

## **Proposed Changes to the Airspace above the Neart na Gaoithe and Inch Cape Offshore Wind Farms – The Introduction of a Transponder Mandatory Zone (TMZ).**

### **Frequently Asked Questions**

#### **What are the proposed changes?**

Neart na Gaoithe Offshore Wind Limited (NNGOWL) and Inch Cape Offshore Limited (ICOL) wish to respectively develop the Neart na Gaoithe and Inch Cape Wind Farms, referred to as Neart na Gaoithe (NNG) and Inch Cape (IC). The Development Areas lie off the east coast of Scotland with NNG lying to the south of IC by approximately 8 kilometres (km). NNG will be located in the Outer Firth of Forth; 15.5 km from Fife Ness, with IC located approximately 15 km off the Angus coastline.

The overall aim of the NNG and IC Offshore Airspace Change Process is to maintain the effectiveness and efficiency of the Class G airspace overhead and adjacent to the development areas and mitigate the impacts of the Wind Turbine Generators (WTGs) on Leuchars Aerodrome flight operations and Air Traffic Service (ATS) operations.

The establishment of the TMZ is one element of a two-part Mitigation Package aimed at negating the impact of the clutter from the NNG and IC WTGs upon the Leuchars Primary Surveillance Radar (PSR) system. The two parts are:

- Element 1: Establishment of a TMZ.
- Element 2: Range Azimuth Gating (RAG) blanking of the Leuchars PSR (suppression of PSR returns within the RAG).

Full details of the need for the change, the changes proposed and any foreseen impacts are detailed in full in the consultation document available on this website. NNGOWL and ICOL invites anyone with an interest in this matter to read the consultation document and provide their feedback regarding the Airspace Change Proposal.

#### **Why are these changes needed?**

The presence of offshore WTGs at NNG and IC would be detectable by the Leuchars PSR and would have the potential to cause false radar returns to be displayed to Air Traffic Control (ATC). This radar “clutter” could obscure primary returns from actual aircraft and could interfere with radar tracking. This has the potential to affect an air traffic controller’s ability to identify primary radar aircraft returns; this increases the risk of the controller not detecting a conflict between aircraft and therefore requires a change to the arrangements and procedures employed by the ATS operations in the immediate airspace surrounding the Development Areas. Large numbers of WTGs can potentially lead to saturation of the radar processing systems. For these reasons, a mitigation solution was included as a requirement of the consents granted by the Scottish Ministers.

## What is a TMZ?

A TMZ is defined by the Civil Aviation Authority (CAA) as a volume of airspace where aircraft wishing to enter or fly within the defined area, will be required to have and operate an on-board transponder system able to be detected by Secondary Surveillance Radar (SSR) equipment, or make two-way radio contact with the TMZ controlling authority, in this case Leuchars ATC prior to TMZ entry.

The concept of Transponder Mandatory airspace, in the form of a TMZ, has been developed by the CAA to cater for overriding safety reasons where the airspace classification would not normally require aircraft to carry a transponder. The SSR equipment must include a pressure altitude reporting transponder capable of operating in Mode A and Mode C and have the capability and functionality prescribed for Mode S Elementary Surveillance.

The objective of establishing the TMZ is not to prevent aircraft from operating near the NNG and IC WTGs, but to require that they operate a transponder or are in two-way radio contact with Leuchars ATC when doing so.

## Will there be any changes to the current airspace classification?

No. The classification of the airspace within the proposed TMZ will remain unchanged, Class G (uncontrolled airspace\*) in this case. Hence, the ATS available within and around the TMZ would continue to be applied according to Air Traffic Service Outside Controlled Airspace (ATSOCAS) through the assured provision of SSR data to ATC.

\* The UK CAA categorises volumes of the UK skies to determine the governing rules and requirements placed on pilots and air traffic controllers in a particular region. At the highest level, the UK skies are divided into both Controlled Airspace (CAS) and Uncontrolled Airspace. Every major UK airport has a volume of surrounding airspace that it regulates to ensure the safe and efficient flight of aircraft; this is known as Controlled Airspace. The airspace outside of these defined volumes where the airport or no other ATS provider has jurisdiction is known as Uncontrolled Airspace.

## What will be the geographical extent of the proposed TMZ?

Non-transponder equipped aircraft might inadvertently enter the TMZ, and once in this area, the aircraft radar return would not be presented to the radar controller, and any opportunity to provide separation from other (transponding) aircraft in the area would be lost. Thus, it is concluded that an additional volume of airspace (referred to as a 'buffer zone') should be added to the surface footprint of the NNG and IC Offshore WTGs themselves to cater for navigational error, allowing ATC the capability to spot a potential infringement as the aircraft approaches the airspace.

