


# Biala Wind Farm PIRMP - Rev 6

## POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN – BIALA WIND FARM

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<b>Position/Title:</b> Deputy General Manager	<b>Date:</b> 19/09/23

### Version Control

Rev	Date	Responsible	Action	Prepared by	Approved by:
1	25/09/19	BJCE	Initial release	Robbie Williamson	Tim Mead
2	4/03/20	BJCE	Updated <ul style="list-style-type: none"> <li>PIRMP tested and activated on 20/01/2020, 09/02/2020, 11/02/2020 by Tim Mead and Kyle O'Donoghue</li> <li>PIRMP revised on 04/03/2020 – effectiveness of PIRMP in relation to 20/01/2020, 09/02/2020, 11/02/2020 activations was considered</li> </ul>	Shani Walton and Angela Rozali	Tim Mead
3	12/02/21	BJCE	Updated <ul style="list-style-type: none"> <li>PIRMP tested and activated on 01/05/2020 by Kyle O'Donoghue</li> <li>PIRMP revised on 25/09/2020, 15/01/2021 and 9/02/21 – update persons responsible, effectiveness of PIRMP in relation to 01/05/2020 activation was considered, removed EBOP construction pollutants as work is complete, future operations transition</li> </ul>	Angela Rozali, Michelle Treble	Derek Powell
4	21/09/21		Updated <ul style="list-style-type: none"> <li>PIRMP tested and revised on 17/09/2021 by Leo Pearce and Michelle Treble</li> </ul>	Jochen Rasmussen, Leo Pearce	Derek Powell

5	16/09/21	BJCE	<p>Updated</p> <ul style="list-style-type: none"> <li>• PIRMP tested on 09/06/2022 by Eli Donati and Michael McNally.</li> <li>• PIRMP was revised on 16/09/2022 by Michelle Treble and Jochen Rasmussen addressing changes in personnel; relocation from construction compound to O&amp;M building; change from Principal Contractor to WOM contractor; transition to the operation phase.</li> </ul>	Jochen Rasmussen, Isabel Nelson	Derek Powell
6	19/09/23	BJCE	<p>Updated</p> <ul style="list-style-type: none"> <li>• PIRMP tested and revised on 13/09/2023 by Jochen Rasmussen, Scott Fleming, Darren Waite, Aaron Poole</li> </ul>	Jochen Rasmussen, Simon Zhao	Derek Powell

## Contents

Contents.....	3
1. Project Overview.....	4
2. Purpose of this Plan .....	4
3. General requirements of this Plan.....	5
4. Availability of this Plan.....	5
5. Environment Protection License (EPL) Details.....	6
6. Pollution Incident Response – Person/s Responsible.....	6
7. Notification of Relevant Authorities .....	7
8. Notification of Neighbours and the Local Community .....	8
9. Biala Wind Farm Pollution Hazards and Environmental Management .....	9
9.1. Site Specific Pollution Hazards.....	9
9.2. Pre-emptive actions to be taken.....	10
9.3. Inventory of Pollutants .....	11
9.4. Safety Equipment.....	12
9.5. Communication with Neighbours and Community .....	12
9.6. Minimising Harm to Persons on the Premises.....	12
9.7. Actions to be taken during or immediately after a pollution incident .....	13
9.8. Staff Training.....	13
9.9. Testing and Updating of PIRMP .....	14
Appendix A.....	15
Biala Wind Farm – Location Plan .....	15
Appendix B.....	16
Biala Wind Farm - Landowners and Neighbours Map .....	16
Appendix C.....	17
Transmission Line and Substation - Landowners and Neighbours Map.....	17
Appendix D.....	18
Location of Watercourses and Stormwater Drainage .....	18
Appendix E .....	20
Risk Assessment of Potential Onsite Hazards.....	20
Appendix F .....	30
Biala Wind Farm – Location of Potential Pollutants .....	30
Appendix G.....	31
Biala Substation – Location of Potential Pollutants.....	31

## 1. Project Overview

Biala Wind Farm is a 31 turbine wind farm located approximately 8km east of Biala and 14.5km south west of Crookwell in the Southern Tablelands of NSW. The wind farm is owned by Beijing Jingneng Clean Energy (Australia) Pty Ltd (BJCE Australia) who also own the nearby 73 turbine Gullen Range Wind Farm and 10MW Gullen Solar Farm. BJCE Australia acquired Biala Wind Farm under its special purpose vehicle, Newtricity Developments Biala Pty Ltd (NDBPL) in October 2017.

Biala Wind Farm has an installed capacity of approximately 110MW producing enough electricity for approximately 46,000 typical homes on an average day of wind.

Biala Wind Farm project consists of the following main components:

- Wind turbines;
- On-site access tracks;
- Underground cabling;
- Grid connection infrastructure;
- Wind monitoring masts; and
- Operations and maintenance buildings.

In addition, a transmission line was installed between Biala Wind Farm and Gullen Range Wind Farm Substation and works carried out to increase capacity at the existing substation.

Biala Wind Farm construction works were awarded as three separate packages:

- Civil Balance of Plant – Civil & Allied Technical Construction Pty Ltd (CATCON)
- Electrical Balance of Plant – Consolidated Power Projects Pty Ltd (CPP)
- Supply & Installation (S&I) Contractor – Goldwind Australia Pty Ltd and Xinjiang Goldwind Science and Technology Co., Ltd (GWA)

Construction started in August 2019, with the first clean power generated in 2020. Biala Wind Farm is operational since November 2022. At the time of this document revision only civil remediation works take place on site. The wind farm has been approved for all 31 turbines to operate while grid testing continues at Gullen Range Wind Farm. The project will not be fully operational until the Australian Energy Market Operator and Transgrid have reviewed reports from the test periods and confirmed the facility (comprising Biala Wind Farm, Gullen Range Wind Farm, Gullen Solar) are operating in line with expectations.

GWA has management and control of the site under a Warranty, Operation and Maintenance (WOM) Agreement with NDBPL.

A location plan is provided in Appendix A.

## 2. Purpose of this Plan

NDBPL holds an Environment Protection License with the NSW Environment Protection Authority (EPA) for Biala Wind Farm. As per the Protection of the Environment Operations Act 1997 (the POEO Act), the holder of an Environment Protection License must prepare, keep, test and implement a pollution incident response management plan (PIRMP) that complies with Part 5.7A of the POEO Act in relation to the activity to which the license relates.

If a pollution incident occurs during the course of an activity so that material harm to the environment (within the meaning of section 147 of the POEO Act) is caused or threatened, the

person carrying on the activity must immediately implement this plan in relation to the activity required by Part 5.7A of the POEO Act.

