to reduce dust emissions.	When required	Site Supervisor
AQ-04	Assessment of dust generation will be undertaken during routine environmental inspections and daily during hot/dry periods or during any operational works with the potential to generate dust.	Throughout operation	Site Supervisor

5.3.5 Operational traffic

Introduction/Summary

Section 10.3.8 of the EA (2012) identified that operational traffic impacts as a result of the wind farm would be negligible. It is estimated that typically 3-4 service vehicles carrying personnel and equipment will be required for the operation and maintenance of the wind farm.

In addition, the number of permanent staff at the site is predicted to be a maximum of 25, therefore, generating up to 25 staff trips per day, with up to 8 vehicles being on site. It is therefore considered that this minimal traffic generation would have negligible impact on the surrounding road network.

Management

Vehicle Movements

In accordance with the requirements of the original development application and the obligations of CoA D20 of the approval, all vehicle access to the wind farm site will be via the Hume Highway and the northern end of Lerida Road South. No operational vehicles will access the site from the southern end of Lerida Road South.

All heavy vehicle access to the site will be via the Hume Highway turning left into Lerida Road South. All heavy vehicle egress from the site will be from Lerida Road South turning left onto Hume Highway.

Maintenance

The upgraded Lerida Road South remains part of the road network owned and operated by ULSC, who will be responsible for ongoing maintenance.

The site access roads will be maintained on site in accordance with the requirements set out by the civil contractor in the site 'Balance of Plant Works Maintenance Manual' (consistent with the obligation of SoC 5.3 to have a procedure for managing ongoing maintenance of access roads during the operation phase).

5.3.6 Weed management

Introduction/summary

During operation there is potential for the introduction and/or the spread of weed species. The Biodiversity Assessment that supported the EA identified weeds that were located within or adjacent to the project site. These weeds are identified in **Table 5-10**.



Table 5-10: Weeds identified on site

Name	Photos
Gorse (Ulex europaeus)	
Scotch Thistle (Onopordum acanthium)	
St John's Wort (<i>Hypericum</i> <i>perforatum</i>)	
Sweet Briar, also known as eglantine (<i>Rosa rubiginosa</i>)	
Serrated Tussock (<i>Nassella trichotoma</i>)	ThSW WeedWise (https://weeds.doi.psw.ooy.au)

Note: All photos sourced from NSW WeedWise (<u>https://weeds.dpi.nsw.gov.au/</u>)

Management

Table 5-11 documents the mitigation measures and monitoring requirements that would be implemented to manage potential weed impacts (to be carried out in consultation and conjunction with the project landowners).

Table 5-11: Weed management measures

ID #	Mitigation measure	Timing	Responsibility
FF-07	All weeds will be managed in accordance with the control measures outlines on NSW WeedWise website - <u>https://weeds.dpi.nsw.gov.au/</u>	Throughout operation	All staff
FF-08	If a specific weed risk is identified, all machinery, equipment and vehicles are to be washed down before entering and leaving the site.	Throughout operation	Site Supervisor

Aerial agricultural stakeholders

If required, COLWF will work with local aerial agricultural stakeholders to mitigate / minimise any negative effects from the wind farm on routine aerial agricultural activities on surrounding properties. In the event that the costs of aerial agricultural spraying on any non-associated property surrounding the site increase as a direct result of the wind farm operation, COLWF shall fully fund the reasonable cost difference between pre-construction aerial agricultural spraying and the increased cost, as agreed between the relevant parties.

5.3.7 Waste management

Various waste materials will be generated during day-to-day operations and regular maintenance activities at the site. Any such waste materials will be managed in accordance with the mitigation measures outlined in **Table 5-12.**

ID #	Mitigation measure	Timing	Responsibility
W-01	Waste would be managed in accordance with the waste minimisation hierarchy principles of: Avoid Most preferable Reduce Reuse Recycle Bispose. Recycle waste Recycle waste Becover energy Treat waste Dispose of waste Least preferable	Throughout operation	All staff
W-02	A waste register will be maintained to detail the type of waste removed from site, the quantity of waste removed from site, the contractor who removed the waste and the destination of the waste.	Throughout operation	Site Supervisor
W-03	Waste which cannot be re-used or recycled will be removed from site by a suitably qualified and experienced waste contractor and disposed of at an appropriately licenced facility that may accept that category of waste.	Throughout operation	Site Supervisor

Table 5-12: Waste management measures

5.3.8 Soil and water

During operation there is potential for impacts to soils and watercourses, particularly erosion and sedimentation impacts during maintenance activities. Impacts may potentially arise from ground disturbance activities, temporary stockpiles, vegetation clearance, poor maintenance, and/or spills or leaks.

Potential spoil and water impacts will be managed in accordance with the management measures outlined in **Table 5-13**.

ID #	Mitigation measure	Timing	Responsibility
SW-01	Spill kits will be provided at oil and fuel storages and on vehicles	Throughout operation	All staff
SW-02	Storages of oils, fuels, other hazardous chemicals and liquid wastes will be appropriately bunded.	Throughout operation	Site Supervisor
SW-03	Hazardous material, waste and sewage will be managed in accordance with regulatory requirements.	Throughout operation	All staff
SW-04	Appropriate drainage structures, and erosion controls as required, will be maintained on hardstands, access roads, tracks and the substation to manage run-off and reduce the risk of erosion and scour from concentrated flows where required.	Throughout operation	Site Supervisor
SW-05	Erosion and Sediment Control Plans (ESCP) will be prepared and implemented in advance of maintenance in high-risk locations, including earthworks with high erosion potential and steep grades, works near waterways and stockpiling.	Throughout operation	Site Supervisor

Table 5-13: Soil and water management measures

5.3.9 Heritage

Introduction/summary

The EA for the project identified that from an Aboriginal land use context, the project site is likely to have been utilised for a limited range of activities such as short stays, hunting, gathering and travel through country. These activities have likely resulted in low levels of artefact discard. However, the local area has been utilised for stock grazing since the 1820s. As a result, soils within the project site are typically highly disturbed which in turn has potentially negative impacted on the likely stability and integrity of artefacts.

A review of the NSW Aboriginal Heritage Management Information System (AHIMS) as part of the EA identified three previously recorded Aboriginal objects within the project site, but outside the development footprint. Field studies undertaken during preparation of the EA recorded five Aboriginal object locales which contain stone artefacts. The five Aboriginal object locales were assessed to be of low archaeological significance. In addition, four trees were recorded as possible Aboriginal scarred trees. Given that these items were avoided during design and construction, it is unlikely they would be impacted during operation.

