Aviation Review

Burngullow Wind Farm

Report

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Introduction

1. Clean Earth Energy Limited propose to erect a single wind turbine in the vicinity of Cornwall Airport, Newquay. The proposed site, known as Burngullow at E198378; N054117, is situated on the final approach path for Runway 30 at 8.1nm from the Aerodrome Reference Point (ARP). The turbine has a proposed tip height of 135m above ground level.

2. Clean Earth has previously engaged with Newquay Airport when investigations were started to indicate the suitability of further turbine development in the China Clay Area. These initial discussions proposed multiple wind turbines in the area, which included the Burngullow site. In response to initial concerns from the Newquay Airport Air Traffic Control (ATC) team regarding the proposed turbine locations, and in a spirit of collaborative data gathering, Clean Earth commissioned third party aviation consultants, including Cyrrus Limited, to advise and conduct assessments that considered comments raised by the Newquay Airport.

3. Following these exercises, Clean Earth and Newquay Airport concluded the technical discussions in March 2020 with an acceptance from Newquay Airport on the suitability of multiple turbine developments within the China Clay Area – subject to turbine height constraints and with Clean Earth's commitment to update the Airport ATC team if any aspect of future proposals significantly change and therefore differ from the locations that have been agreed upon (for which the reports had been based).

4. Clean Earth is now proposing to add the additional Burngullow turbine within the Clay Area, in the location of which has been considered within all aviation reports and discussed with the Newquay Airport aviation team.

5. Straten CSL is the lead aviation consultant for Clean Earth Energy. The Cyrrus assessments have been reviewed against the proposed site and wind turbine locations. The purpose of the review was to validate the previous reports against the current proposal.

6. The UK Civil Aviation Authority requires that where there is a potential for an obstacle to impact an airport's operations and the safety of flying aircraft, an aeronautical study be conducted. Cyrrus conducted all assessments and the Aeronautical Study in line with UK Civil Aviation Authority (CAA) regulations, the European Aviation Safety Agency (EASA) and the International Civil Aviation Organisation (ICAO).

7. Straten CSL also confirms that Cyrrus is an Approved Procedure Design Organisation and is listed on the Civil Aviation Authority website[1] as an approved organisation for IFP design.

8. Figure 1 provides an overview of the Burngullow wind turbine site in relation to Newquay Airport. The distance from the Airport reference Point (ARP), as defined in the UK Aeronautical Information Publication (AIP) is 8.1nm (15km). The Airport Radar site is located further away at 8.6nm (15.9km) from the site.

[1] https://www.caa.co.uk/Commercial-industry/Airports/Safety/Instrument-flight-procedures/Approved-procedure-design-organisations/

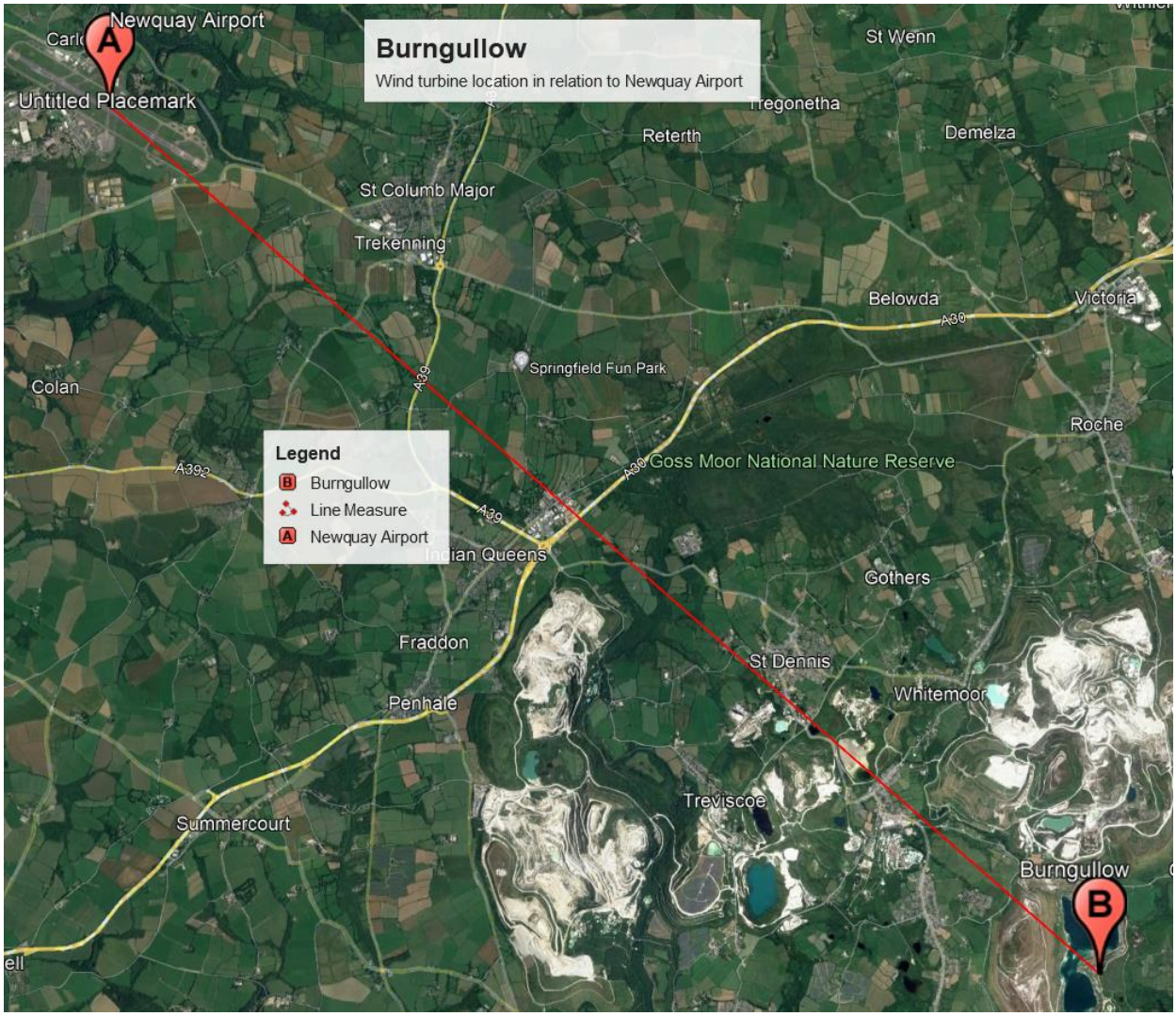

Figure 1: Site Location in relation to Newquay Airport

Summary

9. Clean Earth arranged for a series of Aviation Assessments and an Aeronautical Study to consider the potential impact the proposed wind turbines may have to the Airport, Airspace and aircraft operations, these included:

    - Two Instrument Flight Procedure (IFP) Safeguarding Assessments:
        - Reference: CL-5436-RPT-002 V1.1, dated 26 November 2019; and
        - Reference: CL-5456-RPT-002 V1.0, dated 20 January 2020.
    - Aeronautical Study:
        - Reference: CL5456-RPT-003 V2.2, dated 21 February 2020.
    - Technical Safeguarding Assessment:
        - Reference: CL-5456-RPT-004 V1.2, dated 19 March 2020.

10. Further review was conducted by Straten CSL to re-assess previous report and assessments.

Newquay Cornwall Airport

11. Newquay Cornwall Airport is the only airport that could be impacted by the proposed site. The Airport is licensed by the UK Civil Aviation Authority (CAA). The airport designation is EGHQ, which is the four-letter international code for Newquay Cornwall Airport and as listed in the UK Aeronautical Information Publication (AIP).

12. The Airport identified that wind turbines in the proposed site penetrated the Obstacle Limitation Surfaces (OLS), as a result an IFP Safeguarding Assessment was conducted. This assessment satisfies the requirements of the UK CAA CAP168 with respect to Certification of Aerodromes to consider the impact to safety to airborne aircraft.

13. An IFP Safeguarding Assessment determined that wind turbines, in the identified site, should remain below an elevation of 401m (above mean sea level) to not impact the IFPs. The Burngullow Wind Turbine is at 351m and therefore there will be no impact.

14. An Aeronautical Study was conducted to determine the potential impact to aircraft operations using the airspace in the vicinity of site and the Airport. This study focussed on aircraft flying under Instrument Flight Rules (IFR), specifically Commercial Air Transport (CAT) aircraft against Visual Flight Rules (VFR) crossing aircraft.

15. A Technical Safeguarding Assessment was conducted to determine the potential impact of the site could have on the Airport's Instrument Landing System (ILS). The assessment determined no impact.

Other Infrastructure

16. There are no impacts to Navigational Aids, radio stations for air-ground-air communications, to any NATS infrastructure or to any UK Met Office weather radar.

Conclusion

17. The assessments undertaken in support of this application categorically show the proposed Burngullow Wind Turbine located on the proposed site will have no adverse safety impact on the operation or functioning of aviation interests in the area and Newquay Cornwall Airport.