



AIR NAVIGATION, AIRSPACE AND AERODROMES BRANCH

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CASA ASSESSMENT – JUNCTION RIVERS WIND FARM SSD-30448824

CASA has reviewed the Aviation Impact Assessment (AIA) (Appendix 18 to the EIS) by Aviation projects of 13 May 2024 for the proposed Junction Rivers Wind Farm.

- The proposal includes up to 96 Wind Turbine Generators (WTGs) that will be up to approximately 300 m Above Ground Level (AGL) tip height.
- There will be up to 9 wind monitoring (or similar) towers (up to 200 m AGL)
- The WTGs are located beyond the Obstacle Limitation Surface (OLS) of the nearest certified aerodrome - Balranald Aerodrome (YBRN)
- The Airservices Assessment of 8 March 2024 advises that 24 wind turbines will affect the 25nm MSA procedure at Swan Hill aerodrome. 46 wind turbines will affect the air route W762 lowest safe altitudes (LSALT) and 27 turbines will affect the H247 lowest safe altitudes (LSALT)
- The Aviation Impact Assessment advises that there are two landing grounds located within 3 nm of the closest WTG.

The AIA and this CASA assessment considers the *National Airports Safeguarding Framework (Guideline D)*.

According to Visual Flight Rules (VFR), pilots are permitted to fly as low as 500 ft AGL (ie, terrain). The maximum height of the WTGs is approximately 300 m (984 ft) AGL.

Except for Recommendation 9 '*Lighting of WTGs*', CASA agrees with the Recommendations at Section 12 (page 72) of the Aviation Impact Assessment.

Contrary to Recommendation 9, CASA considers the proposed wind farm will be a hazard to aviation safety and recommends that the wind farm is obstacle lit with steady medium-low intensity red obstacle lighting in accordance with the National Airports Safeguarding Framework Guideline D '*Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation*' [National Airports Safeguarding Framework Principles and Guidelines \(infrastructure.gov.au\)](https://www.infrastructure.gov.au/national-airports-safeguarding-framework-principles-and-guidelines) and section 9.31 of Part 139

Aerodromes Manual of Standards [Part 139 \(Aerodromes\) Manual of Standards 2019 \(legislation.gov.au\)](#) (lower level lights on the turbine support columns are not essential).

International standards require 2,000 candela lighting intensity on the nacelle (also recommended in the NASF guideline) and 200 candelas at the mid-point of the turbine mast. CASA recommends that 200 candela as a minimum intensity lighting on the nacelle would suffice (due mainly to the lack of background lighting in the vicinity of the turbines). The obstacle lighting should be monitored to alert the wind farm operator of any outage and at least some of the obstacle lights remain on during an outage. CASA is prepared to review a lighting plan that indicates which turbines are proposed to be lit.

As the Aviation Safety regulator, CASA does not consider the visual impact of obstacle lighting on neighbours / homesteads. However, there are mitigations for visual impact such as baffling and intensity control (as described in the Aviation Impact Assessment Table 12 / Page 68 'Effect of obstacle lighting on neighbours').

Further to Recommendation 13, and as recommended by the Aerial Application Association of Australia, CASA recommends that the following Australian Standard be considered regarding overhead transmission lines:

- AS 3891.2, Air navigation — Cables and their supporting structures — Marking and safety requirements, Part 2: Low-level aviation operations.

The impacts on:

- the 25nm MSA procedure at Swan Hill aerodrome
- air route W762 lowest safe altitudes (LSALT)
- the H247 lowest safe altitudes

are covered in Aviation Impact Assessment Section 6 Consultation and Section 11 Conclusions but not specifically included in Section 12 Recommendations. The proponent (or the proponent's Aviation Consultant) should engage with Airservices Australia and the Swan Hill Aerodrome operator regarding the changes to the MSA and LSALTs, before the offending WTGs have been erected. (Airservices may need some lead time).

Yours sincerely

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