



# Clune Wind Farm

## Technical Appendix 12.1

### Agreed Reduced Lighting Scheme

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# 1 Introduction

- 1.1.1 This Technical Appendix contains details of the reduced lighting scheme for the Proposed Development, and acceptance from the CAA that the reduced lighting scheme is acceptable.

**Strategy and Policy Group  
Windfarm Policy**



[REDACTED]  
Senior Aviation Manager  
RES Group  
Beaufort Court, Egg Farm Lane  
Kings Langley  
WD4 8LR

25 July 2024  
Ref Windfarms / Clune

Dear [REDACTED]

**Proposed Obstacle Lighting Scheme for Clune Wind Farm**

Reference: Proposed Clune Wind Farm and obstacle lighting e-mail dated 15 July 2024

1. Thank you for the e-mail at reference, which discusses the proposed Clune Wind Farm in the Scottish Highlands, to the north-west of the Cairngorms National Park. The proposed wind farm consists of 26 turbines with tip heights of 200 m above ground level, which brings them within scope of the Air Navigation Order (ANO) Article 222 obstacle lighting requirements.
2. We recognise the intent to address concerns relating to adverse visual impacts of aviation lighting on non-aviation receptors while ensuring that the lighting installed on the turbines meets air safety requirements.
3. Therefore, under provisions given in the Air Navigation Order (ANO) Article 222 section 6, the CAA provides for the following variation:
  - Medium intensity steady red (2000 candela) lights on the nacelles of turbines T02, T05, T08, T10, T12, T15, T18, T19, T24 and T26;
  - a second 2000 candela light on the nacelles of the above turbines to act as an alternative in case of failure of the main light (note that both lights should not be lit at the same time);
  - the visible lights on these turbines to be capable of being dimmed to 10% of peak intensity when the visibility as measured at the wind farm exceeds 5km.
  - a scheme of infrared lighting to be agreed with the MoD (note that dimming permission is applicable only to visible lights, not infra-red lighting).

**Civil Aviation Authority**

2E Aviation House Beehive Ring Road Crawley West Sussex RH6 0YR [www.caa.co.uk](http://www.caa.co.uk)  
Telephone 0330 138 3166 [andy.wells@caa.co.uk](mailto:andy.wells@caa.co.uk)

4. Intermediate level 32 candela lights are not required to be fitted on the turbine towers.
5. We note the potential plan to implement an Aviation Detection Lighting System (ADLS) for the visible obstacle lights and would be happy to discuss this further.
6. If the proposed design of the wind farm changes (other than variations due to micro-siting etc.) this is likely to require a revision to this aviation obstacle lighting variation.
7. I attach a proposed condition in Appendix A that we would be content with to reflect the above.

Yours sincerely,



Manager Aviation and Wind Farm Policy

## Appendix A: Proposed Planning Condition for Clune Wind Farm

### ***Aviation Lighting***

Aviation lighting shall be installed in accordance with an Aviation Lighting Scheme, to be approved in writing by the Civil Aviation Authority.

For the avoidance of doubt the Aviation Lighting Scheme provides for:

- a) medium intensity steady red (2000 candela) lights installed on the nacelles of Turbines T02, T05, T08, T10, T12, T15, T18, T19, T24 and T26;
- b) a second 2000 candela light installed on the nacelles of the turbines stated above to act as alternates in the event of failure of the main light;
- c) the visible lighting being capable of being dimmed to 10% of peak intensity when visibility as measured at the Development exceeds 5km; and
- d) a scheme of infra-red lighting to be agreed with the Ministry of Defence (note that dimming permission is applicable only to visible lights, not infra-red lighting); and
- e) the selected light to include angle intensity reduction.

No later than the first, third and fifth anniversary of the date of First Commissioning and every five-year anniversary thereafter, the Company shall submit a written review of the Aviation Lighting Scheme to the Planning Authority. Each review shall include:

- a) an assessment of options available for the reduction in the number of visible lights installed on turbines and the time period when lights are visible;
- b) an assessment of the potential for installation of an Aircraft Detection Lighting System (ADLS), including a statement setting out the current and anticipated regulatory environment in relation to ADLS; and
- c) an assessment of whether, in the Company's view, it is reasonably practicable to install an ADLS at the Development.

The review may propose amendment of the Aviation Lighting Scheme. If a review assesses that it is reasonably practicable to install ADLS, such review shall also include the Company's proposals for installation of ADLS together with a proposed timetable for installation. Any proposed amendment shall be compliant with the then current aviation lighting requirements of the Civil Aviation Authority and the Ministry of Defence.

Any proposed amendment to the Aviation Lighting Scheme shall be subject to the written approval of the Planning Authority in consultation with the Civil Aviation Authority and the Ministry of Defence and shall thereafter be installed in accordance with the approved details.

The Aviation Lighting Scheme, or such alternative scheme as may be approved, shall thereafter be maintained throughout the operational life of the Development.

**Reason:** In the interests of aviation safety and to minimise landscape and visual impacts.