The EA did not identify any items of non-Aboriginal heritage within the project site.

Management

Table 5-14 documents the mitigation measures and monitoring requirements that will be implemented to manage potential heritage impacts:

Table 5-14: Heritage management measures

ID #	Mitigation measure	Timing	Responsibility
H-01	Although it is not expected that any operation activities will impact on any of the identified sensitive sites, in the event that any Aboriginal archaeological material or European Heritage sites or artefacts are encountered, ground activities within 100m will cease immediately to allow an archaeologist to make an assessment of the finds. In addition, previously unrecorded Aboriginal or European artefacts or sites will be reported to the NSW Heritage within a reasonable timeframe.	Throughout operation	Site Supervisor COLWF Site Manager
H-02	All areas of Heritage value identified on the site map will be avoided. In the unlikely event that any of the Heritage items are impacted COLWF will be notified immediately, and the incident will be reported to the NSW Heritage within a reasonable timeframe.	Throughout operation	Site Supervisor COLWF Site Manager

5.3.10 Visual amenity

A Landscape and Visual Impact Assessment (LVIA) for the wind farm was undertaken for the original project application and was updated for Modification 1. The LVIA determined that the wind farm was unlikely to result in any significant 'direct', 'indirect' or 'sequential' cumulative visual impact resulting from associated views toward existing wind farm developments within a 10km viewshed.

The Design and Landscaping Plan (DALP) required under CoA B27 outlines appropriate landscaping measures on the site to achieve adequate landscape buffers and to address the potential visual impacts arising from the wind farm as far as is reasonable and feasible. Reasonable and feasible landscaping treatments using plantings of indigenous and locally occurring tree and shrub species will be offered to dwellings within five kilometres of the site to visually screen the wind farm, and implemented in agreement with affected landowners, for a period up to 6 months after formal commencement of operations.

Low intensity lighting has been installed at the site and will continue to be used to minimise light spill.

Turbine night lighting

The Civil Aviation Safety Authority (CASA) assessed the project as being a low hazard to aviation safety based on the current levels of civilian air activity in the area and the location of the site in relation to aerodromes. Based on this, CASA advised that aviation hazard lighting was not required, further minimising any visual impacts from night lighting.

5.3.11 Revegetation and rehabilitation

As required by CoA E4 and E5 of the Project Approval, a revegetation and rehabilitation program for all areas disturbed by construction and are not required for the ongoing operation of the wind farm will be implemented. All revegetation measures will be completed within six months of the cessation of construction activities at the relevant area.

CoA E4 – Watercourses and riparian vegetation

CoA E4 specifically requires that disturbance to watercourses and/or associated riparian vegetation shall be rehabilitated to a standard equal to or better than the existing condition in consultation with the DPI Water and DPI (Fisheries) within six months of the cessation of construction activities at the relevant area.

No permanent watercourses were impacted by construction, however; some low order (1 and 2) streams were crossed by wind farm infrastructure (underground cables, access roads). These crossings were designed to allow for a 1 in 50 rainfall events in accordance with the Blue Book.

In the event that permanent watercourses and/or associated riparian vegetation are disturbed as a result of operation, COLWF will rehabilitate the disturbance in consultation with the DPI Water and DPI (Fisheries).

CoA E5 - Revegetation and rehabilitation program

Revegetation measures have been implemented progressively where possible, on areas previously disturbed by construction. As required by CoA E5, an independent and suitably qualified expert (whose appointment has been agreed to by the Secretary) has been appointed and assessment of rehabilitation activities has commenced. Issues raised will be addressed under the EPC contract and will be verified by the expert when completed.

Once verified, COLWF is committed to ensure that revegetation activities continue to be monitored and maintained to ensure all the vegetation is well established, in good health and is self-sustaining.

5.3.12 Telecommunications

A television and radio assessment (Aitken & Partners, 2019) was undertaken prior to construction commencing and provided a baseline analysis for the reception in the area.

UHF and FM radio measurements were undertaken at 24 locations, for impacts on the Canberra, Goulburn and Bungendore transmitters. Of these 17 were considered to have good reception, five variable reception and one had poor reception. One location selected was not impacted by any of the transmitters. Two sites were considered likely to be impacted by the wind farm, and three of the sites were considered to be "possibly" affected.

In the event of a complaint from a receptor located within five kilometres of a wind turbine regarding television/radio transmission during the operation of the Collector Wind Farm, COLWF will investigate the quality of transmission at the receptor compared with the pre-commissioning assessment and where any transmission problems can be reasonably attributable to the operation of the wind, will rectify the problem within three months of the receipt of the complaint, through the implementation of measures which could include:

- Modification to or replacement of receiving antenna;
- Installation and maintenance of a parasitic antenna system;
- Provision of a land line between the affected receptor and an antenna located in an area of favourable reception; and/or
- other feasible measures.

Consistent with this process, COLWF is managing assessment of television reception at a limited number of neighbouring properties to the east of the project who have raised concerns about potential impacts from the wind farm on existing TV reception.

6 MONITORING AND REVIEW

6.1 Records and Document Management

Document control is a fundamental aspect of an environmental management system. For Collector Wind Farm, document control for the OEMP and sub-plans is managed through the Document Control Table found at the front of each document. The document control table will identify the revision status of documents. Documents will be controlled to ensure that obsolete and un-released documents are not inadvertently used.

All changes to documents must be reviewed and approved by the Vestas and COLWF Site Manager. All records will be legible and stored in hard copy or electronically on site.

6.2 Monitoring and Inspections

Regular monitoring will be undertaken to monitor the performance of the environmental aspects outlined in **Section 5**.

These will be through a series of formal and informal inspections at regular intervals as outlined in Table 6-1.