It is proposed that a 2 Nautical Mile (NM) buffer zone (horizontal extent) be established on the boundary edges around the development areas.

The TMZ is proposed to extend from sea level up to Flight Level (FL) 100 (approximately 10,000 ft), since mandatory transponder carriage above FL 100 is already provisioned.

## Will this make the skies safer?

Yes. The proposed changes will ensure that current flight safety levels are maintained.

## What will be the environmental impact of the proposal?

Overall, it is anticipated that the environmental impact of this TMZ will be neutral within the three major categories of noise, fuel burn and local air quality as a result of the airspace change.

### Noise impact

It is expected that the noise impact immediately after implementation is not likely to be significantly different from the pre-implementation situation.

### Aircraft emissions

It is recognised that aircraft contribute to carbon dioxide (CO<sub>2</sub>) emissions and this has an impact on climate change. A responsible approach to airspace planning is to balance the competing demands and ensure that the most direct routes possible are used with optimal aircraft performance as this will minimise fuel burn and emissions and therefore reduce the impact upon climate change. This airspace proposal ensures that efficient routing of aircraft is sustained.

### Local air quality

Local air quality at ground level remains largely unaffected by aircraft emissions that take place above 3,000 ft above ground level (agl), because dispersion reduces concentration levels for these emissions. Consequently, it is not anticipated that Air Quality Standards will be breached.

## How will the proposal affect me?

The introduction of the proposed change to the airspace over the NNG and IC Development Areas lies offshore and there are no changes to the way aircraft operate over land. There are no foreseen impacts on the residents of neighbouring coastal districts.

The consultation document available on this website contains information from which aviation consultees, organisations, statutory bodies and individuals, including General Aviation pilots and local residents, can gain an understanding of the proposal, how it will affect them and how they are able to provide informed feedback. NNGOWL and ICOL wish to make the stakeholders aware of the changes and invite you to read the consultation document.

If after reading the consultation document you require further information, you can contact us using the details provided in the consultation document or at:

**Postal Address:** Osprey CSL (NNG and IC Consultation), The Forge, London Road, Bentley, Hampshire, GU10 5HY

## How can I make my opinion heard?

It is essential that all aviation stakeholders and local residents are consulted and have the opportunity to state their opinion; your views on this proposal are important to us. Members of the public are invited to contribute to the consultation as individuals if they so wish and should follow the guidance on consultation responses in section 2 of the consultation document. You can write to us using the contact information detailed below. The deadline for consultation is 7<sup>th</sup> September 2015 and to ensure everyone's opinion can be heard, NNGOWL and ICOL kindly ask you to respond in advance of this date.

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## Who will prepare the Airspace Change Proposal and who decides if the proposal is accepted?

The Airspace Change Proposal will be prepared by Osprey Consulting Services Limited (Osprey CSL) on behalf of NNGOWL and ICOL, the 'Sponsors' of the proposed change, as defined by the CAA.

This consultation is being conducted in accordance to UK Government aviation policy. NNGOWL and ICOL, as Sponsors, are responsible for conducting the consultation for the Airspace Change Proposal and any associated costs. However, the organisation that determines whether a change in airspace can take place is the CAA. The CAA requires the Sponsors, NNGOWL and ICOL, of the proposed airspace change to submit a Proposal which justifies its application, and demonstrates that all interested parties have had an opportunity to make their views known. The CAA is then required to decide on the merits of the application for the airspace change for the NNG and IC Offshore Wind Farms.

NNGOWL and ICOL launched the formal consultation, for the introduction of a TMZ over the Development Areas on 15<sup>th</sup> June 2015. This consultation will run until 7<sup>th</sup> September 2015.

## Where can I find additional information?

Details of the NNG and IC Airspace Change Proposal will be published on the NNGOWL and ICOL websites throughout the proposal process.

In due course, an executive summary of the formal Airspace Change Proposal will be available on the UK CAA website ([www.caa.co.uk](http://www.caa.co.uk)).

Additional background information regarding UK airspace and regulatory requirements for an airspace change can be found in documents provided on the CAA website. These documents include:

CAA Civil Air Publication (CAP) 724: *The Airspace Charter* ([www.caa.co.uk/cap724](http://www.caa.co.uk/cap724))

CAA CAP 725: *CAA Guidance on the Application of the Airspace Change Process* ([www.caa.co.uk/cap725](http://www.caa.co.uk/cap725))