



NAVIGABLE AIRSPACE DETERMINATION: NZ Windfarms Limited – Extension to Te Rere Hau Wind Farm, 368 Forest Hill Road, Palmerston North.

PURSUANT TO Rule Part 77 of the Civil Aviation Rules I, Sean Turangarau Kere Rogers, Manager Aeronautical Services, having received from NZ Windfarms Limited, notification of intention to erect a series of 9 additional wind farm turbines at a site located at 368 Forest Hill Road, Palmerston North, reviewed an aeronautical study in consultation with such persons, representatives and organisations as I considered appropriate.

After completing the aeronautical study, I am satisfied that the proposed action, if executed, could constitute a hazard in navigable airspace.

THEREFORE I HEREBY ISSUE a

DETERMINATION OF HAZARD IN NAVIGABLE AIRSPACE

in respect of the above notification.

The following conditions are specific to this Determination:

1. The wind turbines are to be lit with appropriate obstacle lights in accordance with a CAA agreed lighting plan meeting the applicable aspects of the CAA Lighting and Marking of Wind Farm Turbines Policy, International Civil Aviation Organisation Annex 14 and Civil Aviation Rule Part 77, Appendix B as follows:
 - a. The highest turbines, those at the extremities of the site, and other turbines around the perimeter of the site will be lit to enable pilots to identify the extent of the windfarm. The spacing between lit turbines will not exceed 900m along the perimeter and the flashing should be coordinated between all the lights in the wind farm so that they flash simultaneously; and
 - b. Lighting will be medium intensity red as defined in Rule Part 77, Appendix B10, i.e. an effective intensity of not less than 1600 candela of red light and will flash between 20 and 60 times per minute; and
 - c. For turbines exceeding 150m AGL, a secondary back up light is required plus an array of 3 intermediate low intensity lights installed at a distance of half the nacelle height; and
 - d. The obstruction lights shall be located on or above the top of the nacelle, shall be visible from all directions, and may be shielded below the horizontal plane; and

- e The painting of turbines with obstruction marking will not be required. The rotor blades, nacelle and upper 2/3 of the supporting mast of wind turbines should be painted white, or a similar industry accepted colour, so that they are visible to aviators during hours of daylight.
2. When plans are finalised, NZ Windfarms Limited is to provide exact details of the wind turbine locations and proposed compliant lighting to CAA (Quote 23/77/63 [aeronautical.services@caa.govt.nz](mailto: aeronautical.services@caa.govt.nz)) for review and acceptance; and
 3. Prior to construction, NZ Windfarms Limited is to provide details of the wind turbine locations and erection dates to Aeropath - Quote 23/77/63 ([Part77@aeropath.aero](mailto: Part77@aeropath.aero)) and request the necessary changes are made to the instrument flight procedures (IFP), as assessed, and the location is marked on the appropriate aeronautical charts and obstacle data base; and
 4. Upon receipt of the information in (3) above, Aeropath is to amend the AIP as assessed for this proposal and the new turbines are plotted and recorded in the appropriate areas; and
 5. NZ Windfarms Limited is to inform CAA – Quote 23/77/63 ([Aeronautical.services@caa.govt.nz](mailto: Aeronautical.services@caa.govt.nz)) when wind turbine construction commences and once the construction of all turbines with associated compliant lighting/markings is completed; and
 6. Prior to the wind farm construction, NZ Windfarms Limited are to promulgate with Aeropath – Quote 23/77/63 ([Part77@aeropath.aero](mailto: Part77@aeropath.aero)) an appropriate NOTAM and/or AIP supplement for situational awareness of aviators and are to comply with the following temporary lighting solutions:
 - a. A red medium intensity light is to be installed and operational on any attendant crane until such time the permanent light is operational within the area of the turbine (i.e. either on this turbine or an adjacent turbine within 900m – 1040m); **or**
 - b. A temporary light is to be installed on the turbine nacelle until such time as a permanent light is operational within the area of the turbine.

This Determination of Hazard shall become final on 29th September 2023 unless a petition for review is received by the Director prior to that date.

This Determination of Hazard shall not expire but may be revoked, in writing, by the Director.

Dated at Wellington this 1st day of September 2022.


Sean Turangarau Kere Rogers
Manager Aeronautical Services