Table 6-1: Inspection and Monitoring Frequency

Aspect	Sub-aspect	Activity / performance indicator	Resources	Responsibility	Frequency
Noise	Noise	Undertake noise monitoring to determine whether the project is complying with the relevant conditions of approval	ONMP	Site Supervisor	At commencement of operations (complete) and additionally if required by DPHI
Air Quality	Visual dust emission	Monitor for evidence of dust generation	Site Supervisor Checklist Stop Work Report Form	Site Supervisor	Daily issues recorded in Site Supervisor Checklist Ad-hoc, depending on changing conditions
Waste Minimisation and Management	Litter generation and recycling	Ensure litter bin and recycling facilities emptying frequency is meeting demand and appropriate segregation is being undertaken.	Site Supervisor Checklist	Site Supervisor	Daily issues recorded in Site Supervisor Checklist
Soils and Landforms	Erosion and sediment control (ERSED)	Check catch drains and road drains in good condition (i.e. not scouring, rock checks in place)	Site Supervisor Checklist	Site Supervisor	Daily issues recorded in Site Supervisor Checklist Ad-hoc, depending on changing conditions
	Wet weather inspections	Following significant rainfall (i.e. > 20 mm/24 hours) inspect drains and areas of high risk for active erosion and sedimentation	Wet weather checklist	Site Supervisor	Following significant rainfall (i.e. > 20 mm/24 hours)
Hazards and Risks	Hydrocarbons and hazardous materials	Ensure that hazardous substances on site are listed on the Hazardous Substances Register.	Site Supervisor Checklist	Site Supervisor	Daily issues recorded in Site Supervisor Checklist
		Ensure chemical storage areas are signed with the appropriate signage and maintained in good working condition – inspect for leaks.	Site Supervisor Checklist	Site Supervisor	Daily issues recorded in Site Supervisor Checklist
		Inspect that spill kits are available and stocked appropriately.	Site Supervisor Checklist	Site Supervisor	Daily issues recorded in Site Supervisor Checklist

Aspect	Sub-aspect	Activity / performance indicator	Resources	Responsibility	Frequency
	Fire risk	Inspect site to ensure that there is no build-up of flammable material on the site including petrol, wood, dried vegetation and long grass.	Site Supervisor Checklist	Site Supervisor	Weekly
Flora and Fauna	Bird and bat monitoring	Inspect site for carrion as per Section 4.2 of the BBAMP	BBAMP	Site Supervisor Ecologist	Monthly

6.3 Auditing

6.3.1 Independent Environmental Audit

Independent external audits will be undertaken to assess the effectiveness of environmental controls and compliance with the Project Approval and any other relevant approvals and management system policies and procedures.

CoA C10 of the Project Approval outlines the requirements for independent environmental auditing. An Independent Environmental Audit was undertaken within six months of the commencement of construction in November 2019, and will be repeated every three years thereafter unless the Secretary directs otherwise. An operational audit was completed in November 2022, with the next audit scheduled for November 2025.

The audit team will be led by a suitably qualified auditor and will include relevant experts whose appointment has been endorsed by the DPHI.

The audit report will be submitted to the DPHI, together with its response to any recommendations contained in the report including a timetable for implementation of the recommendations within three months of commissioning the Independent Environmental audit.

6.4 Non-Conformance, Non-Compliances and Actions

6.4.1 Non-Conformances

Non-conformances are observations or actions that do not comply with the OEMP and the PIRMP but are not considered to be a non-compliance with the relevant Project Approval. Where a non-conformance is also considered to represent a non-compliance, it will be recorded as a non-compliance.

It is the responsibility of all personnel to report non-conformances to the Site Supervisor, who will investigate non-conformances, log corrective actions, and delegate responsibility for corrective actions within assigned timeframes.

All non-conformances will be recorded in the incident recording and reporting system. Non-conformances, corrective actions, responsibilities, planned and actual completions dates and details of reporting to Regulatory Agencies and the community where appropriate will be tracked by this system.

Investigation of non-compliance will be undertaken to determine:

- Where applicable, immediate actions to fix the problem in the short-term;
- Investigate the root cause of the problem. For example, management system, human factors / behaviour, working environment, and training;
- Corrective actions to eliminate root cause;
- Action(s) undertaken to verify the effectiveness of corrective actions.

6.4.2 Non-Compliances

A non-compliance is an occurrence, set of circumstances, or development that results in non-compliance or is non-compliant with the Project Approval and its modifications, but is not considered an incident. Incident response, classification and notification requirements are outlined in this OEMP.

Suspected non-compliance with the Project Approval can be identified by anyone and will be reported to the Site Supervisor.

Non-compliance with the Project Approval will be recorded and addressed by logging the issue in the incident recording and reporting system. Non-compliances, corrective actions, responsibilities, planned and actual completions dates and details of reporting to Regulatory Agencies and the community where appropriate will be tracked by this system.

Investigation of non-compliance will be undertaken to determine:

- Where applicable, immediate actions to fix the problem in the short-term;
- Investigate the root cause of the problem. For example, management system, human factors / behaviour, working environment, and training;
- Corrective actions to eliminate root cause;
- Action(s) undertaken to verify the effectiveness of corrective actions.

Reporting of non-compliances will be undertaken in accordance with Section 4.7.2 of this OEMP.

6.5 Reporting

Compliance reporting is required to produce systematic, comprehensive and informative reports on the environmental performance of the wind farm operations and in line with relevant legislative requirements. The reports required are summarised in **Table 6-2**. Reporting parameters, such as frequency of reporting and items to be included in the report, are also provided in this table.

Reporting requirements that relate to specific environmental aspects are included in the relevant sub-plans.

Table 6-2: Summary of reporting requirements

ltem	Reporting Requirements	Frequency	Responsibility	Reporting Agency
Project	Approval (MP10_0156)			
B6	Bird and Bat Monitoring and Management	On an annual basis for the first five years of operation and every two years thereafter (unless otherwise agreed to by the Secretary), and shall be prepared within two months of the end of the reporting period.	COLWF Ecologist	EES, DPHI
C7	Compliance Reporting	Prior to:Commencement of operationsDecommissioning.	COLWF	DPHI Compliance
C8	Incident Notification	Immediately after the Proponent becomes aware of an incident.	COLWF	DPHI Compliance
C9	Non-Compliance Notification	No later than seven days after the Proponent becomes aware of the non- compliance.	COLWF	DPHI Compliance
C10	Independent Environmental Audit Report	Within six months of the commencement of construction and every three years thereafter.	COLWF independent Auditor	DPHI Compliance
EPL 21	250			
R1.1	Annual Return	Annually and within 60 days of the anniversary date of the EPL	COLWF	EPA
R2.1	Incident Notification	Immediately after the Licensee becomes aware of an incident. Written details to be provided within 7 days of the date of the incident.	Vestas COLWF	EPA

7 REVIEW AND CONTINUOUS IMPROVEMENT

7.1 OEMP Review

The OEMP will be reviewed at least annually, to review the adequacy of the environmental and sustainability controls, procedures, objectives and targets within the OEMP. This will enable the management team to determine whether the controls are still applicable to the activities being undertaken and to track progress against the objectives and targets.

