

Operational Noise Fact Sheet



In September 2022 a modification application was submitted to the Department of Planning and Environment (DPE) for the Liverpool Range Wind Farm (Mod-1 Project). In response to submissions received during the public exhibition period we have made a number of changes to the Project. These changes are reflected in the Response to Submissions (RTS) Report and the Amendment Report. The reports will be assessed by DPE who will then make a determination on the application. These reports contain information about how the RTS Project is different from the Approved Project, and how these changes would affect the environment and how they can be managed.

This factsheet sets out the expected changes to operational noise between the Approved Project and the RTS Project. It also shows what we are proposing to do and how we will manage potential disruptions. The impacts presented are a worst-case scenario. With the measures proposed the RTS Project's impacts should be reduced or mitigated.

When talking about potential impacts, there are two types of residences:

- **Associated residences:** host landholders, landholders providing access during construction or operation and other landowners with a financial or in-kind agreement with the Project.
- **Non-associated residences:** owners or occupiers who do not have a financial or in-kind agreement with the Project.

The following sections summarise the key findings from the Predictive Noise Impact Assessment (PNIA) undertaken for the RTS Project.

What operational noise should I expect?

Figure 1 is a noise contour map showing the highest predicted wind turbine noise levels at all nearby residences. Figure 2 shows the highest predicted substation noise levels at nearby residences. They show the RTS Project would be below the applicable limits at all Non-associated residences.

Compared to the Approved Project, the RTS Project is expected to result in an increase in turbine noise levels at 40 Non-associated residences. All predicted increases in noise levels at Non-associated residences would be either 3 dB(A) or less, with most increased being between 1 and 2 dB(A), with a 1 dB(A) increase being imperceptible to the human ear. An increase of 3 dB(A) is described as a 'just noticeable' change and is expected to occur at five Non-associated residences. All Non-associated residences will experience noise levels of 35 dB(A) or less therefore satisfying the noise limits set out in conditions of the existing development approval for the Approved Project.

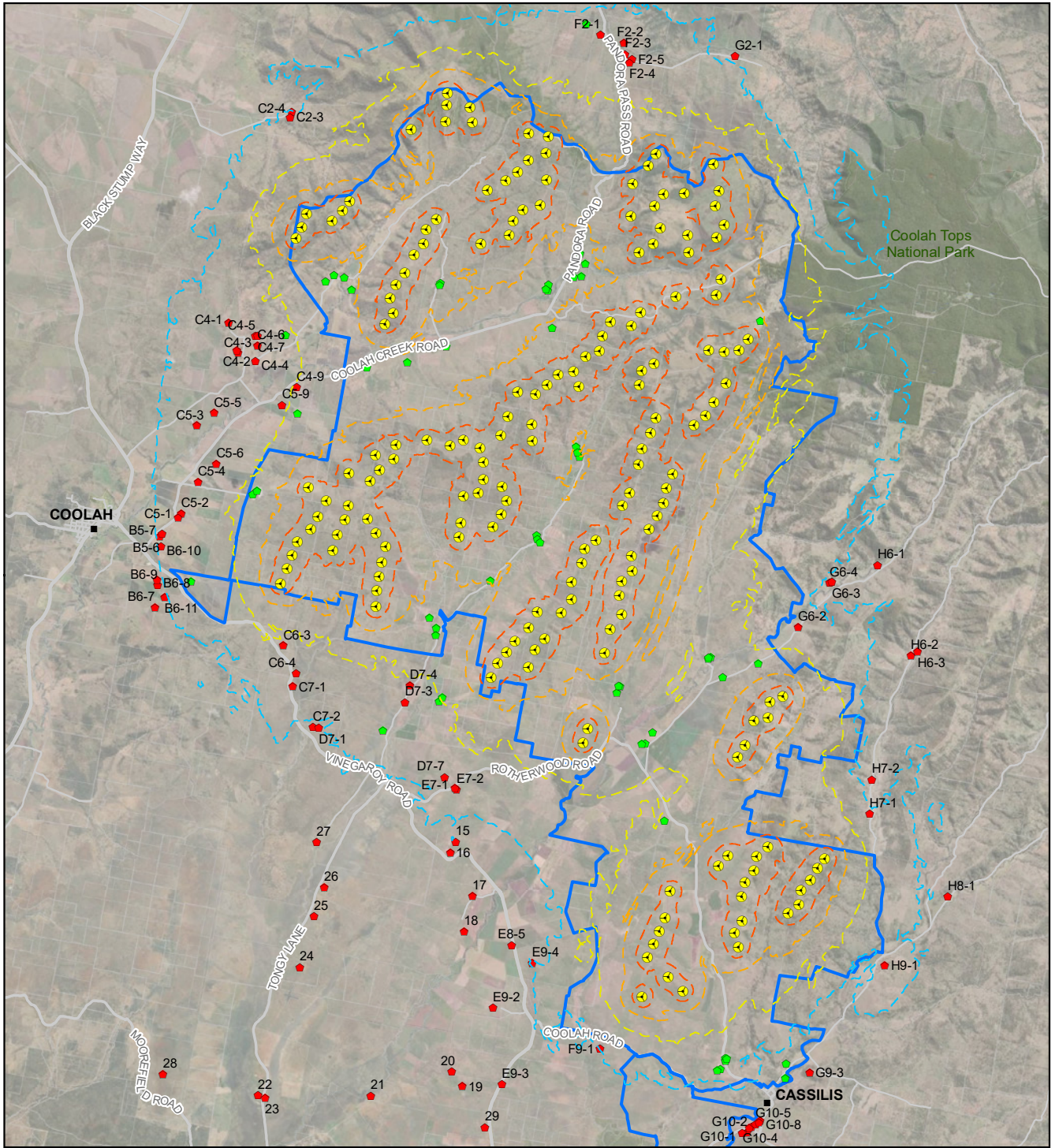
Noise levels generated by substations were also assessed. The highest predicted substation noise level at a Non-associated residence was less than 20 dB(A), a sound level less than whispering (see Table 1). Substation noise at Non-associated residences will also be below the noise limits set out in the existing development approval.

