

NAVIGATIONAL HAZARDS - OFFSHORE WIND FARMS

EVIDENCE SUBMITTED BY SEA AND WATER

Introduction

Sea and Water is a pan-industry membership organisation which has the core aim of increasing the amount of freight carried by water in and around the UK and to mainland Europe. Its areas of interest include short-sea shipping (routes to Ireland, Scandinavia, mainland Europe, and into the Mediterranean Sea), coastal routes and inland waterways.

Sea and Water's membership comprises a broad cross-section of the industry and includes ship and barge operators, ports, track providers, agents, brokers, consultants, maritime lawyers and insurers. The siting of offshore wind farms is high on our members' agenda and this note represents a wide cross-section of their views.

Background

In today's climate it is almost impossible to question the validity of utilising any source of renewable energy but the sea must not be perceived as without commercial value. It is an important economic and social asset and a vital element in the development of the UK transport system. The sea is the "track" around the coast of the UK and is essential to all shipping, particularly coastal and short-sea vessels. Ships carry almost all the UK's imports and exports and interfering with the smooth operation of the UK's maritime industry has the potential to reduce the effectiveness and future development of this essential service.

In general, Sea and Water is in favour of seeking alternative and renewable sources of energy for the UK. But we are concerned that locating offshore

wind farms very close to – or even overlapping – established and regularly-used shipping routes will seriously affect the efficiency of ships and ports and could possibly endanger the lives of seafarers (and passengers).

The second round of proposals for the construction of offshore wind farms indicate that these structures will encroach upon a number of current shipping routes.

We understand that the Government seeks to use offshore wind farms to increase the proportion of the country's power being generated by renewable sources to as much as 8% by the end of this decade and possibly to as much as 30% by 2020. Wind farms occupy a considerable footprint and with the possibility of significant numbers of installations being built in the future, it is important that the views of the shipping industry be considered at the earliest opportunity.

Sea and Water would like to highlight the following:

Location of offshore wind farms

It should be understood that locating an offshore wind farm is not the same as locating an oil or gas installation. Oil and gas rigs have much smaller footprints than wind farms; they also have a finite life. Rigs are generally only in situ until the local fossil reserves run dry but wind farms, once built, are likely to stay in place for the foreseeable future. Unlike oil rigs, wind turbines operate in relatively shallow water making navigation around them more difficult, a problem exacerbated by the current proposals to locate the farms adjacent to busy shipping waters. This will inevitably mean more vessels navigating in areas restricted by a combination of shallow water and fixed structures leading to an increased risk of collision or grounding.

Current proposals suggest the siting of offshore wind farms around current shipping routes including those serving major ports in the Thames, Humber, Mersey, Wash and Morecombe Bay together with several transit routes. UK operators of small ships have voiced concern over these proposals which might include a blanket ban on all vessels sailing on inshore routes – particularly in the Humber and Wash areas. Small ships are more susceptible to bad weather and being forced offshore would compromise their safety. It would also increase their passage times and commercial costs.

Consultation with the shipping industry

We understand that in Denmark, where offshore wind farms have been operating for some time, applications to build farms are subject to a public

hearing process which gives all interested parties the opportunity to submit reasoned opinion well in advance of permission being granted.

So far, in the UK, it appears that the initial consultation process is limited to the DTI, Crown Estates and the wind farm developers - or their consultants. The secondary round of consultation is usually much wider but at that stage there is often little opportunity to make significant changes to installations which have the potential to impact adversely on the maritime industry.

Sea and Water would like to see the consultation process undertaken when stakeholders are in a position to view the complete picture. Those that were given the opportunity to comment on the location of the initial round of offshore wind farms did so without appreciating the effect the second phase would have on their earlier decisions. An example is the current site at Barrow. The first site for an offshore wind farm, proposed by Warwick Energy, required a small compromise to the shipping routes into and out of Barrow and Morecombe Bay. The minor compromise was accepted by the majority of stakeholders. When it came to consultation for the second phase of installations it was discovered that that shipping was allocated only a narrow corridor between the initial site and the proposed second site which also included a dog-leg and a possible obstruction of view (visual and radar) in an area with crossing traffic and contra flow. If industry had been consulted on both proposed locations at the same time it would probably have not accepted the initial wind farm site. And, more positively, it could have explained the difficulties and suggested alternative locations away from established shipping routes.

Safety

Shipping routes are usually selected for their directness and the shelter they give to vessels in bad weather. Interfering with these routes and forcing ships to operate in less sheltered waters will increase the risk to seafarers.

Offshore wind farms located between a port or harbour and a shipping lane will present a physical barrier making it difficult for a vessel to reach safety in the event of bad weather or a mechanical problem occurring whilst at sea.

Sea and Water believe that off shore wind farms, wherever they are located, present a potential hazard to safe navigation and that these structures should be marked visually and electronically. Consideration should also be given to providing a guard ship where these farms are located close to recognised shipping lanes – this is particularly important during construction, renewal and demolition phases when more vessels will be working in the vicinity of the farms and the risk of collision is likely to be even greater. It would be appropriate for these costs to be paid by the developer.

In addition to marking the wind farms, consideration should be given to implementing effective traffic management tools so that wind farms and ships

can operate safely together. These should conform to international standards and, again, be financed by the developer.

Although commercial shipping should keep clear of offshore installations and their safety zones vessels might stray accidentally into the vicinity through mechanical failure, bad weather or human error. Consideration should be given to how large rotating turbines might interfere with any rescue attempts by lifeboat or helicopter.

Effects on on-board electronic equipment

There is concern (following experience gained by vessels sailing close to offshore wind farms built under the first round) that vessels sailing in close proximity to a wind farm might suffer interference to their communications equipment or electronic navigation aids such as radar. Reliable communications equipment is vital to the safety and commercial operation of any vessel and navigation aids such as radar are used for collision avoidance as well as position fixing – particularly in periods of poor visibility. At this early stage we don't know the true effects an offshore wind farm will have on a ship's electronic equipment and in-depth studies have yet to be carried out. Sea and Water would want to see a comprehensive and independent study undertaken to understand the precise effects wind farms have on a vessel's electronic equipment. It is important that such a study is commissioned before permission is granted to developers to build any offshore installation.

It is understood that wind turbines paint a very large image on a radar plot and small ships sailing in waters adjacent to offshore wind farms fear that their own radar image will be obliterated making them invisible on radar. This has the potential to compromise the safety of these vessels, particularly in conditions of poor visibility.

Environmental Impact

It is generally acknowledged that shipping is an environmentally friendly form of transport when compared to other modes, particularly road. Ship owners operate their vessels at the most economical and fuel-efficient speed and send them on routes which use the least fuel. If vessels are forced to deviate from their usual routes to avoid wind farms they will burn more fossil fuel which will add to atmospheric pollution.

Conclusion

Sea and Water is concerned that locating offshore wind farms without proper, in-depth and early consultation with the shipping industry will affect the efficiency and safety of the shipping industry.

We would like to see:

- The introduction of a comprehensive and early consultation process.
- A study of recognised shipping lanes around the UK and an undertaking to protect these from development. This would eliminate industry concerns and should also help wind farm developers to plan with more certainty.
- A study of the effects offshore wind farms have on on-board electronic equipment.
- An undertaking that offshore wind farms will be appropriately marked and that due consideration will be given to all aspects of search and rescue in the vicinity of these installations.

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