The review will consider as a minimum:

- Reviewing the results of audits;
- Evaluation of the system, which improvements and corrective actions will be sought;
- Evaluation of the operation of the OEMP and the PIRMP.

The review will be documented and changes to the plan made by the Site Manager (or delegate).

Continual improvement of the OEMP will be achieved by identifying improvement opportunities through the continual evaluation of environmental management performance against environmental policies, objectives and targets. As incidents, non-conformances and non-compliances occur, the continual improvement process will:

- Determine the root cause or causes;
- Develop and implement a plan of corrective and preventative action;
- · Verify the effectiveness of the corrective and preventative actions.

Outcomes of these reviews shall be documented and retained for the duration of the Project.

7.2 Revisions

In accordance with CoA C6A 'Revision of Strategies, Plans and Programs', the Project strategies, plans and programs will be reviewed within three months of the submission of:

- Any modification to the Project Approval;
- Incident report submission under CoA C8 (Section 4.7.2);
- Audit completion under CoA C10 (Section 6.3).

Any necessary revisions to the strategies, plans and programs are to be made to the satisfaction of the DPHI, in accordance with CoA C6A. The revised document must be submitted to the Secretary for approval within four weeks of the review unless the Secretary agrees otherwise.

Appendix A MANAGEMENT MEASURES

Item	Control / mitigation measure	Timing	Responsibility	Reference
Visual an	d landscape			
VL-01	Reasonable landscaping treatments will be provided, if requested, to dwelling owners subject to medium, medium to high or high visual impact (as defined in the LVIA).	Up to 6 months after commencement of operation	COLWF Site Manager Vestas Site Manager	SoC 1.02 Section 5.3.10
VL-02	Low intensity lighting has been and will continue to be used to minimise light spill.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 1.04 Section 5.3.10
Noise				
NV-01	A wind farm Hotline has been established to allow affected residents to register noise concerns.	Throughout operation	COLWF Site Manager	SoC 2.07 CoA C3 Section 5.3.1
NV-02	Within five months of completion of commissioning, noise compliance monitoring would be undertaken to assess compliance with noise criteria.	Within five months of completion of commissioning	COLWF Site Manager Vestas Site Manager	SoC 2.10A CoA E8 Section 5.3.1
NV-03	 Where operational noise monitoring indicates the Proposal exceeds noise limits set in the development approval conditions, the following noise mitigation measures shall be implemented to achieve compliance. Rectify any manufacturing defects or control settings so that noise can be reduced Using active noise control functions of turbines If excesses still occur, acoustic treatment of non-involved receiver dwellings. 	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 2.11 CoA E20 Section 5.3.1
NV-04	Should any of the measures in item NV-03 be adopted, their effectiveness will be verified through noise monitoring in the first 12 months following the implementation of mitigation measures.	Within 12 months of measures in NV-04 being adopted	COLWF Site Manager Vestas Site Manager	SoC 2.12 Section 5.3.1
NV-05	The established complaints management system will be maintained to respond to potential noise complaints from the community.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 9.01 CoA C3 Section 5.3.1

Item	Control / mitigation measure	Timing	Responsibility	Reference
Flora and	fauna	_	_	_
FF-01	 Habitat elements and biodiversity will be retained through the following measures: Impacts to hollow-bearing trees that have not been specifically identified for removal will be avoided Remounted hollow trees or sections will be inspected annually to check the adequacy of the mounting. If inadequate, mountings will be corrected. 	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 3.03 Section 5.3.2
FF-02	 If clearing is required during operation the following principles would be followed: Pre-clearance surveying and monitoring will be undertaken Handling and relocation of wildlife (if found) will be undertaken by a qualified individual Regular site inspections for injured wildlife will be undertaken Areas of high significance will be rehabilitated. 	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 3.06 Section 5.3.2
FF-03	Post-construction bat surveys and carcass and mortality monitoring would be undertaken as outlined in the BBAMP. The results would be included in the annual reporting of the BBAMP. Should Eastern Bentwing Bat's be identified as migrating through ColWF (or parts of it) further mitigation measures should be considered.	Commencement of operation	COLWF Site Manager Vestas Site Manager	BBAMP Section 5.3.2
FF-04	In order to reduce the risk of raptors colliding with wind turbines, a regular carrion removal program will be implemented during construction. The carrion removal program will be consistent with the requirements of Section 4.2 of the BBAMP.	Throughout operation	COLWF Site Manager Vestas Site Manager	BBAMP Section 5.3.2
FF-06	Building lighting baffled and directed to avoid excessive light spillage and security lighting baffled to direct it towards the area requiring lighting.	Throughout operation	COLWF Site Manager Vestas Site Manager	BBAMP Section 5.3.2
FF-07	All weeds will be managed in accordance with the control measures outlines on NSW WeedWise website - https://weeds.dpi.nsw.gov.au/	Throughout operation	All staff	This plan Section 5.3.6
FF-08	If a specific weed risk is identified, all machinery, equipment and vehicles are to be washed down before entering and leaving the site.	Throughout operation	VESTAS Site Supervisor	This plan Section 5.3.6
Heritage				
H-01	Although it is not expected that any operation activities will impact on any of the identified sensitive sites, in the event that any Aboriginal archaeological material or European Heritage sites or artefacts are encountered, ground activities within 100m will cease immediately to allow an archaeologist to make an assessment of the finds. In addition, previously unrecorded Aboriginal or European artefacts or sites will be reported to the NSW Heritage within a reasonable timeframe.	Throughout operation	COLWF Site Manager Vestas Site Manager	This plan Section 5.3.9

