



**Navigation Hazard Review
Workshop
Neart na Gaoithe
Minutes of Meeting
Appendix 17.5**

Prepared by: Anatec Limited
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Anatec Aberdeen Office
Address: 36 Upperkirkgate, Aberdeen, AB10 1BA, Scotland, UK
Tel: 01224 633711
Fax: 0709 2367306
Email: aberdeen@anatec.com

Cambridge Office
16 Ward Way, Witchford, Ely, Cambs, CB6 2JR, UK
01353 661200
0709 2367306
cambs@anatec.com

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1 Background

These minutes summarise the main points from the Neart na Gaoithe (NnG) offshore wind farm and associated export cable route Hazard Review Workshop held in Rosyth on 4th November 2011.

The purpose of the workshop was to identify and review the potential navigational hazards associated with the proposed NnG offshore wind farm development in the approaches to the Firth of Forth. The results form part of the Navigation Risk Assessment (NRA) for proposed offshore wind farm.

2 Attendees

The following table presents information on the navigational review workshop attendees.

Table 1 List of Attendees for NnG Navigation Hazard Review Workshop

Attendee	Position	Company/Organisation
Peter Douglas	Navigation Manager	Northern Lighthouse Board (NLB)
Pete Thomson	Offshore Energy Liaison Officer	Marine Coastguard Agency (MCA)
Ian Miller	Fife Sea Kayak Club	Scottish Canoe Association (SCA)
Rob Burgess	Lothian Sea Kayak Club	Scottish Canoe Association (SCA)
Bill Hughes	Manager of Fisherman's Mutual Association (FMA) (Pittenweem) Ltd	Kingdom Seafood/FMA Ltd
Sandy Ritchie	Fishing Industry Representative	Anglo-Scottish Fisherman's Federation
John Watt	Fishing Industry Advisor	Scottish Fisherman's Federation
Paul Jennings	Divisional Inspector (Scotland)	Royal National Lifeboat Institute (RNLI)
Paul Wibberly	Lifeboat Operations Manager & Forth Pilot	RNLI – Kinghorn Lifeboat
Ashley Nicholson	Assistant Marine Manager	Forth Ports Plc.
Leanne Fisher	Marine Officer	Forth Ports Plc.
Graham Russell	Planning and Environment Officer	Royal Yachting Association (Scotland)
Alison Duncan	Senior Consultant	EMU
Zoe Crutchfield	Offshore Environmental Manager	Mainstream Renewable Power
Ewan Walker	Environmental Developer	Mainstream Renewable Power
Ali MacDonald	Senior Risk Analyst	Anatec
Robert Jones	Risk Analyst	Anatec

3 Minutes

The key notes from the shipping and navigation hazard workshop for the Neart na Gaoithe wind farm and associated export cable route are summarised in the following sub-sections.

1.1 General

- Mainstream introduced the project with the offshore works consent application proposed for January/ February 2012, the cable (onshore works) proposed for March 2012 and wind farm construction planned in 2014/15.
- Anatec presented an overview of the baseline shipping data collected in the area as well as the key navigational features and issues in the region.
- It was noted by SCA that the proposed site looked clear of shipping. Mainstream confirmed that this was one of the reasons the site had been selected.
- SCA noted a need for continued correspondence between all stakeholders. Mainstream confirmed that throughout the 50 year lease, continued liaison and consultation would be carried out with stakeholders.
- MCA noted that there will be an increased level of vessel activity during the construction phase, with larger vessels and jack-ups operating in reduced sea room (possibly in all weathers) within the wind farm and this could be a risk in terms of work boat collisions.
- A question was raised regarding the additional personnel and wind farm traffic that would be present at NnG wind farm during operations.
- Mainstream stated that at present it was difficult to provide the exact number of personnel working on the wind farm development. For example, if Wind Cats were used then there could be as many as six persons at any one time at the wind farm (operations during favourable weather only).
- It was also noted that a mother/daughter craft set-up is also being considered, which would be situated at the wind farm site during all weather conditions.

1.2 Search and Rescue/Emergency Response

- Search and Rescue (SAR) helicopter access was discussed. MCA noted that trials have been carried out to extract people from the Nacelle, however in general SAR personnel will not enter the turbine.
- In addition, it is highly unlikely that a helicopter crew will attempt to enter a wind farm without visual aids (for example in poor visibility and low cloud) and this would result in the RNLI responding to an incident within the turbine array.
- Mainstream confirmed that in the event of an emergency response incident within the wind farm, measures would be present to allow for rotor shutdown. The time taken for this action would be a number of minutes (to be confirmed)
- The closure of the Forth Coastguard Marine Rescue Coordination Centre (MRCC) was discussed along with the possible implication on SAR with future offshore developments proposed off the Firth of Forth and Tay area.
- MCA highlighted that Aberdeen would take responsibility for the area and that the NnG wind farm would come under maritime SAR rescue rather than the coastal services.
- MCA also noted that an Emergency Response Co-operation Plan (ERCoP) will need to be formed to allow a coordinated response between the MCA and wind farm operator in the event of an emergency at the proposed wind farm.
- It was highlighted that tugs are on 24Hr stand-by (5-10 minute call out time with a 120 tonne bollard pull) at the Hound Point / Braefoot Bay marine terminals. These tugs can steam at approximately 13 knots with the possibility of responding to an incident at NnG offshore wind farm within approximately two hours.
- RNLI stated that All-weather Lifeboats (ALBs) can also tow small fishing and merchant vessels in the event of a possible collision with a wind turbine.
- It was emphasised that there is generally no option for smaller vessels to anchor in an emergency situation in the area of the proposed wind farm given the water depth adjacent to the NnG site is approximately 45m.
- RNLI noted that easterly or north easterly winds can result in a very large swell in this part of the North Sea and these sea conditions would make access to the wind farm difficult.
- RNLI drew attention to areas of poor VHF coverage (for example in an A2 Sea Area), where MF (Medium Frequency) radio frequencies are used and how wind turbines/structures can block these frequencies. However it was pointed out that the proposed wind farm is located in an area of relatively good VHF coverage (A1 sea area), which is typically 30nm from a coastal station.

