

ADVERTISED PLAN



Mr Sam Mason
Acting Manager | Development Approvals and Design, Renewables
Development Approvals & Design | Planning
Department of Environment, Land, Water and Planning
Level 8, 8 Nicholson Street
EAST MELBOURNE Victoria 3002

14 October 2021

Reference: 0467385 Lal Lal Wind Farm Aviation Lighting

Dear Sam,

Subject: **Lal Lal Wind Farm
Planning Permit No.: PL-SP/05/0461/C
Request for Amendment Pursuant to Section 97I of the *Planning and
Environment Act 1987***

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

ERM Australia Pty Ltd (ERM) continues to act on behalf of Lal Lal Wind Farm in relation to the above matter.

Our client requests that the Planning Permit be amended to remove condition 2(p) given the additional assessments undertaken that confirm the wind farm is not a hazard to aviation safety and that aviation detection lighting system is not required at night time or in low visibility conditions. This will provide a net community benefit by reducing visual impact from the lights which are activated by the aviation detection lighting system.

1 Introduction & Background

By way of background, Planning Permit No.: PL-SP/05/0461/C (the permit) was issued on 30 April 2009 (amended 20.03.17, 23.04.18 and 27.09.18) to allow for:

'Use and development of the land for a Wind Energy Facility comprising a maximum of 60 wind turbines and their associated infrastructure and other works including: the construction of access tracks; underground cabling; two permanent amenities buildings; two electrical substations; two permanent meteorological monitoring facilities and associated equipment; car parking and bicycle facilities, temporary construction facilities (including an ancillary concrete batching plant), business identification signs and alterations to access points to roads in a Road Zone.'

The 2009 Panel considered aviation lighting issues and concluded that:

'the WEF Guidelines require consideration of aircraft safety, including the views of the Civil Aviation Safety Authority (CASA) where the Proposal is within 30km of an airfield. Wind turbines should not protrude into any obstacle limitation surface for any airfield. The proposed Lal Lal WEF is not within such an area.'

The CASA Manual of Standards (CASA MOS) addresses the operation of aerodromes. However, the Proponent advised that CASA withdrew its Advisory Circular AC139 - 18(0) entitled 'Obstacle Marking and Lighting of Wind energy facilities' (AC139 - 18(0)) in September 2008 and they understood that a new set of guidelines will be

Page 1 of 9

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

prepared after a safety study and consultation with stakeholders. There is no legal requirement to comply with a CASA determination that aviation lighting be included on a WEF outside the defined limits or obstacle limitation surfaces of any aerodrome. However, planning permits for WEFs in Victoria have generally included a condition requiring night lighting of turbines greater than 110 metre in height in accordance with CASA recommendations.'

Subsequently, Condition 2(o) was included on the permit (30.04.09) as follows:

'Aviation obstacle lighting may be installed but only if they meet the following requirements, except with the further written consent of the Minister for Planning:

i They are restricted to a pair of red medium intensity, intermittent obstacle lights on any wind turbine;

ii The lights are to be baffled so as to restrict the vertical spread of light to not more than three degrees (approximately) with not more than one degree (approximately) below the horizontal;

iii All lights within each section or stage of the wind energy facility must illuminate in unison, and

iv The activation and de-activation of the lights is to be triggered by a luminance sensor with a trigger luminance of 50 candela per square metre (or as otherwise required by the Civil Aviation Safety Authority or law).'

The 2017 panel also considered aviation lighting as a result of the proposal to increase the wind turbines from 130m to 160m.

The panel recommended the following and the planning permit (20.03.17) was amended to include Condition 2(p) as follows:

'Aviation detection lighting system must be installed in accordance with current Civil Aviation Safety Authority specifications or law, such that is activated only:

a. If at night, when an aircraft is in the immediate vicinity of the wind energy facility;

b. During low visibility daytime conditions such as the existence of smoke and fog.'

The wind farm has been constructed and operating since 2019. The wind farm has been fitted with an aviation detection lighting system to control aviation obstacle lighting. Since the wind farm has been operating, there have been numerous community complaints about the lights which are activated by the aviation detection lighting system.

2 Request for Amendment

We hereby apply for an amendment application to delete Condition 2(p) and thus the requirement that mandates the use of an aviation detection lighting system.

This change is requested on the basis that:

- aviation safety lighting is not required by CASA law or regulation nor is it required for aircraft safety at night or in conditions of low visibility;
- operation of the installed aviation detection lighting system has resulted in a number of complaints from the community as to the visual impact of the lights; and

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

- removal of the requirement will mean the aviation detection lighting system can be deactivated and the wind farm will not be lit at night, which will reduce the visual impact of the wind farm at night and appease community and Moorabool Shire Council (Council) concerns.

In support of the requested amendment, a Qualitative Risk Assessment (QRA) of aviation obstacle lighting of Lal Lal Wind Farm has been prepared by aviation expert Chiron Aviation Consultants (Appendix A). A Regulations and Requirements report was also prepared by Chiron Aviation Consultants (Appendix B). These assessments confirm that:

- there is no aviation safety hazard that would warrant lighting of the LLWF at night or in conditions of low visibility (further details regarding the assessment are provided at Section 4 of this submission);
- there is no regulatory requirement that the turbines be lit at night or in low visibility.

Furthermore, if the amendment is approved, the lights would be deactivated and not used. The amendment proposes that condition 2(p) be deleted.

3 Consultation

It is requested that the amendment application not be publicly advertised pursuant to Section 52 of the *Planning and Environment Act 1987*. The application responds to community concerns while ensuring ongoing safety, and the grant of the requested amendment would not cause material detriment to any person including the adjoining landowners. On the contrary, the amendment is proposed to have a positive impact on adjoining landowners and the local community by way of removing the visual impacts as a result of the aviation detection lighting system activating the lights at night.

Lal Lal Wind Farm's consultants have sought to consult with the Civil Aviation Safety Authority (CASA) prior to the submission of the application, including provision of the QRA and regulatory report prepared by Chiron Aviation Consultants. CASA has advised that it would consider and provide comments as part of the permit amendment application process rather than prior to submission of the amendment application.

Lal Lal Wind Farm has separately been engaging with Civil Aviation Safety Authority (CASA) to obtain permissions (known as NOTAM) to have the aviation detection lighting system temporarily switched off during investigations and maintenance. This has been necessary because Lal Lal Wind Farm is noted on air maps as a lit facility. In response to the July 2021 application to which the QRA was attached. CASA (Air Navigation, Airspace and Aerodromes Branch) suggested that variation of the permit to remove the lighting requirements should be sought. Further, it was indicated that CASA's response to any request by DELWP for comment on such an application would take into consideration wind farm developments that have been assessed by CASA since 2015 when the original Lal Lal Wind Farm assessment was conducted.

It is understood that DELWP may wish to seek CASA's views during the application process, although CASA is not a formal referral authority for wind energy facility permit applications.

In addition to the above it should be noted that pursuant to Clause 52.32-9 (Application to amend a permit under section 971 of the Act) of the Moorabool Planning Scheme:

'An application to amend a referred wind energy facility permit made under section 971 of the Act is wholly exempt from the requirements of section 97E(1) of the Act if the application does not seek to:

**ADVERTISED
PLAN**

- *increase the total number of turbines; or*
- *increase the maximum height of any turbine; or*
- *change the location of a turbine so that the centre of the tower (at ground level) is located closer to an existing dwelling (within one kilometre of a permitted turbine) than the centre of the tower (at ground level) of the closest permitted turbine to that dwelling.'*

The current amendment request does not seek to make any of the above changes.

In addition to the above requirements of Clause 52.32-9:

'The requirements of section 97E(1) of the Act are modified so as to require referral of objections and submissions to an advisory committee established under section 151 of the Act if an application to amend a referred wind energy facility permit made under section 97I of the Act does not seek to:

- *increase the total number of turbines by more than 15%; or*
- *increase the maximum height of any turbine by more than 20%; or*
- *change the location of a turbine so that the centre of the tower (at ground level) is located closer to an existing dwelling (within one kilometre of a permitted turbine) than the centre of the tower (at ground level) of the closest permitted turbine to that dwelling.'*

The current amendment request also does not seek to make any of the above changes.

On the basis of the above the current application is exempt from referral to a Panel.

4 Assessment

Chiron Aviation Consultants has conducted a Qualitative Risk Assessment to assess the risk to aviation safety of the Lal Lal Wind Farm. The risk assessment focuses on the risk to aircraft flying in the vicinity of the Lal Lal Wind Farm at night or in low visibility conditions.

The risk assessment included an assessment of the factors referred to in the letter from CASA to DELWP on 15 November 2015 (see Appendix C) in relation to the then-proposal to increase turbine heights from 130 m to 161 m, and reduce the number of turbines from 64 to 60. We note that the CASA letter confirmed that the Wind Turbine layout and specifications:

- Will not penetrate any OLS surfaces
- Will not penetrate any PANS-OPS surfaces
- Will not have an impact on nearby designated air routes
- Will not have an impact on prescribed airspace
- Is wholly within Class G airspace
- Will not have an impact on existing local aviation activities.

We note that the advice given by CASA that aviation lighting was required (notwithstanding that none of the above triggers were met) was not supported by a formal Qualitative Risk Assessment. The formal Qualitative Risk Assessment prepared in support of this application now confirms that 'aviation safety lighting is not required'. In particular:

'Aircraft flying at night are required to be at or above a published or calculated lowest safe altitude which ensures a minimum height of 1000ft above the tallest obstacle on the highest terrain along the planned route. The Lal Lal Wind Farm is located sufficiently distant from Ballarat and Avalon aerodromes such that, at night, it does not impact on an

aircraft in the process of descending to land or climbing after take-off. Obstacle lighting, therefore, is not mitigating a risk and is not required.

An aircraft flying in accordance with visual flight rules is required to remain in visual meteorological conditions. If there are none or marginal visual meteorological conditions, such as smoke or fog around the Lal Lal Wind Farm the pilot in command is required to turn away to maintain the required visibility and clearance from cloud. Obstacle lighting, therefore, is not mitigating a risk and is not required.

There are no Aviation Safety regulations requiring aviation obstacle lighting on tall structures beyond the Obstacle Limitation Surface of a regulated aerodrome. The Civil Aviation Safety Authority may only recommend, not mandate, obstacle lighting on tall structures beyond the obstacle limitation surface of a regulated aerodrome. There are no Civil Aviation Safety Regulations or advisory publications concerning the obstacle lighting of wind farms. Likewise, there are no Civil Aviation Safety Regulations or advisory publications regarding the use of Aircraft Detection Lighting Systems.

The Lal Lal Wind Farm is not sited within the Obstacle Limitation Surface of any regulated aerodrome and is assessed as a LOW risk to aviation. Therefore, it is not a hazard to aircraft safety.'

The above-mentioned points are also supported by the Regulations and Requirements report prepared by Chiron Aviation Consultants.

The above-mentioned points are based on a review of:

- Australian AIP and CASA documents to identify relevant physical and operational aviation issues that may impact on the requirement for lighting of the wind farm;
- Current topographical maps;
- Interviews with key stakeholders such as local operators, recreation aviation groups and State Government police, ambulance and fire services to ascertain the extent of local aviation activity;
- The nature of any impacts associated with general aviation training, recreational and sport aviation activities, low flying activities, highly trafficked VFR routes and emergency services; and
- Consequences of the potential influence of topography and poor weather.

Therefore, the report is considered to adequately address all points relating to aviation safety lighting.

The Wind Farm guidelines include measures that are suggested to reduce the visual impacts of wind energy facilities includes limiting night lighting to that required for safe operation of a wind energy facility and for aviation safety.

Based on the reports prepared by Chiron Aviation Consultants it is considered appropriate to remove the aviation lighting as the wind farm does not pose a safety threat.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

From a planning perspective, local policy, and the Wind Farm guidelines, there is mention of consideration of the visual impact of a development including the impact of the quantity and characteristics of lighting such as aviation obstacle lighting (subject to CASA requirements and advice).

The community have lodged numerous complaints with Council regarding the visual impact of the current lighting on site. This demonstrates that the current lighting results in visual impact to the surrounding land owners and community. Because the lighting is not required for reasons of aircraft safety, it is submitted that it would be appropriate having regard to net community benefit to remove the lighting requirement so that the visual impact of the lighting can be removed.

We trust that this submission is to your satisfaction but please do not hesitate to contact Jon Brock on 0411 237 789 or jon.brock@erm.com, should you have any questions.

Yours sincerely,

Jon Brock

Senior Advisor

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**ADVERTISED
PLAN**