ltem	Control / mitigation measure	Timing	Responsibility	Reference
H-02	All areas of Heritage value identified on the site map will be avoided. In the unlikely event that any of the Heritage items are impacted COLWF will be notified immediately, and the incident will be reported to the NSW Heritage within a reasonable timeframe.	Throughout operation	COLWF Site Manager Vestas Site Manager	This plan Section 5.3.9
Traffic an	d transport			
TT-01	Ongoing maintenance of access roads during the operation phase in accordance with the BOP Works Maintenance Manual. Condition surveys of Lerida Road South will be undertaken as required in consultation with ULSC, in the event of concerns about impacts from operational traffic.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 5.03 Section 5.3.5
TT-02	Procedures will be established to monitor traffic impacts on public roads, if needed.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 5.04 Section 5.3.5
Telecom	nunications			
TC-01	If required, any loss in television signal strength reported by residents within 5km of the wind farm will be assessed. This will be supported by baseline assessment that was undertaken prior to construction commencing.	Commencement of operation	COLWF Site Manager Vestas Site Manager	SoC 7.02 CoA E3
Fire and I	bushfire			
FR-01	Dedicated monitoring systems (e.g. SCADA) enable wind turbines to be automatically shut down if ambient temperatures exceed the safe operating range.	Throughout operation	-	SoC 8.02 Section 5.3.3
FR-02	Wind turbines will be shut down if directed by the RFS in the event of nearby wildfire.	When required	All staff	SoC 8.03 CoA B16 Section 5.3.3
FR-03	All wind farm components used on site are designed, constructed, operated and housed to minimise ignition risks, provide for asset protection including communication infrastructure consistent with relevant RFS design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection) and provide for necessary emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bush fire. The substation/switchyard buildings and O&M compound buildings have been constructed in compliance with Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 8.03 CoA B16 Section 5.3.3

ltem	Control / mitigation measure	Timing	Responsibility	Reference
FR-04	The substation is surrounded by a gravel and area to prevent the spread of fire from the substation and to reduce any bushfire impacts. An Asset Protection Zone (APZ) of 10m will be maintained around the wind turbines, control building and substation, compliant with the RFS guidelines.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 8.04
FR-05	Consultation will be undertaken with the RFS after the commencement of operation and any other time thereafter as required by the RFS, to ensure that the local RFS is familiar with the development, including location and identification of wind turbines for the purpose of fast access in emergencies.	Throughout operation	COLWF Site Manager Vestas Site Manager	BRMP
FR-06	Throughout the operational life of the Project, the Proponent shall regularly consult with the local RFS. The Proponent shall comply with any reasonable request of the local RFS to reduce the risk of bushfire, minimise impacts on bushfire fighting operations and to enable fast access in emergencies.	Throughout operation	COLWF Site Manager Vestas Site Manager	CoA B17 Section 5.3.3
Electroma	agnetic fields			
EF-01	Fencing has been installed around structures (e.g. substation) to restrict public access. No residential or public access in close proximity to wind farm HV equipment or networks	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 10.01
Soil and v	vater quality			
SW-01	Spill kits will be provided at oil and fuel storages and on vehicles. Hazardous material, waste and sewage will be managed in accordance with regulatory requirements.	Throughout operation	Vestas Site Manager COLWF Site Manager	SoC 11.02 Section 5.3.8
SW-02	Storages of oils, fuels, other hazardous chemicals and liquid wastes will be appropriately bunded.	Throughout operation	Vestas Site Manager COLWF Site Manager	SoC 11.04 Section 5.3.8
SW-03	Hazardous material, waste and sewage will be managed in accordance with regulatory requirements.	Throughout operation	Vestas Site Manager COLWF Site Manager	SoC 11.04 Section 5.3.8
SW-04	Appropriate drainage structures, and erosion controls as required, will be maintained on hardstands, access roads, tracks and the substation to manage run-off and reduce the risk of erosion and scour from concentrated flows where required.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 11.03 Section 5.3.8
SW-05	Erosion and Sediment Control Plans will be prepared and implemented in advance of maintenance in high-risk locations, including earthworks with high erosion potential and steep grades, works near waterways and stockpiling.	Throughout operation	COLWF Site Manager Vestas Site Manager	SoC 11.03 Section 5.3.8

Item	Control / mitigation measure	Timing	Responsibility	Reference
Waste		_		
W-01	Waste would be managed in accordance with the waste minimisation hierarchy principles of: Avoid Reduce Reuse Recycle Dispose. Recycle waste Recycle waste Recover energy Treat waste Dispose of waste Least preferable 	Throughout operation	Vestas Site Manager COLWF Site Manager	Section 5.3.7
W-02	A waste register will be maintained to detail the type of waste removed from site, the quantity of waste removed from site, the contractor who removed the waste and the destination of the waste.	Throughout operation	Vestas Site Manager COLWF Site Manager	Section 5.3.7
W-03	Waste which cannot be re-used or recycled will be removed from site by a suitably qualified and experienced waste contractor and disposed of at an appropriately licenced facility that may accept that category of waste.	Throughout operation	Vestas Site Manager COLWF Site Manager	Section 5.3.7
W-04	Energy and water conservation will be promoted through training and signage	Throughout operation	Vestas Site Manager COLWF Site Manager	SoC 13.02
W-05	 Recycling and reuse will include, but not be limited to: Purchasing decisions will be made in consideration of recycled content and opportunities for reuse Any cleared vegetation will be chipped and used as mulch for revegetation works Bins will be provided in construction and office areas for segregation of waste and recyclables. 	Throughout operation	Vestas Site Manager COLWF Site Manager	SoC 13.03
W-06	 Waste disposal: All working areas will be kept free of rubbish and cleaned up at the end of each workday Any contaminated waste will be contained then disposed of according to regulatory requirements. 	Throughout operation	Vestas Site Manager COLWF Site Manager	SoC 13.04

ltem	Control / mitigation measure	Timing	Responsibility	Reference			
Communit	Community						
C-01	The Proponent has established two Community Funds (one managed by the ULSC, one managed by the local Collector community) to support community projects around the wind farm. First disbursements from these funds is likely within Q1 2021.	Throughout operation	COLWF Site Manager	SoC 14.01			
C-02	The dedicated project website will be maintained and updated to include relevant project information.	Throughout operation	COLWF Site Manager	SoC 14.02 CoA C6			
C-03	The 24-hour hotline will be maintained throughout operation. Calls will be logged and responded to by close of business of the following working day. The hotline and logging of calls will be managed by or on behalf of the Proponent during the different project phases.	Throughout operation	COLWF Site Manager	SoC 14.02 CoA C3			
Air quality							
AQ-01	Vehicle speeds will be limited to 40km/hr on unsealed access tracks within the project site to minimise dust generation.	Throughout operation	Vestas Site Manager	Section 5.3.3			
AQ-02	Where there is high potential for dust to impact surrounding residences additional dust suppression controls such as water carts may be utilised.	When required	Vestas Site Manager	Section 5.3.3			
AQ-03	Any stockpiled material would be covered, seeded or otherwise bound to reduce dust emissions.	Throughout operation	Vestas Site Manager	Section 5.3.3			
AQ-04	Assessment of dust generation will be undertaken during routine environmental inspections and daily during hot/dry periods or during any operational works with the potential to generate dust.	Throughout operation	Vestas Site Manager	Section 5.3.3			

