



Australian Government
Civil Aviation Safety Authority

Our reference: 03/5425-02

Mr Christian Spitzner
Synergy Wind Pty Ltd
PO Box 327
Balaclava
VIC 3183

5 September 2005

Dear Christian

I refer to your email correspondence regarding the proposed Yarram Wind Farm for Synergy Wind Pty Ltd, regarding an Aeronautical Study of the proposal.

The CASA guidelines for proposed and existing structures 110 metres or more above ground level (AGL) are contained in Civil Aviation Safety Regulation 1998 (CASR) Part 139.365, and are amplified in the Advisory Circular (AC) 139-08(0).

The Civil Aviation Act 1988 requires CASA, in exercising its powers and performing its functions, to regard the safety of air navigation as the most important consideration.

The Yarram Wind Farm is planned to have initially 5 wind turbines within a short distance of a point at S38.31.30 E146.35.00. We understand the turbines are planned to have a rotor tip height of up to 120 metres AGL (395ft AGL) and there is the possibility that you may increase the number of wind turbines up to 9.

Based on the information provided to CASA, the planned wind farm will be a hazard to the operations of aircraft due to the elevation of the turbine tips being above 110 metres AGL, and up to 120 metres AGL (395 ft AGL). Therefore a determination will be made in accordance with Part 139.370 of the CASR, that the proposed Yarram Wind Farm will be a hazard.

In accordance with that decision, and referring to the planned position on the site plans of the initial five wind turbines, appropriate obstacle lighting will need to be provided on the top of the turbine housing of the following three wind turbines:

- The most northern turbine
- The most southern turbine
- The most eastern turbine

The following CASA website address will provide you with information on the obstacle lighting required. Please note that the CASA preference is for simultaneously flashing red obstacle lights.

<http://casa.gov.au/rules/1998casr/139/139m09.pdf>

Under the CASA standards, there is no requirement to mark the turbines or the blades in standard obstacle colours.

The following points are relevant to our decision.

- CASA believes that if a proponent wishes to project an obstacle into navigable airspace, the owner of the obstacle has a duty of care to minimise the hazard to aircraft. The provision of obstacle marking is a way to fulfil that duty of care.
- Upon completion of the project, a flight test may be carried out by CASA to determine the adequacy of the lighting provisions to ensure the safety of air navigation is not compromised. This may necessitate the provision of more lights on other turbines in the cluster or it may conclude fewer lights are required within the cluster due to their conspicuosity.

We understand that there may be some environmental resistance to flashing red obstacle lighting. We also understand that some currently available obstacle lighting is designed to minimise lighting emissions below the horizontal. Alternatively some form of shielding to prevent light discharge below the horizontal may be necessary.

CASA will need to be advised as to who will be the owners of the wind farm after completion, for any future contact if and when required and also so that a formal notice of CASA's hazard determination can be forwarded to the developers and owners of the wind farm.

Please advise this office if the proposed wind farm is to proceed so that details can be included on the appropriate aeronautical charts.

Yours sincerely



Matthew Anderson
Acting Manager
Moorebbin Field Office