Liverpool Range Wind Farm

Fact Sheet

04

October 2021

Electromagnetic Interference (EMI) Fact Sheet

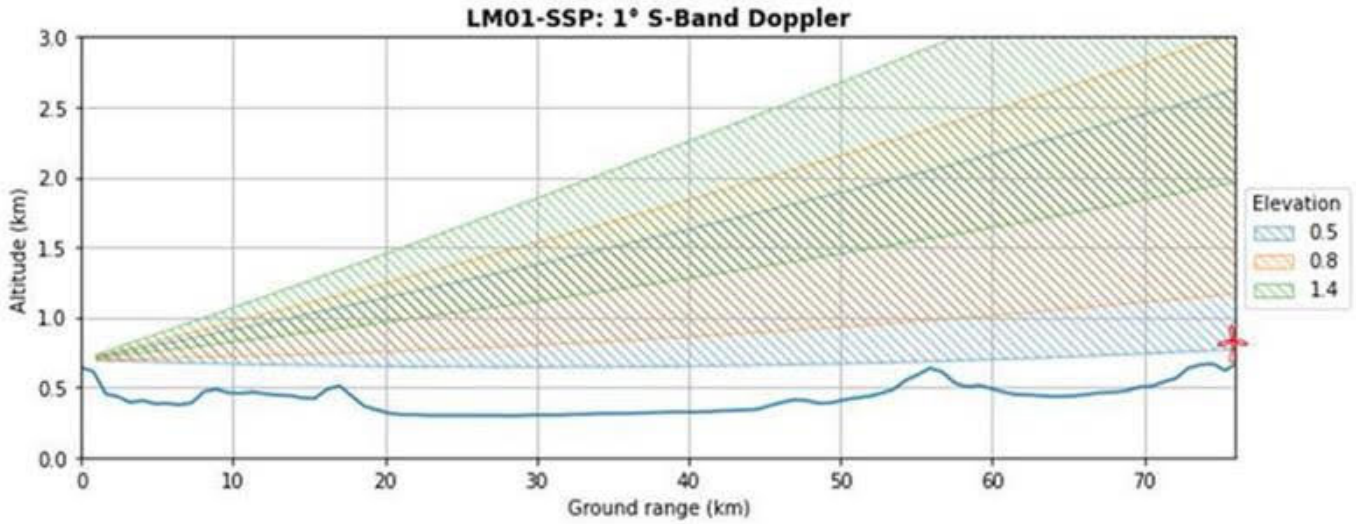
Why was the assessment undertaken?

The siting of wind turbines has the potential to disrupt electromagnetic signals used in telecommunications, navigation and radar services.

An Electromagnetic Interference (EMI) Assessment was prepared by WSP Pty Ltd to assess the potential EMI impacts associated with the following key changes to the approved wind farm layout and design proposed by the Modified Project:

- Increase in maximum blade tip height to 250 metres (m) above ground level (AGL) (increase of 85 m)
- Decrease in maximum number of turbines to 223 (removal of 44 wind turbines)
- Revised turbine layout and associated ground elevations

The EMI Assessment also undertook a comparative analysis of the Approved Project and the Modified Project and assessed the change in potential EMI impacts.



Caption: Preliminary impact assessment on S-Band weather radar at Namoi weather station. Source: Bureau of Meteorology (2021)

What was the approach?

The EMI Assessment was prepared considering the relevant conditions of Development Consent SSD 6696 and in accordance with relevant guidelines including the *Draft National Wind Farm Development Guidelines* (EPHC, 2010) and industry best-practice assessment methods.

The EMI Assessment includes an analysis of the following:

- Fixed point-to-point radio communication links in the vicinity of the proposed turbine locations;
- Fixed point-to-multipoint licenses within 30 km of the Project site;
- Radar operations within 250 nautical miles of the Project site;
- Television and radio broadcasting services;
- Mobile phone services;
- Internet services; and
- Licences operated by emergency services in proximity to the development.

Consultation was undertaken with all point-to-point, point-to-multipoint, broadcast services, and emergency services licencees within 10 kms of the Project registered on the Australian Communications and Media Authority (ACMA) database to seek their feedback on potential impacts associated with the Modified Project turbine layout.

What did we find and how does it compare to the Approved Project?

The key findings of the EMI Assessment are:

- Four (4) operating point-to-point links are in the vicinity of the Modified Project. None will be impacted by the Modified Project.
- One (1) point-to-point communication link registered in 2020 to the NSW Telecommunications Authority (NSW Telco) was proposed to cross the wind farm site. This link was proposed by NSW Telco after the original approval for the Project was granted in March 2018 and would be potentially affected by three turbines proposed by the Approved Project and the Modified Project layouts. NSW Telco has acknowledged this and it is understood that alternate communication link alignments are being investigated.
- Two (2) communications towers were identified and located within 2 km of the nearest turbine (500 m separation distance). The registered licencees confirmed that the Modified Project will not have detrimental effect on their operations and services.
- One (1) Land Mobile licencee is registered to a nearby private landholder used for internal communications across geographically separated land parcels under their ownership. The Modified Project may impact this communication link and further consultation with the licencee is required. Mitigation measures are available to rectify potential impacts.
- Existing mobile reception was assessed as being either marginal or non-existent within or surrounding the Project site. The Modified Project is unlikely to result in significant disturbance to existing mobile reception.
- Existing TV coverage was assessed as being marginal. It is currently not known whether the Modified Project will impact on TV reception within or nearby the LRWF site. Mitigation measures are available to rectify potential impacts.
- The Bureau of Meteorology has identified potential impacts associated with both the Approved Project and the Modified Project to the signal quality of the Namoi (Blackjack Mountain) weather radar located approximately 80 kms to the north of the Project site, southwest of Gunnedah. Mitigation measures are available to rectify potential impacts.

What are the proposed mitigation strategies?

The table below outlines the mitigation measures available to address potential interference with point-to-area style communications (such as mobile phone signals, radio broadcasting and television broadcasting).

Point-to-point links (these are often used for line-of-sight connections for data, voice, and video) are unlikely to be affected by the Modified Project whilst mitigation measures for point-to-multipoint services will be determined in consultation with the relevant stakeholders.

Licence or service type	Available Mitigation Measures
Mobile Phones and Wireless Internet	Moving a short distance to a new or higher location until the signal improves or using an external antenna to improve the signal.
Wireless Internet	Moving outdoor antennas for impacted residences, micro-siting wind turbines or installing a new NBN tower.
Radio broadcasting (FM Radio)	Installing high-quality antennas or amplifiers at affected residences, increasing the broadcast signal strength from the transmission tower, moving the tower away from the wind farm or installing a signal repeater on the opposite side of the Project site.
Television broadcasting	Realigning or relocating the resident's television antenna, tuning the antenna into an alternative source, installing a more directional or higher gain antenna, installing satellite television or installing a television relay station. Where requested by residents within 10 kms of the Project site, pre-construction and post-construction reception surveys will be undertaken to determine whether reported impacts are due to the wind farm and, where warranted, mitigation measures implemented.
Land Mobile Licence	Tilt Renewables has made a commitment to work closely with the Land Mobile licencee potentially affected by the Modified Project to ensure their existing communication signal strength and quality is not adversely affected by the Modified Project.
Weather radar	Tilt Renewables will continue to work closely with the Bureau of Meteorology to ensure that weather radar signal quality is not adversely affected by the Modified Project.

Assessment against development consent

In accordance with the relevant conditions of Development Consent SSD 6696, we will implement mitigation measures within one month following the report of any disruption to radio communication services or weather radar signal quality as a result of the development.

The Modified Project can therefore comply with the existing conditions of the Development Consent relating to electromagnetic interference.

GOODS AND SERVICES REGISTER

To register interest in providing goods or services for the Project, please visit www.liverpoolrangewindfarm.com.au and complete the linked form under the Employment section.

SIGN UP & STAY INFORMED

If you haven't already, please subscribe to our newsletter to ensure you receive all Project updates and information. We understand that not everyone uses email, so we will be working with local businesses to host Project information packs such as the newsletter, fact sheets and maps. Subscribe to receive the newsletter by email or post, by contacting us at: liverpoolrangewindfarm@tiltrenewables.com

For more information, please visit the website below
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