Section 147 of the POEO Act states that:

- (a) *harm to the environment is material if:*
- (i) *it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
  - (ii) *it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and*
- (b) *loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.*

(2) *For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.*

### 3. General requirements of this Plan

This plan has been developed in accordance with the Protection of the Environment Operations Act 1997 and the Protection of the Environment Operations (General) Regulation 2009 and Section 3.3 of the NSW EPA's Guideline: Preparation of pollution incident response management plans (2012) outlines the general requirements for preparing a PIRMP:

<b>NSW EPA Guideline Reference</b>	<b>Requirement</b>	<b>Where addressed in this Plan</b>
3.3.1	Description and likelihood of hazards	Section 9.1, Appendix E
3.3.2	Pre-emptive actions to be taken	Section 9.2
3.3.3	Inventory of pollutants	Section 9.3
3.3.4	Safety equipment	Section 9.4
3.3.5	Contact details	Section 5, Section 6
3.3.6	Communicating with neighbours and the local community	Sections 8, 9.5
3.3.7	Minimising harm to persons on the premises	Section 9.6
3.3.8	Maps	Appendices A, B, C, D, F and G
3.3.9	Actions to be taken during or immediately after a pollution incident	Section 9.7
3.3.10	Staff training	Section 9.8

### 4. Availability of this Plan

A written copy of this plan must be kept at Biala Wind Farm and be made available on request by an authorised NSW EPA Officer and to any person who is responsible for implementing this plan.

Parts of the plan must also be available either on a publicly accessible website, or if there is no such website, by providing a copy of the plan to any person who makes a written request. The sections of the plan that are required to be publicly available are set out in clause 98D of the POEO (General) Regulation 2009.

The information to be made available to the public:

- must include the procedures for contacting the relevant authorities including the NSW EPA, Local Authority, NSW Ministry of Health, SafeWork NSW, and Fire and Rescue NSW.
- must include the procedures for communicating with the community.
- may be exclusive of any personal information within the meaning of the Privacy and Personal Information Protection Act 1998.

## 5. Environment Protection License (EPL) Details

Name of licensee:	NEWTRICITY DEVELOPMENTS BIALA PTY LTD (ABN 93 605 533 935)
EPL number:	21280
Premises name and address:	Biala Wind Farm Grabben Gullen Road Grabben Gullen NSW 2583
Company or business contact details:	Name: Derek Powell Position or title: Deputy General Manager 24-hour contact number: 0429 347 524 Email: derek.powell@bjceaustralia.com
Website address:	<a href="https://bialawindfarm.com/">https://bialawindfarm.com/</a>
Scheduled activity/activities on EPL:	Electricity generation
Fee based activity/activities on EPL:	Electricity works (wind farms)

## 6. Pollution Incident Response – Person/s Responsible

PIRMP activation	Name of person responsible: Simon Zhao Position or title: BJCE Site Manager 24-hour contact number: 0437 510 319 Email: simon.zhao@bjceaustralia.com
Notifying relevant authorities  (If the pollution incident occurs in a Contractor's area of responsibility, they are responsible for notifying relevant authorities whilst cc'ing BJCE Site Manager)	Name of person responsible WOM: Roslyn Milne Position or title: HSEQ Advisor 24-hour contact number: 0400 888 692 Email: roslynmilne@goldwindaustralia.com  Name of person responsible: Simon Zhao Position or title: BJCE Site Manager 24-hour contact number: 0437 510 319 Email: simon.zhao@bjceaustralia.com

<p>Managing response to pollution incident</p> <p>(If the pollution incident occurs in a Contractor's area of responsibility, they are responsible for managing the response.)</p>	<p>Name of person responsible WOM: Roslyn Milne  Position or title: HSEQ Advisor  24-hour contact number: 0 400 888 692  Email: roslynmilne@goldwindaustralia.com</p> <p>Name of person responsible: Simon Zhao  Position or title: BJCE Site Manager  24-hour contact number: 0437 510 319  Email: simon.zhao@bjceaustralia.com</p>
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## 7. Notification of Relevant Authorities

<p>Firstly, call 000 if the incident presents an immediate threat to human health or property. Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service are the first responders, as they are responsible for controlling and containing incidents.</p>	
<p>Then notify the following relevant authorities in the order presented</p>	
Environment Protection Authority	131 555
The Ministry of Health via the local Public Health Unit	Goulburn Public Health Unit (02) 4824 1837 (02) 6080 8900 (After hours)
SafeWork NSW	13 10 50
Local Authority	<b>Upper Lachlan Shire Council</b> (02) 4830 1000
Fire and Rescue NSW	1300 729 579 Note: If the situation warranted calling 000 as a first point of notification, you do not need to ring Fire and Rescue NSW again.
<p>Once these authorities listed above have been notified the following authorities should be considered and notified as appropriate.</p>	
Other	<p><b>Closest Hospital: Crookwell District Hospital</b> (02) 48375000</p> <p><b>Southern Tablelands RFS Upper Lachlan District</b> (02) 4832 0268</p> <p><b>EPA Environment Line service</b> 131 555</p> <p><b>EPA Regional Operations Officer</b> South East Region (Sharon Peters) 0409 989 225</p> <p><b>NSW Poisons Information</b></p>

	<p>13 11 26</p> <p><b>Roads and Maritime Services</b> 13 22 12</p> <p><b>Safe Work NSW</b> 13 10 50</p> <p><b>Essential Energy (local network electrical matters)</b> 132 391</p> <p><b>TransGrid (transmission electrical matters)</b> 1800 027 253</p> <p><b>NSW Department of Planning, Industry and Environment</b> 1300 305 695</p> <p><b>Sydney Catchment Authority (Water NSW emergency reporting)</b> 1800 061 069</p>
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## 8. Notification of Neighbours and the Local Community

If a pollution incident occurs in a Contractor's area of responsibility, they are responsible for notifying the neighbours and the local community.

In the event of a pollution incident, the responsible Contractor will undertake an assessment of the event and identify any requirement to provide notification to neighbouring residents and landholders.

The responsible persons as per Section 6 will use the maps in Appendix A

Appendix B and Appendix C to identify any landowners or neighbours that may be impacted.

Notification will be led by the relevant person tabled in Section 6 for the responsible Contractor. In the first instance, positive phone contact will attempt to be made with the resident or landholder. Where phone contact cannot be made the responsible Contractor will determine if a different method of notification is required and the BJCE Site Manager will be informed.

NDBPL may also conduct wider communication with the community through phone calls, door knocks, newsletters, newspaper advertisements or updates to the wind farm website.

Pollution incidents that may occur in major waterways such as Gurrundah Creek or Humes Creek will require early warnings, and updates to be issued to the wider community to avoid harm to human health. Potential incidents could involve erosion and subsequent sedimentation runoff or introduction of contaminants.



## 9. Biala Wind Farm Pollution Hazards and Environmental Management

### 9.1. Site Specific Pollution Hazards

Environmentally sensitive receptors include landowners and neighbours (identified on maps in Appendix B and Appendix C) and watercourses (identified on map in Appendix D).

Pollution hazards relevant to the Biala Wind Farm are identified in the Project Risk Assessment (Appendix E) carried out prior to commencement of works. These hazards are described in further detail below. Refer to maps in Appendix F and Appendix G for locations where these hazards may occur.

Potential onsite pollution hazards include:

- Potential release of hazardous chemicals, including both fluid and aerosol-based chemicals, during construction and/or operation; and
- Potential unintentional release of pest or weed species on to the wind farm site, including through imported parts and materials during construction and/or operation.

