

## Aerodrome Safeguarding

### Alert Notice 3

July 2024



## On-shore Wind Turbines and Aviation

In July 2024, the UK Government removed the ban on onshore wind in England and committed to doubling onshore wind energy by 2030. Wind farms have the potential to cause a variety of effects upon aviation. This alert aims to raise awareness amongst aerodrome safeguarders to potentially adverse effects that must be investigated and assessed during the consultation process.

It is important to note that the CAA provides supplementary guidance within CAA Publication 'CAP 764: CAA Policy and Guidelines on Wind Turbines', available at [www.caa.co.uk](http://www.caa.co.uk).

### Aerodrome Safeguarding maps

Aerodromes can submit aerodrome safeguarding maps to local planning authorities (LPAs) within the vicinity of their aerodromes to outline the areas where they require to be consulted on developments. We recommend that within the aerodrome safeguarding map or (because the land areas are often much larger) as a standalone map, wind turbine notification areas are established with the relevant LPAs.

### Safety Considerations

As with all development proposals, wind turbines must be assessed in relation to Aerodrome Design, Air Traffic Services (ATS) and Aircraft Operations.

- Aerodrome Design – safeguarding of the environment and any impact upon:
  - The Obstacle Limitation Surfaces (OLS)
  - Instrument Flight Procedure (IFP) surfaces
  - Airspace management
  - Marking/lighting of the obstacle environment
  - Operation of tall equipment for turbine installation
  - Construction management e.g. dust and smoke.
- ATS – it is of critical importance that the development of a wind farm does not significantly hinder the provision of air traffic services:

- Generation of unwanted returns on PSR
- Potential adverse effects on CNS equipment
- Aircraft Operations – A pilot's ability to safely navigate the airspace around an aerodrome is paramount. A pilot is required to look for other aircraft and obstructions on the ground, as well as navigate towards a runway or reference points. This applies to both pilots of fixed wing aircraft and helicopters in the air, and sometimes on the ground. The potential issues that should be considered are:
  - Pilots on approach
  - Pilots in a visual circuit
  - Pilots on the ground (departing and taxiing aircraft)
  - Obstacle hazards for low flying aircraft
  - Turbulence / Windshear
  - Helicopter routes
  - VFR Flight routes
  - Enroute obstacles
- Cumulative effects - whilst it may be possible to accept a single turbine at a specific location, cumulative effects of multiple turbines at that location may cause an unacceptable detrimental impact to aviation safety. Therefore, when assessing wind turbine proposals, it is important to consider any potential cumulative impact with existing/already approved turbines. Further guidance can be found within CAA Publication 'CAP 764: CAA Policy and Guidelines on Wind Turbines', paragraphs 2.45 to 2.50, available at [www.caa.co.uk](http://www.caa.co.uk).

## **Safety Assessment**

Where it is considered that a wind turbine or multiple wind turbines have the potential to adversely affect flight safety, the developer should provide the aerodrome with an aeronautical impact assessment which should include:

- An assessment of the impact of the proposal upon aviation safety in general
- An assessment of radar visibility and the details of any radar affected.
- An assessment of the impact upon Communications, Navigation and Surveillance equipment
- Consultation with ATC / NATS as appropriate to generate a Technical and Operational Assessment (TOPA)
- Consult with Aerodrome Procedure Design Organisation (APDO) to include an IFP impact assessment.
- An assessment of the impact upon conventional and area navigation (RNAV) routes
- Any cumulative impact of existing or other proposed wind turbine development

- Potential mitigation of any detrimental effects
- Obstacle lighting

Developers should apply the same principals for safety assurance for unlicensed aerodromes and airfields as those that are officially safeguarded. Aerodrome safeguarders are encouraged to work with developers to achieve robust analysis of the safety implications and explore potential mitigation. Should risk mitigation or agreement not be possible, the aerodrome operator should follow Local Planning Authority procedures and lodge an objection regarding the development under their statutory obligations.

Further CAST Safeguarding Information is available at <https://www.caa.co.uk/combined-aerodrome-safeguarding-team-cast/>.