Appendix B LEGISLATION REGISTER

Legislation	Regulating Authority	Applicability	Obligations
Commonwealth			
Environment Protection and Biodiversity Conservation Act 1999	Department of Agriculture, Water and the Environment	Applicable to environmental impacts on Commonwealth land and impacts on matters of national significance.	None – it has been determined that the Project is not a controlled action.
National Greenhouse and Energy Reporting Act 2007	Department of Agriculture, Water and the Environment	Systems for reporting energy consumption and production data, greenhouse emissions, abatement actions.	COLWF to determine NGERS reporting requirements for energised facility.
New South Wales			
Environmental Planning			
Environmental Planning and Assessment Act 1979	DPHI	The Project has been approved under Part 3A of the EP&A Act and modified under Section 4.55 of the EP&A Act.	The CoAs in the Project Approval must be complied with.
Protection of the Environment Operations Act 1997	NSW EPA	Operation of the Project is a Scheduled Activity under Schedule 1 of the POEO Act.	The existing EPL will remain valid through the operation of the Project.
Heritage			
Heritage Act 1997	NSW Heritage Council	Project exempt under Section 4.41 of the EP&A Act from needing an Approval under Part 4 or an excavation permit under Section 139.	Refer to management measure H-01 (unexpected finds procedure)
National Parks and Wildlife Act 1974	DPHI – EES Group	Project exempt under Section 4.41 of the EP&A Act from needing a Section 90 permit. However, personnel will be made aware of responsibilities and procedures under the <i>National Parks and Wildlife Act</i> 1974.	None
Waste Management			
Waste Avoidance and Resource Recovery Act 2001	EPA DPHI – EES Group	To reduce environmental harm and provide for reduction in waste generation in line with Environmentally Sustainable Design (ESD) principles.	Objective of the Act incorporated into OEMP (general principle of Avoid, Recover, Reuse, Dispose).
Conservation			
Biosecurity Act 2015	DPHI – EES Group	Control weeds on lands under the Projects control, in accordance with relevant control categories.	Weeds, where identified on the site, must be prevented from spreading and their numbers and distribution reduced.

Legislation	Regulating Authority	Applicability	Obligations
Biodiversity Conservation Act 2016	DPHI – EES Group	The Act is in place to protect native biodiversity particularly that of high conservation value, by managing broad scale clearing, revegetation, and rehabilitation of native vegetation.	None – it is not anticipated that any clearing of vegetation would be required during operation of the wind farm.
Water Management Act 2000	DPHI – EES Group	Permits and approvals required for water extraction from natural waterways. Project exempt under Section 4.41 of the EP&A Act in relation to Water Use approvals for water extracted from a natural waterway, but still requires a Water Access Licence.	Water Access Licence required for any water extraction. Works Approval and/or Water Supply Approvals may be required if water is to be extracted from a natural waterway.
Pollution			
Protection of the Environment Operations Act 1997	NSW EPA	Duty to notify the NSW EPA of any environmental harm.	Vestas / COLWF will notify the NSW EPA of any actual or potential environmental harm.
Dangerous Goods Act 2008	NSW EPA	Relates to storage, handling and licensing of storage	Although unlikely during operations, COLWF or Vestas will
(WorkCover – storage licence)	WorkCover	and/or transport of prescribed quantities of dangerous goods.	be required to obtain licenses where storage of dangerous goods for operation is in licensable quantities.
Pesticides Act 1999	NSW EPA	The use, supply, preparation and possession of	Use pesticides in an environmentally satisfactory manner.
		pesticides. Pesticides is a generic term that includes herbicides, fungicides, insecticides, timber	s12 and s13 prohibit the possession and use of an unregistered pesticide without a permit.
		preservatives, etc. Note: inappropriate use of pesticides may lead to	s14 requires that you read, or have read to you, the label or permit for the pesticide.
		prosecution under the POEO Act.	s15 requires the use of registered pesticide in accordance with instructions on the label.
			s16 pesticide container must have approved label attached.
			s17 prohibits the use or possession of any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act.
			Project must comply with pesticide codes of practice.

Legislation	Regulating Authority	Applicability	Obligations
Pesticides Regulation 2009	NSW EPA	The use, supply, preparation and possession of pesticides and the associated training and record keeping requirements.	An employee must not use a pesticide unless the employee holds a 'prescribed qualification' or a licence under the Act. A record must be kept of each occasion a pesticide is used. The record must be made in legible writing in English as soon as possible (but must be within 24 hours). The record must be kept for at least 3 years by the person who made the record. The record must contain the specific information.
Traffic			
Roads Act 1993	TfNSW Upper Lachlan Shire Council	Section 138 consent required for erection of a structure, or carrying out of work in, on or over a public road or digging up or disturbance of the surface of the road.	Although unlikely to be required during operation, Road Occupancy Licences (ROL) would be required from Council and/or TfNSW if public roads are required to be closed or partly closed to enable works to occur.