#### **Wind turbines and kiosks (locations T1 to T31)**

Potential sources of pollution include:

- Biodegradable coolant within two banks of cooling units at the base of each turbine. Each cooling unit contains 180 litres of coolant, total coolant is 360 litres for each turbine;
- The 3S model Goldwind turbine contains an internal transformer (dry type) which does not contain oil;
- An external Ring Main Unit (RMU) is situated at the base of each turbine, containing switch gear equipment. The RMU contains SF6 insulating gas for arc suppression of the switchgear. There will be no storage of surplus SF6 gas on site. Any potential replacement of SF6 gas on site would involve the engagement of a specialist contractor;
- Minor volumes of grease used during maintenance of each turbine; and

Potential risks include release to water, soil or air in the event of a failure of containment and impacts on human health during handling or clean-up activities.

#### **Operation and Maintenance (O&M) building**

Biala Wind Farm site includes a O&M building with site offices, amenities, storage (including storage of chemicals), plant washdown, and laydown facilities. Temporary storage of smaller volumes of chemicals and refueling may occur at worksites.

##### Onsite chemical storage

Chemicals are stored at the O&M building in a secure, bunded storage area including coolant, aerosols (e.g. spray paint and spray lubricant), small volumes of herbicides, jointing compounds, sealants, concrete retarders and curing agents, fuels (petrol and diesel) and hydrocarbon-based chemicals including grease and hydraulic oil. Potential risks presented by chemical storage include release to water, soil or air in the event of a spill or leak, and impacts on human health during handling or clean-up activities.

The chemical storage compound is attached to the O&M facility.

##### Onsite sewage management

Sewage management involves a septic and holding tank at the O&M building. Potential risks presented by sewage management include release to water, soil or air in the event of a spill or leak, and impacts on human health during handling or clean-up activities.

### Access tracks and hardstands

There is approximately 27km of access tracks within the wind farm footprint and 31 individual hardstand areas located adjacent to each of the onsite wind turbines. Potential pollution risks presented by the onsite access tracks and hardstands include sediment release associated with the erosion of running tracks and batter slopes.

### Weed infested areas

The wind farm is located on active farming properties. Potential pollution risks presented by the wind farm in these areas includes the unintentional transfer of weeds from weed infested areas (located both within the wind farm site and offsite) into previously uncontaminated areas, and risks associated with the use of herbicides within the wind farm footprint to control weed outbreaks.

### Substation Extension

The substation extension is located next to an existing substation and O&M building. A potential source of pollution is the 48,000 litres of oil-insulating from the main Siemens Power Transformer. Potential risks presented by this include release to water, soil or air in the event of a spill or leak, and impacts on human health during handling or clean-up activities.

## 9.2. Pre-emptive actions to be taken

The management plans prepared by each Contractor outline a number of environmental controls and procedures for the project.

Contractor	Management Plan
Civil Balance of Plant (CATCON)	Environment and Aboriginal Cultural Heritage Management Plan (EACHMP)
	Construction Noise and Vibration Management Plan (CNVMP)
	Soil and Water Quality Management Plan (SWQMP)
	Air Quality Management Plan (AQMP)
	Waste Management and Classification Procedures (WMCP)
	Work Health and Safety Management Plan
	Site Emergency Plan
	Project Management Plan
	Construction Management Plan / Environment and Aboriginal Cultural Heritage Management Plan
Supply and Installation; Warranty, Operation and Maintenance (WOM) (GWA)	Work Health and Safety Management Plan
	Emergency Response Management Plan
	Biosecurity Management Plan
	Operational Management Plan
	Environmental Management System

### 9.3. Inventory of Pollutants

The table below identifies the maximum quantity of any pollutant/s likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the license relates.

Substance	Turbine Warranty, Operation and Maintenance (WOM) (GWA)		Balance of Plant Operation and Maintenance (O&M)	
	Max. quantity	Comment	Max. quantity	Comment
Oil - Insulating	Nil	Each of Kiosk Transformers	48000 litres	Siemens Power TF
Oil - Hydraulic	200 litres	Stored at O&M building. Used as necessary for turbine maintenance	low	
Oil - Engine	Low			
Gear Oil / Grease Lubricating	250 kg			
Grease - Waste	400 litres	Stored at O&M building.		
Greasy rags	Nil			
Coolant	360 litres 3000 litres	Each turbine  Stored at O&M building. Used for turbine servicing and maintenance.		
Fuel-petrol and diesel	Low			
Cleaning agents	Low			
Paints	Low			
Solvents	Low			
Herbicides	Nil			

Substance	Turbine Warranty, Operation and Maintenance (WOM) (GWA)		Balance of Plant Operation and Maintenance (O&M)	
	Max. quantity	Comment	Max. quantity	Comment
Sewage effluent	Low		5880 litres septic tank and 22,500 litres holding tank	Onsite sewage management system located at the O&M building.
Packaging treated with methyl-bromide	Low	Component packaging	Nil	
SF6 gas	Up to 6.4kg	Each turbine RMU	100kg	Gas stored at substation for use in circuit breaker

#### 9.4. Safety Equipment

Details of safety equipment and procedures to address pollution incidents are contained in each Contractor's relevant Emergency Response Plans. A summary is provided below.

Turbine Operation and Maintenance (WOM):

- Plant and machinery to be equipped with spill kits in preparedness for any unplanned leaks or spills (e.g. burst hydraulic hose, leak of coolant)

Balance of Plant (O&M building):

- Chemical storage room
- Bunded pallets for drum storage
- 120 litre spill response kits
- Shovels, earthmoving equipment and soil at work fronts

#### 9.5. Communication with Neighbours and Community

NDBPL has an ongoing program of communications with neighbours (adjacent landowners), as outlined in the Biala Wind Farm Community Information Plan.

There are active programs of consultation with the wider community through the Community Consultative Committee and mechanisms such as the project website, text messaging service, newsletters, media advertisements, project website and other events.

Separate mechanisms have been established with host landowners through regular meetings and other lines of communication.

#### 9.6. Minimising Harm to Persons on the Premises

The safety management system for the site comes under the Work Health and Safety Management Plans for each package of works and incorporates various elements intended to minimise harm to persons on the premises. These include, but are not limited to, the following:

- Inductions
- Training and Toolbox meetings

- Personal Protective Equipment (PPE) requirements
- Site vehicle requirements
- Emergency Response Plan (covers evacuation procedures and notification procedures)
- Project Management Plan
- Defined procedures including incident and near miss reporting
- Nominated safety advisors
- Designated muster points
- Dedicated and known qualified first aiders
- Safe Work Method Statements (SWMS)
- Safety Data Sheets (SDS)

## 9.7. Actions to be taken during or immediately after a pollution incident

### Incident Response

The following actions should be carried out immediately on becoming aware of a pollution event:

- Limit the extent of the incident – contain or eliminate the source of the incident
- Alert site management (persons identified in Section 6 or authorised delegate) to the incident
- Site management to determine whether external resources are needed and what notification may be required

### Reporting and Incident Close-Out

When incident has been controlled the following actions should be carried out as soon as reasonably practicable:

- Assess reporting requirements and report as necessary
- Plan for and complete clean-up or corrective action
- Investigate reasons for incident
- As necessary, amend procedures or facilities to avoid recurrence
- Review and update PIRMP as necessary (considering need for further testing of PIRMP)
- Provide incident report and submit for management review
- Obtain close-out for the incident

### Coordination of Notification

Section 148 of the POEO Act also sets out requirements for notifications where a pollution incident causes or threatens material harm to the environment. A person carrying out the activity must, immediately after the person becomes aware of the incident, notify each relevant authority of the incident and all relevant information about it. The responsibility for notification extends to employees and occupant of the land depending on the circumstances and awareness of the incident. The person who became aware of the incident should consult with the persons listed in Section 6 and determine the appropriate persons from within Sections 7 and 8 that require notification.