If you would like to read more about operational noise, see the Predictive Noise Impact Assessment attached to the Response to Submissions Report.

The noise generated by operation of the RTS Project would be generally consistent with that of the Approved Project.

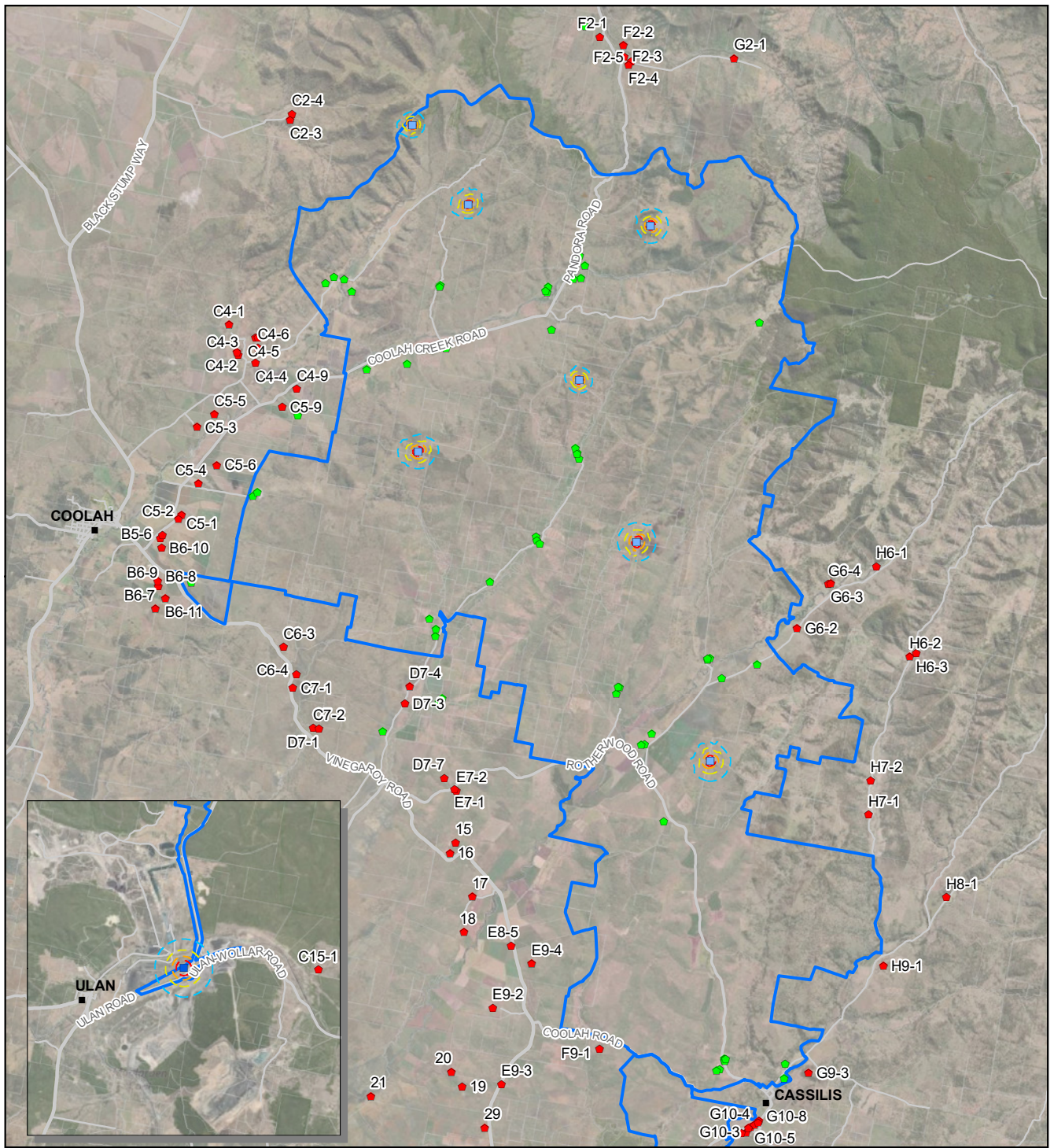
To read more, see the Predicted Noise Impact Assessment attached to the Response to Submissions Report.

Figure 1: Predicted Turbine Noise Levels (RTS Project)


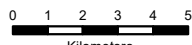
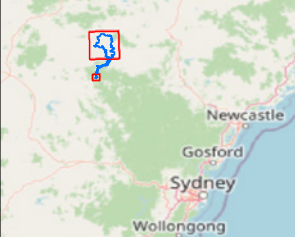


<p>Legend</p> <p>RTS Site Boundary</p> <p>Indicative Turbine Layout</p> <p>Dwellings</p> <p>Associated Dwellings</p> <p>Non-Associated Dwellings</p>	<p>Predicted Noise Levels Wind Turbines</p> <p>30 dB(A)</p> <p>35 dB(A)</p> <p>40 dB(A)</p> <p>45 dB(A)</p>	<p>North Arrow</p> <p>Date: 26/05/2023</p> <p>Version: B</p> <p>Scale: 0 1 2 3 4 5 Kilometers</p> <p>GDA 1994 MGA Zone 55</p> <p>1:190,000</p>	
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Figure 2: Predicted Substation Noise Levels (RTS Project)



Document Path: G:\GIS\Project Data\Development\NSWL\liverpool\Maps\Working\LRWF_RL242A_Modified Substation Noise Level Map_A4_20230526.mxd

<p>Legend</p> <ul style="list-style-type: none"> ■ Potential Substation Location ■ Potential Switchyard Location RTS Site Boundary <p>Dwellings</p> <ul style="list-style-type: none"> ● Associated Dwellings ● Non-Associated Dwellings 	<p>Predicted Noise Levels Substation</p> <ul style="list-style-type: none"> 30 dB(A) 35 dB(A) 40 dB(A) 45 dB(A) 	<p style="text-align: right;">Date: 29/05/2023 Version: B</p> <div style="text-align: center;">   Kilometers GDA 1994 MGA Zone 55 1:190,000 </div>	
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What are the proposed mitigation strategies?

The PNIA shows that the RTS Project can comply with the noise limits set out in relevant guidelines and conditions of the existing development approval that was granted in 2018 for the Approved Project. As a result the PNIA does not include recommendations for mitigation measures to be implemented for wind turbine noise or noise associated with the operation of the substations.

Consistent with recent wind farm approvals, it is anticipated that the granted development approval for the RTS Project will be updated by DPE to:

- Require compliance with the relevant noise guidelines;
- Remove existing references to specific noise limits at relevant non-associated residences; and
- Require the preparation of a Noise Management Plan.

We will monitor operational noise and respond to any noise-related concerns that may be raised by Associated and Non-associated residences, in accordance with Tilt Renewables' Complaints Handling Procedure and the Project-specific complaints procedure that must be prepared as a condition of the existing Development Approval.

If unintended and undue noise impacts are identified during turbine operations adaptive management measures may be considered to mitigate or remove the noise impact.

dB	Sound source
140	Jet engine at 30m
130	Rivet hammer (pain can be felt at this threshold)
120	Rock drill
110	Chain saw
100	Sheet-metal workshop
90	Lawn mower
85	Front-end loader
80	Curbside heavy traffic, lathe
70	Loud conversation
60	Normal conversation
30	Whispering
0	Hearing threshold

Source of table: Safework Australia, 2015

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Next steps:

We are aiming to lodge the Response to Submissions (RTS) report, Amendment Report, and all updated environmental impact assessments with DPE in June 2023. These reports will detail the consultation completed to-date, how submissions received during public exhibition have been addressed, and will clearly show the changes to the design and layout of the Project. DPE will review the documentation and make a determination on the Modification Application.

We are also seeking Commonwealth approval under a separate approvals process under the *Environment Protection and Biodiversity Conservation Act 1999*. The project will be assessed by way of Public Environment Report (PER) which will be subject to a public exhibition process managed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). Further details on the timing of this will be provided via our website and newsletters.

To stay up to date on progress of the Project visit:

Modification Application:

www.planningportal.nsw.gov.au/major-projects/projects/mod-1-turbine-and-infrastructure-changes

EPBC Approval:

epbcpportal.awe.gov.au/all-referrals/project-referral-summary/?id=dc3fd301-9a6b-ed11-81ac-00224818aa21

For more information, please visit the website below

or call us anytime to ask questions using: **1800 WE TILT (938 458)**

Email: liverpoolrangewindfarm@tiltrenewables.com | **Web:** www.liverpoolrangewindfarm.com.au

Postal Address: PO Box 16080 Collins St West, Melbourne Vic 8007