Appendix C PROJECT APPROVAL CONDITIONS

CoA	Require	nent	Where addressed
A8D	of comm	he commencement of the construction, operation and/or decommissioning of the project, the Proponent shall notify the Department in writing of the date encement. If the construction, operation and/or decommissioning of the project is to be staged, then the Proponent must notify the Department in writing he commencement of the relevant stage, and clearly identify the development that would be carried out during the relevant stage.	Section 1.4
B6	Prior to the commissioning of any wind turbines, the Proponent shall prepare and submit for the Approval of the Secretary a Bird and Bat Adaptive Management Program , which takes into account bird/ bat monitoring methods identified in the current editions of AusWEA Best Practice Guidelines for the Implementation of Wind Energy Projects in Australia and Wind Farm and Birds: Interim Standards for Risk Assessment. The Program shall be prepared and implemented by a suitably qualified expert, approved by the Secretary. The Program shall incorporate spring – summer pre-construction baseline surveys, post construction and operational monitoring, and a Decision Matrix that clearly sets out how the Proponent will respond to the outcomes of monitoring. It shall		Section 5.3.2 BBAMP – Appendix E
	(a)	incorporate an ongoing role for the suitably qualified expert;	
	(b)	set out monitoring requirements in order to assess the impact of the Project on bird and bat populations, including details on spring-summer baseline survey and post-construction monitoring locations, parameters to be measured, frequency, timing and methods of monitoring and analyses and reporting. The monitoring program shall be capable of detecting any changes to the population of birds and/ or bats that can reasonably be attributed to the operation of the Project, and includes spring-summer pre-construction baseline survey data;	
	(c)	incorporate a decision-making framework that sets out specific actions and when they may be required to be implemented to reduce any impacts on bird and bat populations that have been identified as a result of the monitoring;	
	(d)	identify 'at risk' bird and bat groups, seasons and/or areas within the Project site which may attract high levels of mortality and include monthly mortality assessments and periodic local population census' and bird utilisation surveys;	
	(e)	identify potential mitigation measures and implementation strategies in order to reduce impacts on birds and bats such as minimising the availability of raptor perches, swift carcass removal, pest control including rabbits, use of deterrents, and sector management including switching off turbines that are predicted to or have had an unacceptable impact on bird/bat mortality at certain times;	
	(f)	identify matters to be addressed in periodic reports in relation to the outcomes of baseline surveys and post-construction and operational monitoring, the application of the decision-making framework, the mitigation measures identified, progress with the implementation of such measures, and their success; and	
	(g)	include a detailed program to monitor and report on:	
		i. the effectiveness of these measures and plans; and	
		ii. bird and bat strike annually, or as otherwise directed by the Secretary. The Reports referred to under part (f) shall be submitted to the Secretary and OEH on an annual basis for the first five years of operation and every two years thereafter (unless otherwise agreed to by the Secretary), and shall be prepared within two months of the end of the reporting period. The Secretary may, at the request of the Proponent at anytime, vary the reporting requirement or period by notice in writing to the Proponent. The Proponent is required to implement reasonable and feasible mitigation measures as identified under part (e) where the need for further action is identified through the Bird and Bat Adaptive Management Programme, or as otherwise agreed with the Secretary	
B14	The Proponent shall consult with all local aerial agricultural stakeholders to develop a strategy to minimise any aerial agricultural impacts. Should increases to the costs of aerial agricultural spraying on any non-associated property surrounding the site be attributable to the operation of the Project, the Proponent shall fully fund to the affected landowner, the reasonable cost difference between pre-construction aerial agricultural spraying and the increased cost, as agreed between the relevant parties		Section 5.3.6
B16	consister	onent shall ensure that all Project components on site are designed, constructed and operated to minimise ignition risks, provide for asset protection it with relevant RFS design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection) and provide for necessary emergency nent including appropriate fire-fighting equipment and water supplies on site to respond to a bush fire.	Section 5.3.3

CoA	Requirement	Where addressed
B17	Throughout the operational life of the Project, the Proponent shall regularly consult with the local RFS about details of the Project, including the construction timetable, the final location of all infrastructure on the site and contact information. The Proponent shall comply with any reasonable request of the local RFS to reduce the risk of bushfire, minimise impacts on bushfire fighting operations and to enable fast access in emergencies.	Section 5.3.3 Appendix F
B20	At the request of any owners of residential dwellings or businesses with views of a turbine(s) located within five kilometres of their dwellings, the Proponent shall provide and bear the full cost of reasonable and feasible landscaping treatments to visually screen these dwellings. Such a request may be made in writing by the owner of the dwelling or business to the Proponent within 6 months from the commencement of operation of the wind farm, and landscaping treatments agreed between the parties shall be implemented and completed within 12 months of such an agreement. Should the parties not be able to reach agreement on the scope of landscaping treatments, then either party may refer the matter to the Secretary for resolution. The Secretary's decision on such a referral shall be final and binding on the parties.	Section 5.3.10
B21	Landscaping treatments to reduce the visual impact of the Project shall generally comprise of plantings of indigenous and locally occurring tree and shrub species.	Section 5.3.10
B24	Shadow flicker from the Project must not exceed 30 hours/annum at any residence not associated with the Project.	Section 5.3.10
B34	Disturbance to Trigonometric Reserves shall be avoided during the life of the Project, unless otherwise approved by the Surveyor General and the relevant licence under the Crown Lands Act 1989 is obtained by the Proponent.	Appendix A
C6A	Within 3 months of:	Section 7.2
	(a) the submission of an incident report under condition C8 below;	
	(b) the submission of an audit under condition C10 below; or	
	 (c) any modification to the conditions of this approval (unless the conditions require otherwise), the Proponent shall review and, if necessary, revise the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval. 	
	Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.	
C7	The Proponent must submit a compliance report for the project in accordance with the Compliance Reporting Post Approval Requirements (Department of Planning and Environment, 2018) prior to:	Section 6.5
	(a) the commencement of construction;	
	(b) the commencement of operations; and	
	(c) prior to decommissioning.	
C8	The Department must be notified in writing to <u>compliance@planning.nsw.gov.au</u> immediately after the Proponent becomes aware of the incident. The notification must identify the project, including the project application number and the name of the project, and set out the location and nature of the incident.	Section 6.5
C9	The Department must be notified in writing to <u>compliance@planning.nsw.gov.au</u> within 7 days after the Proponent becomes aware of any non-compliance with the conditions of this approval. The notification must identify the project and the application number for it, set out the condition of approval that the project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been done, or will be undertaken, to address the non-compliance.	Section 6.5

