

Offshore Electricity Generation Renewable Energy Installations



All can have an impact on our freedom of navigation.

Effects of Wind-Farms on Electronic Aids to Navigation

In the summer of 2004 the MCA and QinetiQ conducted trials at the North Hoyle farm, (off coast of North Wales), to determine what effects the wind-farm structures would have on VHF radio, shore based and shipborne radar, GPS & AIS.

The results showed that VHF radio, GPS & AIS were unaffected but multiple echoes and side lobe echoes were produced on the displays of both shore based radar (VTS) and shipborne radar. Furthermore relatively small targets within the farm could not be detected unless they were more than 300 m from any turbine tower.

For high definition shipborne radar these effects were observed at a range of 5 nautical miles from the farm and at 1.5 nautical miles there was serious degradation. The effects could be reduced by reducing the set gain; which of course reduces the chances of detecting small targets!

The RYA has made strong representation that this is not a solution because of the risk for recreational and other small craft.

Further trials have been conducted by Marico Marine on the effects on ships radars which confirm the earlier results, that whilst small targets can be detected within a farm a **degree of operator skill is required** and that **small target echoes can be swamped by the returns from the wind farm towers.**

Sailing Areas and Routes

In 2003 and early 2004 an exercise was carried out by the RYA, in conjunction with the CA, to establish the sailing/racing areas and cruising routes in the three Strategic Areas (North West, Greater Wash and Thames Estuary) in relation to the proposed Wind Farm sites.

Consultation with Clubs and Associations in the Regions, produced first hand local knowledge. This was incorporated by Hamble into a definitive document, called “Sharing the Wind” with maps of the three areas together with a statement of the RYA’s position on wind farms and of our minimum requirements in those areas. These minimum requirements are:

- 22 metre air height between Mean High Water Springs and the rotor tip at its lowest point.
- Marking and Lighting to General Lighthouse Authority standards, (includes Trinity House), with local additions if considered necessary.
- No exclusion zones during the Operational Phase.
- Removal of all structures to below sea bed level on Decommissioning with a Financial Bond deposited to cover decommissioning in case the Operating Company fails.

The document was sent to all Authorities and Developers and is being quoted as a source reference in the Developers’ Environmental Statements.

The exercise was extended, with support from Trinity House, to produce a UK Atlas of Recreational Boating showing cruising routes, sailing and racing areas, for the entire UK Coast.

This has now been updated and is available online via www.rya.org and from the RYA in CD format.

Round 3 Wind Farms

On 10th December 2007 the Government announced their intention to licence up to 7,000 additional offshore wind generators designed to produce 25 Gigawatts of renewable electricity by 2020.

In January 2008 we commented on the Scoping Report for Round 3 Strategic Environmental Assessment (R3SEA) and expressed our serious concern that Navigation, Commercial Shipping and Recreational Boating were scarcely mentioned, and we stressed the essential need for these aspects to be addressed. We also discussed these omissions with the Chamber of Shipping.

On 4 June 2008 the Crown Estates (CE) published their initial view of prospective zones within which Round 3 Windfarm sites could be licensed.

Some are well offshore in water up to 60 m deep so the impact on recreational navigation may not be too serious as the spaces between sites could be quite large, making them easier to avoid.

The R3SEA was issued on 26th January 2009 and did include a significant discussion of the need to minimise the impact on Navigation both Commercial and Recreational. After detailed study the RYA formal response was made on 6th April 2009. In this we commented on some details and then made seven points that we would expect every site development to adhere to:

- Balance other UK marine resources, including recreation with offshore energy resources and ensure safety of navigation is maintained.
- Recognise that AIS is not representative of all vessels and that developers should use the RYA Coastal Atlas to identify recreational boating activity.
- Protect coastal navigation by maintaining a 12 nautical mile buffer from the coast.
- Recognise that recreational craft avoid shipping (coastal and international) routes so buffer areas between sites and shipping lanes should be planned for small craft.
- Maintain a minimum air draft of 22m above M HWS
- Not exclude recreational vessels from wind farm sites.
- Take specifications from Trinity House with regard to marking, lighting and visibility of offshore windfarm sites.