## 9.8. Staff Training

Training is carried out to ensure all staff are suitably informed about pollution incident response requirements including :

- Site inductions to cover:
  - locations of sensitive areas (e.g. neighbours, watercourses)

- pollution hazards
- environmental controls
- pollution incident response procedures
- Toolbox talks
- Pre-activity environmental review to ensure adequate controls are in place (incorporated into SWMS)
- Activity-specific training in incident response procedures
- Post incident review with staff to review performance and any need for improvements
- Emergency Response Drills are scheduled as per the Emergency Response Plan

## 9.9. Testing and Updating of PIRMP

### Testing of the PIRMP

This PIRMP will be subject to testing that ensures that information included within the plan is accurate, up to date and is capable of being implemented in a workable and effective manner.

As required by section 98E testing of the PIRMP will be undertaken on the following basis:

- Within 6 months of construction commencing and at least once every 12 months thereafter.
- Within one month of any pollution incident to which the EPL for the wind farm relates.

### Manner of Testing and Maintenance

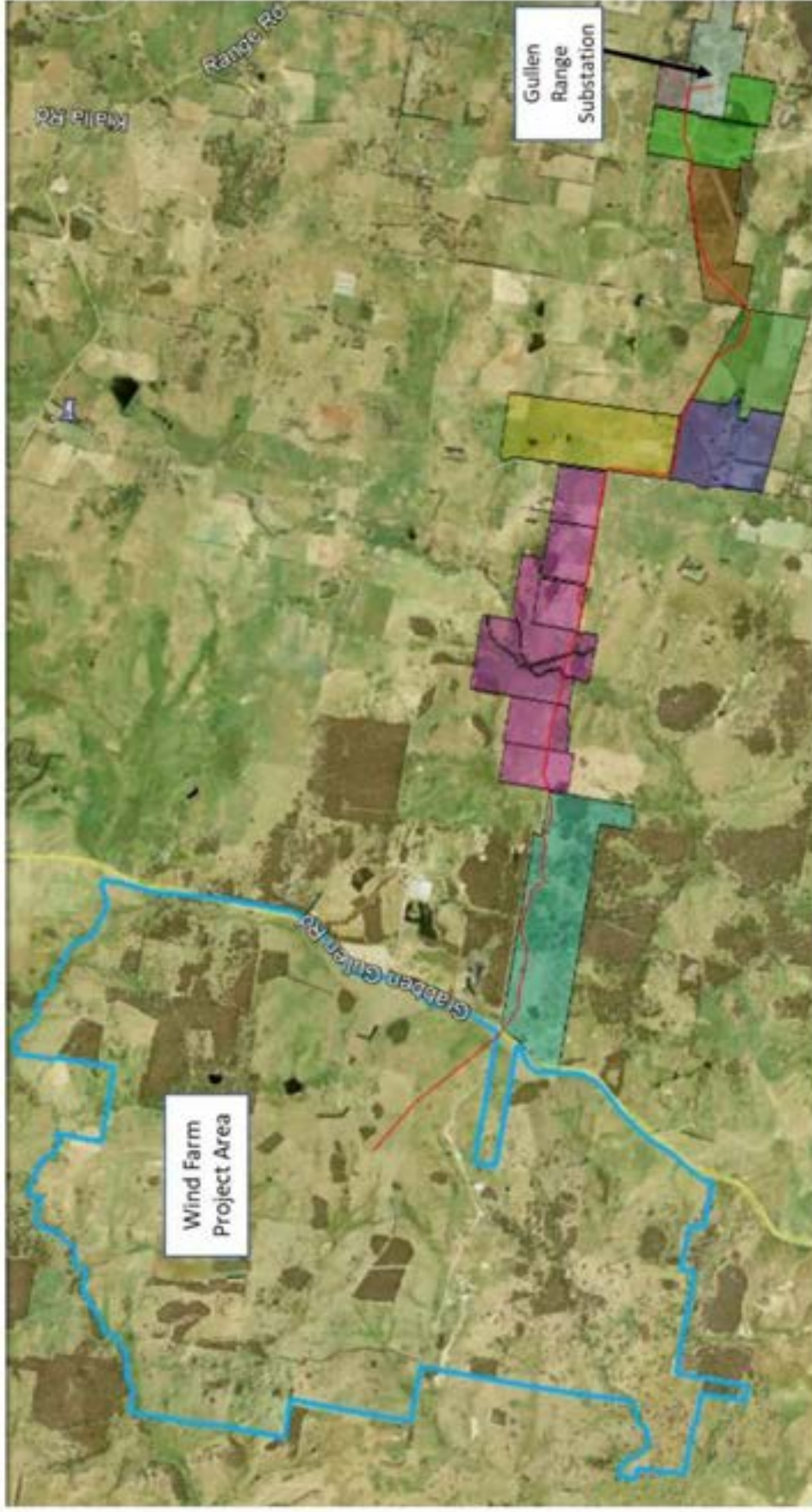
The PIRMP maintenance and testing of the PIRMP is undertaken jointly by both NDBPL (as owner) and GWA (WOM Contractor).

Testing will involve both desktop simulations and practical exercises or drills (if the COVID-19 situation allows) and will cover components of the PIRMP, including the effectiveness of training.

The testing history for the PIRMP will be described in the version control at the start of this PIRMP.