CoA	Requirement	Where addressed
C10	Within 6 months of the commencement of construction, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:	Section 6.5
	(a) be prepared in accordance with the relevant Independent Audit Post Approval Requirements (DPHI 2018, or its latest version);	
	(b) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	
	(c) be carried out in consultation with the relevant agencies;	
	(d) assess whether the project complies with the relevant requirements in this approval, and any strategy, plan or program required under this approval; and	
	(e) recommend appropriate measures or actions to improve the environmental performance of the project and any strategy, plan or program required under this approval.	
	Within 3 months of commencing an audit, or unless otherwise agreed by the Secretary, a copy of the audit report must be submitted to the Secretary, and any other NSW agency that requests it, together with a response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations.	
	The recommendations must be implemented to the satisfaction of the Secretary.	
E1	At least two months prior to the commencement of commissioning, the Proponent shall prepare a report outlining a comprehensive <u>Safety Management System</u> , covering all on-site systems relevant to ensuring the safe operation of the Project. The report shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records shall be kept at the site and shall be available for inspection by the Department upon request. The Safety Management System shall be developed in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management', and should include:	Refer to Workplace Health and Safety Environmental Management Plan Section 4.2
	(a) procedures and programs for the maintenance and testing of the safety related equipment to ensure its integrity over the life of the Project; and	
	(b) an outline of a documented procedure for the management of change.	
E2	Prior to the commencement of commissioning of the Project, the Proponent shall undertake an assessment of the existing quality of the television/radio transmission available at a representative sample of receivers located within five kilometres of any wind turbine.	Refer to Pre-Construction Television & Radio Assessments
		Section 5.3.12
E3	In the event of a complaint from a receptor located within five kilometres of a wind turbine regarding television/radio transmission during the operation of the Project, the Proponent shall investigate the quality of transmission at the receptor compared with the pre-commissioning assessment and where any transmission problems can be reasonably attributable to the Project, rectify the problems within three months of the receipt of the complaint, through the implementation of measures including:	Section 5.3.12
	(a) modification to or replacement of receiving antenna;	
	(b) installation and maintenance of a parasitic antenna system;	
	(c) provision of a land line between the affected receptor and an antenna located in an area of favourable reception; and/or	
	(d) other feasible measures.	
	If interference cannot be overcome by the measures outlined in (a) to (d), the Proponent shall negotiate with the impacted landowner(s) about installing and maintaining a satellite receiving antenna or other agreed mitigation measures. The Proponent shall be responsible for all costs associated with any such mitigation measures.	
E4	Disturbance to watercourses and/or associated riparian vegetation shall be rehabilitated to a standard equal to or better than the existing condition in consultation with the DPI-Water and DPI (Fisheries) within six months of the cessation of construction activities at the relevant area. Any revegetation measures undertaken shall be monitored and maintained by the Proponent consistent with the requirements of condition E5.	Section 5.3.11

CoA	Requirement	Where addressed
E5	The Proponent shall implement a revegetation and rehabilitation program for all areas of the Project footprint which are disturbed during the construction of the Project and which are not required for the ongoing operation of the Project, including temporary construction facility sites and sections of construction access roads. The Proponent shall ensure that all revegetation measures are implemented progressively where possible and in all cases within six months of the cessation of construction activities at the relevant area. Unless otherwise agreed to by the Secretary, the Proponent shall monitor and maintain the health of all revegetated areas until such time that the plantings have been verified by an independent and suitably qualified expert (whose appointment has been agreed to by the Secretary) as being well established, in good health and self-sustaining.	Section 5.3.11
E6	The Proponent shall ensure that the noise generated by the operation of wind turbines does not exceed the relevant criteria in Table 4 at any non-associated residence. Noise generated by the operation of the wind turbines is to be measured in accordance with the relevant requirements of the South Australian Environment Protection Authority's Wind Farms – Environmental Noise Guidelines 2009 (or its latest version), as modified by the provisions in Attachment 4. If this guideline is replaced by an equivalent NSW guideline, then the noise generated is to be measured in accordance with the requirements in the NSW guideline.	Section 5.3.1 Appendix D
E7	The Proponent shall ensure that the noise generated by the operation of ancillary infrastructure does not exceed 35 dB(A) LAeq(15 minute) at any non-associated residence. Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy (or its equivalent) as modified by the provisions in Attachment 4.	Section 5.3.1 Appendix D
E8	Within 3 months of the commencement of operations, unless otherwise agreed by the Secretary, the Proponent shall:	Section 5.3.1
	(a) undertake noise monitoring to determine whether the project is complying with the relevant conditions of this approval; and	Appendix D
	(b) submit a copy of the monitoring results to the Department and the EPA.	
E9	The Proponent shall undertake further noise monitoring of the project if required by the Secretary	Section 5.3.1 Appendix D
E19	Prior to the commencement of operation, or as otherwise agreed by the Secretary, the Proponent shall prepare and implement (following approval) an <u>Operation</u> <u>Environmental Management Plan</u> for the Project. The Plan shall outline the environmental management practices and procedures that are to be followed during operation, and shall be prepared in consultation with relevant agencies and in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004). The Plan shall include, but not necessarily be limited to:	This plan (refer to Table 3-1 for further details)
	(a) a description of activities to be undertaken during operation of the Project (including staging and scheduling);	
	(b) statutory and other obligations that the Proponent is required to fulfil during operation, including approval/approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;	
	(c) overall environmental policies, guidelines and principles to be applied to the operation of the Project;	
	(d) a description of the roles and responsibilities for relevant employees involved in the operation of the Project, including relevant training and induction provisions for ensuring that employees are aware of their environmental and compliance obligations under these conditions of approval;	
	(e) an environmental risk analysis to identify the key environmental performance issues associated with the operation phase of the Project; and	
	(f) details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts, including those safeguards and mitigation measures detailed in the EA (and any impacts arising from the staging of the construction of the Project). The Plan shall be submitted for the approval of the Secretary no later than one month prior to the commencement of operation, or as otherwise agreed by the Secretary. Operation shall not commence until written approval has been received from the Secretary. Upon receipt of the Secretary's approval, the Proponent shall make the Plan publicly available as soon as practicable.	
	Note: The approval of an Operation Environmental Management Plan does not relieve the Proponent of any other requirement associated with this Project Approval. If there is an inconsistency with an approved Operation Environmental Management Plan and the conditions of this Project Approval, the requirements of this Project Approval prevail.	

CoA	Requirement	Where addressed
E20	As part of the Operation Environmental Management Plan required under condition E19 the Proponent shall prepare and implement (but not be limited to) the following: (a) an <u>Operation Noise Management Plan</u> to outline measures to minimise noise emissions from the operation of the Project. The Plan shall include, but not necessarily be limited to: i. details of procedures to ensure ongoing compliance with the operational noise limits specified in conditions E6 and E7 as they apply to identified receivers. This should include identification of monitoring requirements; ii. identification and implementation of best practice management techniques for minimisation of noise emissions where reasonable and feasible; iii. procedures and corrective actions to be undertaken if noncompliance is detected.	Section 5.3.1 Appendix D

Appendix D OPERATION NOISE MANAGEMENT PLAN

Appendix E BIRD AND BAT ADAPTIVE MANAGEMENT PLAN

Appendix F BUSHFIRE MANAGEMENT PLAN

Appendix G POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN