

# **A joint statement from Blackpool, Walney and Warton Aerodromes on VHF radio communications**

## **Background**

The issue of impacts on Very High Frequency (VHF) radio communications utilised by aircraft has been raised by the Civil Aviation Authority (CAA) as a potential flight safety issue during the course of the examination of the application for development consent in respect of the Morecambe Offshore Wind Farm Generation Assets Project.

The Applicant has commissioned assessments undertaken by National Air Traffic Services (NATS) to plot the risk of communication blackspots or poor radio telephony (r/t) at the request of Blackpool, Walney and Warton Aerodromes. The reports confirming the findings of the aforesaid assessments were delivered to the respective Aerodromes in mid-March 2025.

The issue was raised by the CAA on the back of a proliferation of additional turbines near to Prestwick Airport in Scotland. It was discovered that traffic passing an area that previously had no communication issues at low level was now subject to areas of poor radio signal.

The concern of the three Aerodromes in respect of the present Project is that the substantial increase in proposed turbines in the Irish Sea (having regard not only to the Project alone but also the concurrent promotion of the Morecambe, Mona, Morgan and Mooir Vannin Offshore Wind Farms) could cause similar potential blackspots for aircraft at low level, whether that is over, inside or behind the array(s) at low level.

## **NATS VHF Assessments**

Although the Applicant has sought to identify any impacts through the NATS reports, the Aerodromes are not satisfied that these assessments are comprehensive or fit for purpose. The Aerodromes' concerns in respect of this are set out below.

The NATS reports are based on smaller turbines than those proposed as part of the Project, as NATS do not have the specific modelling tool required for these turbines to use as a baseline, as recommended in the CAA guidelines (CAP 670 Part B, Section 4: Appendix A to GEN 02: Methodology for the Prediction of Wind Turbine Interference Impact on Aeronautical Radio Station Infrastructure). Due to the processing power required to map the potential obstacles, only a partial modelling of the proposed wind farm was undertaken (three turbines versus the (up to) thirty five proposed), and some of the CAA required modelling was not undertaken. As a result, the Aerodromes consider that the NATS reports are lacking in a significant level of detail and do not give a true indication of the impacts on VHF radio communications arising from the Project.

Following a request for clarification from the Aerodromes, the NATS engineer who undertook the work sent an explanatory email as to why the reports are lacking in the regulatory requirement information. This email is attached to this statement in Annex A. The main issues were that the current guidelines for modelling the turbines do not match the height that the Applicant is proposing and NATS did not have the spare computing capacity to fully model the effects that the turbines will generate on VHF radio communications.

## **Impact on the Aerodromes**

The construction and operation of the Project (as well as the cumulative effect of the other projects mentioned above) will result in degradation to VHF radio communications to aircraft within the

vicinity of the proposed windfarm site, where currently there are no r/t issues. The proposed windfarm has the potential to impact all three Aerodromes' VHF radio communications.

The Project is directly beneath the direct arrival approach and safeguarded areas for runway 10 approaches at Blackpool Aerodrome. Any potential degradation in this area would be a risk to flight safety – particularly given the offshore rigs helicopter movements that operate in the vicinity. Communications are vital in providing a safe service and alerting service in the event that an aircraft has an emergency.

For these reasons, the Aerodromes consider it appropriate that their concerns regarding the shortcomings of the NATS reports, and NATS' response to the concerns raised, are put before the ExA.

### **Mitigation for VHF impacts**

It is agreed between the Aerodromes that the adverse impact to VHF radio communications requires mitigation. The CAA has advised that **only partial** mitigation is available (as the r/t cannot have a repeater or similar located in the Irish Sea, any mitigation can only be classed as partial rather than full mitigation, as communications will still be disrupted) and would need to be implemented, with this being an appropriate Secondary Surveillance Radar (SSR) feed with Mode-S ADSB injection to comply with the CAA Future Airspace Modernisation programme, along with the associated infrastructure that would be configured as a Flight Information Display (FID). This would enable the Air Traffic Services (ATS) staff at the Aerodromes to see that an aircraft is still airborne if r/t is lost, offering an alternative means of monitoring aircraft.

An SSR feed would also enable ATS to identify if aircraft are transponding an emergency code in the event of r/t issues, enabling ATS Units to provide an alerting service and initiate emergency actions as they are required to in accordance with Regulation (EU) No. 923/2012 SERA.10001 (as is detailed in CAA CAP493 Manual of Air Traffic Services). An alerting service is provided to set in motion search and rescue aid for aircraft in an emergency and is provided by all three Aerodromes.

Blackpool and Warton Aerodromes currently, and Walney Aerodrome in the near future, have a requirement to guard and monitor 121.5MHz (Distress & Diversion frequency) down to circuit altitude 1000ft. Should an Air Traffic Services Unit closer to an emergency event be better placed to handle the situation, Distress & Diversion (based at NATS Swanwick, Hampshire) may elect to delegate Operational Control to the nearest unit. In such circumstances D&D would retain Executive Control.

The CAA has already checked and verified that the SSR feed is both suitable and appropriate internally within the organisation, and has confirmed that this is the case to partially mitigate the degradation in r/t.

Warton Aerodrome currently has an SSR feed and is supportive of a position whereby the system configured as a FID would provide a partial mitigation in respect of the adverse impact on VHF radio communications (as well as DF and UHF radio communications in the case of Warton) to aircraft.

### **Conclusion**

The Project alone, and cumulatively with the additional turbines to be erected as part of the Mona, Morgan and Mooir Vannin developments, will have an operational impact on VHF and UHF radio communications at Blackpool, Walney and Warton Aerodromes. The only partial mitigation

available is the introduction of an SSR FID system. No full mitigation solution is understood to be available.

The significance of the Aerodromes has been made plain as part of the current Examination, with both Walney and Warton Aerodromes being categorised as critical national infrastructure projects for HM Government. Blackpool Airport is the primary diversion aerodrome in the event of either Walney or Warton Aerodrome not being available for operational or weather-related reasons. Accordingly, securing appropriate mitigation to address any loss of radio communications over the Irish Sea due to the degradation of r/t is imperative prior to any above sea level construction taking place, its importance cannot be overstated.

## Annex A:

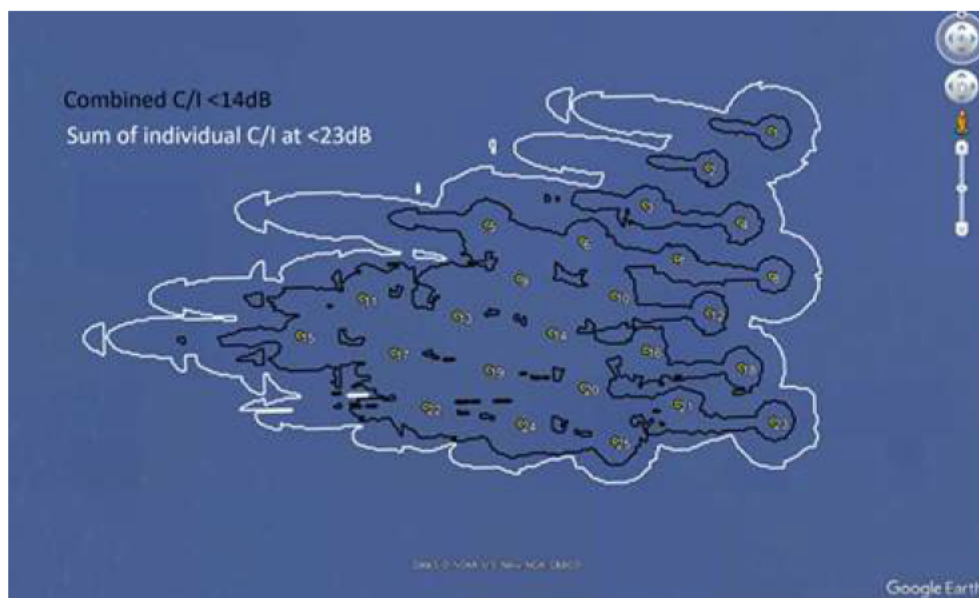
From: [REDACTED]@nats.co.uk>  
Sent: 02 April 2025 08:17  
To: Coleman Aviation <[REDACTED]@nats.co.uk>; [REDACTED]@nats.co.uk>  
Cc: [REDACTED]@flotationenergy.com>  
Subject: RE: VHF radio communications assessment - Blackpool Airport

[REDACTED]

Apologies I should have been clearer. I am aware that CAP670 calls for single turbine checks at <23dB as well as a combined turbine check at <14dB.

And whilst I was keen to avoid modelling every turbine at every altitude for every radio as would have been very computationally intensive and would have added weeks of delay to the delivery of the results (particularly as everyone is aware we've been asked to look at 4 airfields and 4 large windfarms simultaneously) based on what remains a representative rather than definitive set of turbine locations.

This however was not the only reason that I skipped over the combined turbine analysis in favour of treating each turbine as a stand-alone "worst single turbine interferer" at <23dB; It is the case for turbine as far apart as these that the individual impact dominates (see below the 500ft case and attached to show the trend gets more pronounced as altitude increases) and therefore it is erring on the side of caution when checking 169 turbines against 12 different radio stations to assume each turbine has their own volume of interference based on the worst case CAP670 criteria and select a few representative samples for analysis.



If Blackpool assume that radio performance will be sub-optimal within the volumes identified in the report (assuming that every turbine has a similar volume around it, which would merge at 500ft and 1000ft to encompass the complete farm, breaking down into pockets of interference at high altitudes)

they should hopefully be able to provide a statement as to how operationally significant this would be. If they can live with this worst case then we can put this to bed, if not we can look at some additional modelling for specific areas and radios before moving on to discuss mitigation.

Happy to have a chat with them if above is insufficient.

Regards,