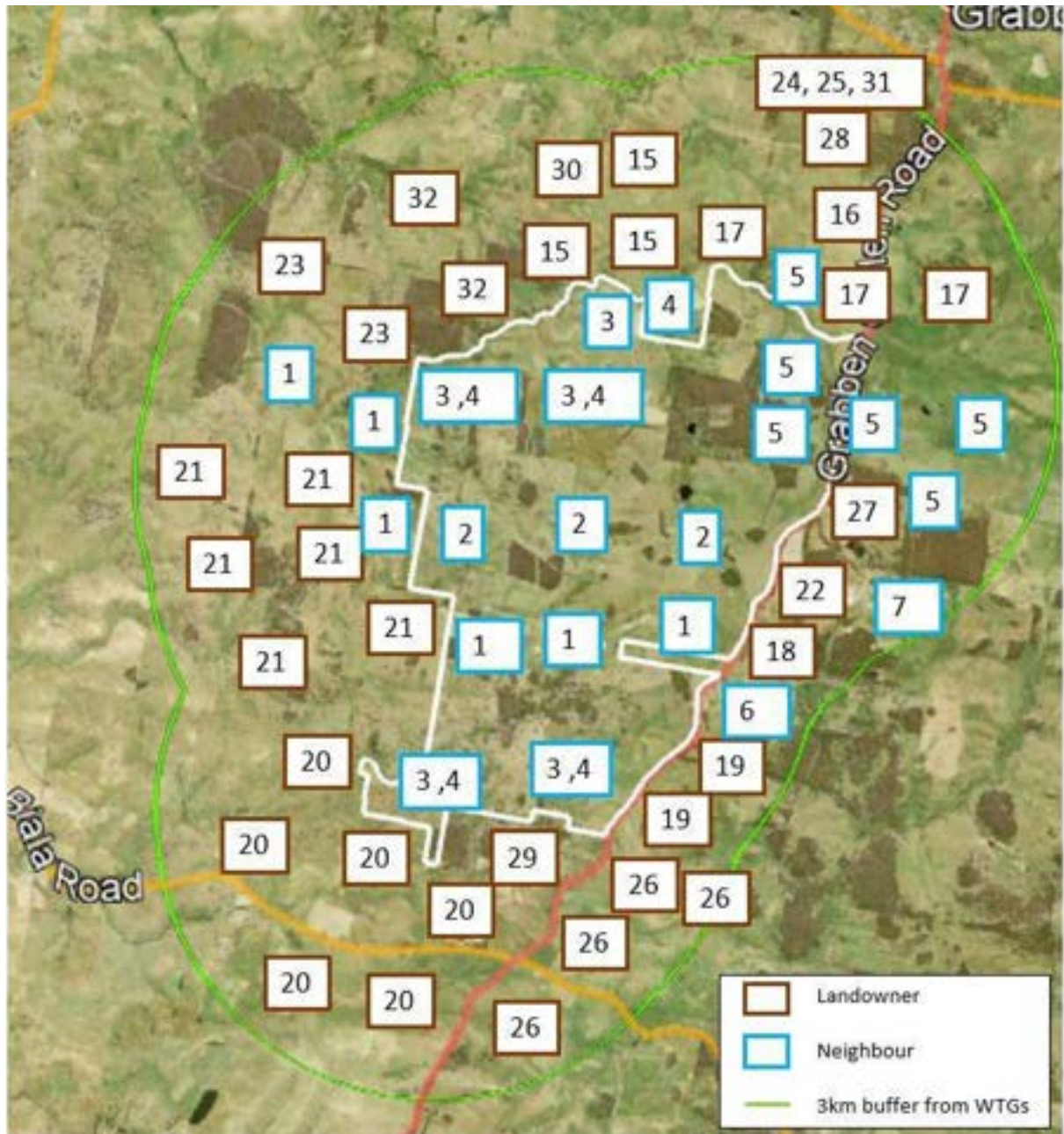
# Appendix A

Biala Wind Farm – Location Plan



# Appendix B

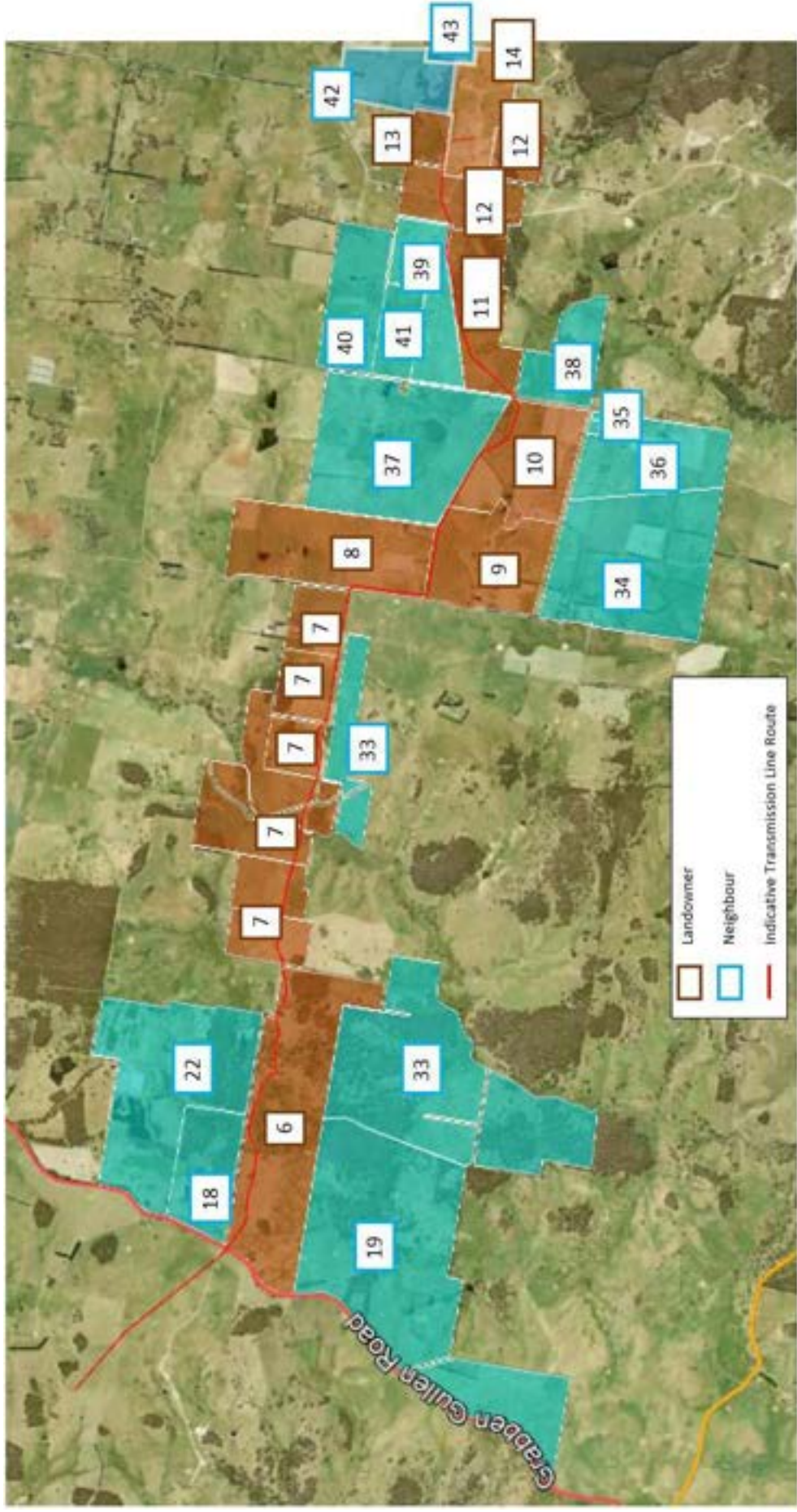
## Biala Wind Farm - Landowners and Neighbours Map





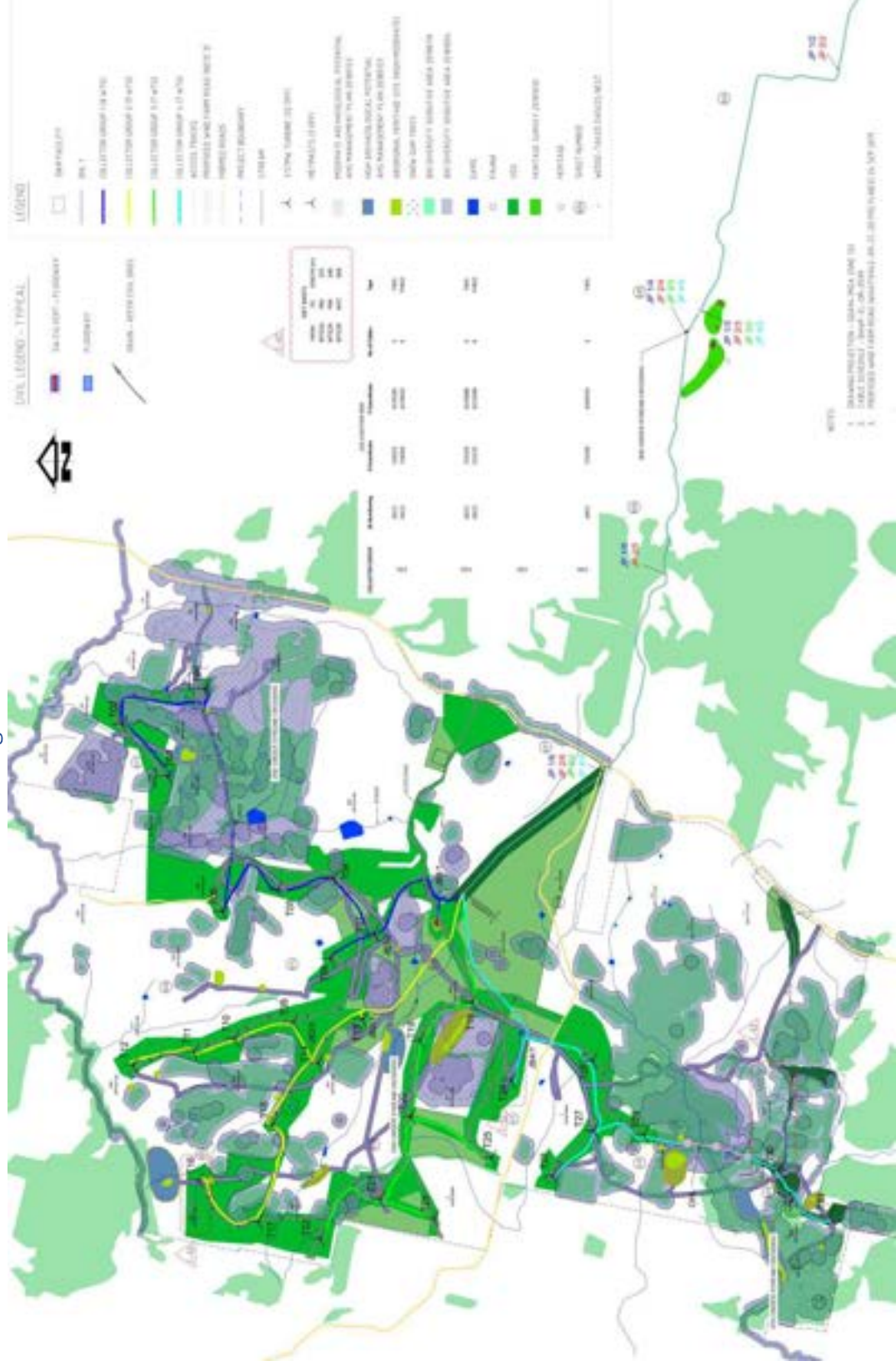
# Appendix C

## Transmission Line and Substation - Landowners and Neighbours Map



# Appendix D

## Location of Watercourses and Stormwater Drainage





## Appendix E

### Risk Assessment of Potential Onsite Hazards

Work Step or Facility:	Hazard:	Risks:	Risk Rating: (pre-control)	Risk Controls and Pre-emptive Actions:	Risk Rating (post-control)
<b>Turbine Supply and Install</b>					
RMU switchgear and cooling units	Vehicle collision causing structural failure.	Failure of containment resulting in the loss of coolant and/or release of SF6 gas resulting on impact on the receiving environment. Potential for minor soil, water, air contamination and impact to local flora and fauna.	Medium	<ul style="list-style-type: none"> <li>Adopt low speeds when operating vehicles and mobile plant in the vicinity of the kiosk units.</li> <li>Bunding AS1940 compliant.</li> </ul>	Low
	Poor structural integrity resulting in unplanned release.	Failure of containment resulting in the loss of coolant and/or release of SF6 gas resulting in impact on the receiving environment. Potential for minor soil, water, air contamination and impact to local flora and fauna.	Medium	<ul style="list-style-type: none"> <li>Use of structure that is internally banded and AS1940 compliant.</li> <li>Utilisation of equipment that meets Australian Standards.</li> <li>Undertake visual and physical checks on the structure and integrity of the cooling units and RMU during the six-monthly scheduled services.</li> </ul>	Low
	Poor service and containment practices utilised during service.	Failure of containment resulting in the loss of coolant and/or release of SF6 gas resulting in impact on the receiving environment. Potential soil, water, air contamination and impact to local flora and fauna.	Medium	<ul style="list-style-type: none"> <li>The use of coolant that is fully biodegradable.</li> <li>Use trained and experienced technicians for servicing work.</li> <li>Specialised contractors to be used for activities requiring the handling of SF6 gas.</li> <li>Undertake scheduled maintenance in line with the maintenance schedule.</li> <li>Spill kit onsite at the worksite during servicing.</li> </ul>	Low

				<ul style="list-style-type: none"> <li>Procedural controls developed and applied during draining and filling of coolant.</li> <li>Bunding AS1940 compliant.</li> </ul>	
	Electrical fault at RMU	Electrical fault event at the RMU resulting in the release of SF6 insulating gas to the surrounding environment. Potential for impact to air quality and human health.	Medium	<ul style="list-style-type: none"> <li>Undertake commissioning in accordance with commissioning procedure</li> <li>Undertake scheduled maintenance in accordance with prescribed maintenance schedule.</li> <li>Engage specialist contractor for activities requiring the handling of SF6 gas.</li> <li>Safety procedures established to investigate any suspected SF6 gas leaks.</li> </ul>	Low
Operation of turbines	Noise nuisance from blade movement or mechanical noises generated from turbines.	Release of noise emissions at levels that cause disturbance to sensitive receptors outside of the wind farm boundary.	Medium	<ul style="list-style-type: none"> <li>Operate turbines in accordance with the operating noise limits prescribed in the project approval.</li> <li>Undertake regular maintenance of turbines and supporting infrastructure.</li> <li>Investigate all noise complaints in accordance with the complaints management procedure.</li> </ul>	Low
Maintenance of turbines	Packaging for turbine parts and equipment.	Release of packing materials due to poor housekeeping. Potential risk to local flora and fauna. Risk to stock. Poor visual amenity and landowner relations.	Medium	<ul style="list-style-type: none"> <li>Adopt good housekeeping practices.</li> <li>Use covered skip bins at each turbine hardstand during installation works</li> <li>Timely removal of packing materials from subsequent installation works.</li> <li>Management of waste in accordance with OEMP and best practice waste management.</li> </ul>	Low
<b>Substation:</b>					

	<p>Vehicle collision causing structural failure.</p>	<p>Failure of containment resulting in the loss of large oil volume and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.</p>	<p>High</p>	<ul style="list-style-type: none"> <li>Transformers located within substantive concrete bunds with edges precluding vehicle access.</li> <li>Substation itself is located inside a locked security fence. Access to the substation is restricted.</li> <li>Bunding AS1940 compliant.</li> </ul>	<p>Low</p>
	<p>Poor structural integrity resulting in unplanned release.</p>	<p>Failure of containment resulting in the loss of large oil volume and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.</p>	<p>High</p>	<ul style="list-style-type: none"> <li>Utilisation of a bund around the transformer.</li> <li>Utilisation of transformers that meet Australian Standards.</li> <li>Undertake visual and physical checks on the transformers during servicing.</li> <li>Bunding AS1940 compliant.</li> </ul>	<p>Medium</p>
<p>Large transformers</p>	<p>Poor operational practice adopted for transformer.</p>	<p>Event at the cooling unit resulting in the release of coolant and impact on the receiving environment. Potential for soil and water contamination and impact to local flora and fauna. Risk to stock.</p>	<p>High</p>	<ul style="list-style-type: none"> <li>Operate transformers within the designed operating parameters. Prevent operation that may result in stress to the infrastructure.</li> <li>Remotely monitor performance of transformer.</li> <li>Undertake scheduled maintenance in accordance with prescribed maintenance schedule.</li> <li>Spill kits available to be deployed in the event of a release from kiosk.</li> <li>Bunding AS1940 compliant.</li> <li>The TF bund is designed to contain and leak from the TF from the highest point that oil is contained. It is not possible for oil to leak outside of the bundled area unless there is a failure with the oil/water separator and it pumps oil out of the bund instead of water.</li> </ul>	<p>Low</p>

Large transformer servicing	Poor service and containment practices utilised during service.	Failure of containment resulting in the release of oil and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Use experienced technicians for servicing work.</li> <li>Undertake scheduled maintenance in line with the maintenance schedule.</li> <li>Spill kit onsite during servicing.</li> <li>Maximising transformer oil life as far as practicable to reduce the frequency of replacement.</li> <li>Procedural controls developed and applied during draining and filling of transformer oil.</li> </ul>	Low
Oil – water separators	Ineffective operation.	Release of oil discharge and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Use experienced technicians for servicing work.</li> <li>Undertake regular inspections, maintenance and clearing.</li> <li>Ensure response procedures in place in the event the separator fails.</li> <li>Bunding AS1940 compliant.</li> </ul>	Low
330kV Main Circuit Breaker	Poor structural integrity resulting in unplanned release.	Failure of containment resulting in the release of SF6 gas and impact on the receiving environment.	Medium	<ul style="list-style-type: none"> <li>Undertake visual checks of the structure during the six-monthly scheduled services.</li> </ul>	Low
	Poor service and containment practices utilised during service.	Failure of containment resulting in the release of SF6 gas and impact on the receiving environment.	Medium	<ul style="list-style-type: none"> <li>Use experienced technicians for servicing work.</li> <li>Undertake scheduled maintenance in line with the maintenance schedule.</li> </ul>	Low
<b>Substation Switch-room:</b>					
33kV GIS Switch Bay	Poor structural integrity resulting in unplanned release.	Failure of containment resulting in the release of SF6 gas and impact on the receiving environment.	Medium	<ul style="list-style-type: none"> <li>Undertake visual checks of the structure during the six-monthly scheduled services.</li> </ul>	Low

	Poor service and containment practices utilised during service.	Failure of containment resulting in the release of SF6 gas and impact on the receiving environment.	Medium	<ul style="list-style-type: none"> <li>Use experienced technicians for servicing work.</li> <li>Undertake scheduled maintenance in line with the maintenance schedule.</li> </ul>	Low
<b>Site Construction Compound (including chemical storage, waste management and site office):</b>					
Storage of oil, waste oil and chemicals	Unplanned release during delivery and / or unloading process.	Unplanned release of chemicals and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Deliveries to be offloaded by trained onsite personnel.</li> <li>Where mobile plant is utilised (e.g., forklift) the mobile plant to be operated only by trained operators.</li> </ul>	Low
	Rain	Bunds overflow-potential soil pollution and runoff to water courses.	Medium	<ul style="list-style-type: none"> <li>Install roofing over bunded storages.</li> <li>Compound is located well away from watercourses.</li> </ul>	Low
	Storage vessel structural failure.	Unplanned release of chemicals and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Minimise onsite storage of chemicals.</li> <li>Timely removal of waste oil.</li> <li>Storage in bunded areas.</li> <li>Storage of chemicals in the original bottle or in an appropriate alternate suitable for the storage of oil.</li> <li>Storage of waste oil in leak proof containers.</li> <li>Bunding AS1940 compliant.</li> <li>Regular inspections</li> </ul>	Low
	Unplanned release during collection and / or loading process, including during distribution to service work	Unplanned release of chemicals and impact on the receiving environment. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Low	<ul style="list-style-type: none"> <li>Where mobile plant is utilised (e.g. forklift) the mobile plant to be operated only by trained operators.</li> <li>Distribute chemicals around the wind farm on equipment that is mechanically sound (e.g. road worthy trailer).</li> <li>Bunding AS1940 compliant.</li> </ul>	Low



	areas on wind farm.				
Storage of chemicals	Chemical reaction.	Reaction causes the release of a potentially hazardous gas by-product causing risk to human health.	Medium	<ul style="list-style-type: none"> <li>Minimise onsite storage of chemicals.</li> <li>Avoid storage of hazardous chemicals onsite.</li> <li>Storage/ Separation in accordance with SDS specifications and separation guidelines.</li> </ul>	Low
Turbine coolant storage	Storage vessel structural failure.	Unplanned release of coolant. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Low	<ul style="list-style-type: none"> <li>Minimise onsite storage of coolant.</li> <li>Storage on AS1940 compliant bunds.</li> <li>Storage of coolant in the original container or an appropriate alternate suitable for the storage of oil.</li> <li>Regular inspections</li> </ul>	Low
	Vehicle collision causing structural failure.	Unplanned release of coolant. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Low	<ul style="list-style-type: none"> <li>Adopt low speeds when operating vehicles and mobile plant in the vicinity of stored coolant.</li> <li>Locate stored coolant away from areas subject to frequent vehicle activity.</li> <li>Use of barricades where required.</li> </ul>	Low
Hardstand areas within compound	Rainfall event causing runoff.	Release of contaminated runoff (e.g. as a result of oil, hydrocarbon releases within carparking area). Potential soil and water contamination. Potential impact to local flora and fauna.	Medium	<ul style="list-style-type: none"> <li>Good housekeeping, including the timely clean-up of accidental releases within the site compound.</li> <li>Ensure all onsite vehicles are kept in good mechanical condition.</li> </ul>	

Waste management area	Poor waste management practice.	Release of contaminants and non-biodegradable material from the waste management area. Potential soil and water contamination. Potential impact to local flora and fauna.	Low	<ul style="list-style-type: none"> <li>Recording of waste removals. Disposal of waste to licensed facility.</li> <li>Management of waste in accordance with the EACHMP (BAWF-EN-PL-0006 B-02) and best practice waste management.</li> </ul>	Low
<b>Sewage Management</b>					
Onsite sewage management facility	Pipework failure.	Release of raw or partially treated effluent. Potential soil and water contamination. Potential soil and water contamination and impact to local flora and fauna. Potential release of odour nuisance associated with the release. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Undertake checks of the system in accordance with manufacturers specifications.</li> <li>Operate system within prescribed operating parameters.</li> <li>Visual monitoring of performance of sewage system.</li> <li>Timely response to any indicators that the sewage system is not operating correctly, e.g. odour.</li> </ul>	Low
Onsite sewage management facility	Pipework failure.	Release of raw or partially treated effluent. Potential human health impact as a result of unintentional contact during investigation and clean-up activities. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Undertake checks of the system in accordance with manufacturers specifications.</li> <li>Operate system within prescribed operating parameters.</li> <li>Visual monitoring of performance of sewage system.</li> <li>Timely response to any indicators that the sewage system is not operating correctly, e.g. odour.</li> </ul>	Low
Onsite sewage management facility	Leaking cisterns	Loss of stored water. Overflow of holding tanks with resulting pollution	Medium	<ul style="list-style-type: none"> <li>Personnel briefed to report leaks or malfunctions.</li> </ul>	Low
<b>Access Tracks and Hardstands</b>					

Access tracks and hardstands	Vehicle movements	Create of dust emissions. Potential human health impact and / or impact on offsite sensitive receptor.	Medium	<ul style="list-style-type: none"> <li>● Adherence to onsite speed limits (40kmph, 20kmph where signposted).</li> <li>● Reduction of speed on dry days.</li> <li>● Maintain site roads in good state of repair.</li> <li>● Management of air quality in accordance with the Air Quality Management Procedures (BAWF-EN-PL-0003 B-02)</li> </ul>	Low	
	Heavy rainfall events	Erosion and release of sediment to the local receiving environment, including agricultural dams. Potential for offsite impacts.	Medium	<ul style="list-style-type: none"> <li>● Maintenance of access roads and onsite erosion and sediment controls.</li> <li>● Visual monitoring across the site. Timely repairs undertaken where required.</li> </ul>	Low	
	Access track or hardstand construction and maintenance	Heavy rainfall events	Erosion of disturbed access track or hardstand surfaces. Potential release of sediment to the local receiving environment, including agricultural dams. Potential for offsite impacts.	Medium	<ul style="list-style-type: none"> <li>● Avoid maintenance activities during the 'wet' conditions.</li> <li>● Undertake maintenance in a timely manner.</li> <li>● Apply temporary controls to protect disturbed surfaces where required.</li> </ul>	Low
		Poorly maintained access tracks or hardstands	Erosion of disturbed access track or hardstand surfaces. Potential release of sediment to the local receiving environment, including agricultural dams. Potential for offsite impacts.	Medium	<ul style="list-style-type: none"> <li>● Undertake maintenance in a timely manner.</li> <li>● Visual monitoring across the site. Timely repairs undertaken where required.</li> </ul>	Low
		Refuelling	Fuel spills resulting in soil or watercourse contamination	Medium	<ul style="list-style-type: none"> <li>● Refuelling vehicles carry a spill kit.</li> <li>● Refuelling is carried out more than 50m from watercourses.</li> </ul>	Low
		<b>Foundations</b>				
Foundation	Rain-fall event causing water to pool within excavation prior to backfill.	De-watering causing release of sediment into offsite waterways	Medium	<ul style="list-style-type: none"> <li>● Foundation base is blinded directly after excavation, reducing the potential sediment load.</li> <li>● The water will sit and allow some settlement of sediment before any pumping takes place.</li> </ul>	Low	

				<ul style="list-style-type: none"> <li>Water volumes would be quite low and low flow rates, hence unlikely to enter offsite watercourses.</li> <li>Typically, topsoil is placed across the uphill side of excavations with the outcome that inflow is minimised.</li> <li>Allow accumulated water to evaporate or soak away.</li> <li>If pump-out is needed, pump outlet is fitted with a siltsock, and discharges to a sediment control fence.</li> </ul>		
	Local storage and use of chemical retarders and curing agents.	Leakage or spill from containers causing local contamination	Low	<ul style="list-style-type: none"> <li>Store only the minimum required quantity at each tower; return to the main storage after each pour</li> <li>Spill kits available</li> </ul>	Low	Low
<b>Weed Management</b>						
Storage of herbicides	Inappropriate storage	Uncontrolled release of herbicide resulting. Potential soil and water contamination and impact to local flora and fauna. Risk to stock.	Low	<ul style="list-style-type: none"> <li>Low volume storage of herbicides.</li> <li>Storage in banded areas.</li> <li>Storage of herbicides in the original bottle or in an appropriate alternate suitable for the storage of herbicide.</li> <li>Storage in accordance with SDS specifications.</li> </ul>	Low	Low
Use of herbicides	Inappropriate use	Impact to non-target plant species. Impact on groundcover resulting increased erosion risk. Potential soil and water contamination. Risk to stock.	Medium	<ul style="list-style-type: none"> <li>Application to be undertaken by appropriately trained people.</li> <li>Herbicide to be selected to limit impact on non- target species.</li> </ul>	Low	Low
Storage of herbicides	Chemical reaction	Reaction causes the release of a potentially hazardous gas by-product causing risk to human health.	Low	<ul style="list-style-type: none"> <li>Low volume storage of herbicides.</li> <li>Storage in accordance with SDS specifications.</li> </ul>	Low	Low

Use of herbicides.	Inappropriate use.	Uncontrolled release of herbicides and impact to offsite persons and property.	Low	<ul style="list-style-type: none"> <li>• Application to be undertaken by appropriately trained people.</li> <li>• Application to be undertaken during periods that would minimise the potential for spray drift.</li> </ul>	Low
Onsite access	Use of a vehicle or material (e.g. straw) containing viable plant reproductive material.	Release of weed species in to previously uncontaminated areas within the wind farm resulting in impacts to the local environment and local agricultural businesses.	Medium	<ul style="list-style-type: none"> <li>• Due care to be taken to acquire material that is certified weed clean or is sourced from a location to be known to be weed clean.</li> <li>• Minimise contact between contaminated material and / or vehicles and natural surfaces where introduced species can establish.</li> </ul>	Low

## Appendix F

### Biala Wind Farm – Location of Potential Pollutants



Source: Google Earth

## Appendix G

### Biala Substation – Location of Potential Pollutants



Source: Google Earth