1.3 Offshore Safety Zones

- A question was raised regarding exclusion zones around wind turbines and what impact these zones would have for recreational and fishing vessels. No significant impact was predicted on sailing and fishing vessels (i.e. vessels could pass through the site), however it was not expected that merchant vessels would pass through the wind farm.
- Mainstream noted that they did not foresee the use of exclusion/safety zones during the normal operational phases of the wind farm, although there may be a requirement for substations to have a safety zone.
- RYA noted that it is highly unlikely that sailing vessels would approach within 50m of turbines installed in the NnG site.
- Mainstream confirmed that mobile/phased 500m safety zones are likely to be used during the construction phase (for example around construction/installation vessels).
- RYA mentioned that recreational vessels are most likely to rely on electronic (plotter based) charts and these may not always be up-to-date (i.e. not showing the NnG site when it is built) due to charts not been updated regularly.
- Furthermore, it was noted that pseudo charts can be used (for example by foreign recreational sailors) and the cost of updating charts could result in recreational craft not carrying the latest charts for the area.

1.4 Fishing Related Issues

- The fishing industry representatives (FMA, Anglo-Scottish Fisherman's federations and SFF) highlighted potential issues with catching or snagging gear on subsea structures/cables. Information on cable routes are generally distributed via Kingfisher and FishSafe. There is variation in the number of updates on the different FishSafe systems carried by fisherman, so they may not be carrying the most recent data. Currently no data is provided on offshore renewables infrastructure.
- Sea angling activity was discussed and Arbroath was identified as the main location for charter vessels, with no angling centres known to be located in the East Neuk ports/harbours.
- In terms of the expected export cable route FMA suggested that this could be at higher risk of fishing gear interaction.
- Mainstream noted that the export cable will be protected where possible based on the sea bed soil type, with the inter-array cables more difficult to protect due to harder sea bed conditions within the proposed wind farm. In addition, the J-tube could be protected by rock dumping or mattresses.
- SFF stated the preference for rock dumping, as mattresses can be a hazard to smaller vessels with less power. In addition, a fishing vessel skipper will cut away snagged gear if they have no choice.
- FMA mentioned that in general fishing vessels in the area were of relatively low power/size and therefore could be significantly impacted in terms of fishing days lost due to repairing gear which was abandoned.
- FMA noted the potential implications of tugs pulling barges in the vicinity of Isle of May, as creels can be damaged and also that Notices to Mariners could be issued.
- SFF queried how often subsea cables would be surveyed. In response it was noted that initial surveys would be regular, but would become less frequent over time based on the findings of the initial surveys.
- SFF also stated that vessels may trawl through the wind farm site. In addition, seasonal squid fisheries are becoming more active in the North Sea due to squid not been a quota controlled species.

1.5 Aids to Navigation

- The use of AIS as an aid to navigation (AToN) was discussed by NLB, with possibility of one AIS transmitter or marking corner points of the wind farm.
- It was discussed that AIS will not replace standard lights and markings at any wind farm and there are issues with different AIS systems carried by vessels (for example, less powerful Class B is carried by smaller fishing boats and sailing yachts).
- It was noted that currently only a portion of vessels carrying AIS can display an AIS AToN due to variations in onboard navigational equipment.

1.6 Local Information and Weather

- Forth Ports stated that they can recommend areas to shelter and anchor, e.g. Saint Andrews Bay.
- Mainstream noted that they may discuss with other developers and Forth Ports the possibility of a joint collaboration on vessel monitoring in the area.
- A general discussion between the attendees noted that during October to March there can be sustained easterly winds in the area.
- RNLI pointed out that sea haar and poor visibility can occur during an easterly sea breeze and this is most common during March to May.

1.7 Port Information and Issues

- Forth Ports noted that they have AIS/Radar coverage in the wider area to record vessel activity and they could become aware of a vessel which was headed towards the NnG wind farm (for example on a collision course). An example was discussed when Forth Ports VTS recorded an errant vessel outside the ports limit which was headed towards the coastline.
- Forth Ports stated that they anticipate vessels heading into their port limits would have anchors prepared as per Port requirements.
- Drifting and machinery failures east of the Forth Ports limit were discussed, as this can be a frequent event.
- Forth Ports and RNLI noted that machinery failures can occur during switching engines (for example Heavy Fuel Oil to Marine Diesel Oil). One example discussed was onboard the *Maersk Nottingham* when the crew could not drop anchor and there was a near-miss incident at the partially constructed Thanet Offshore Wind Farm in August 2009.
- It was noted that during a south westerly wind a drifting vessel could be blown towards the NnG wind farm area.
- In terms of the NnG wind farm, large tankers and cargo vessels are not the main risk as these vessels keep clear of the site. Smaller, coastal cargo vessels and tankers with minimum crewing are likely to be of greater risk, for example vessels headed to Dundee.
- Forth Ports stated that the main issue for them was the cumulative impact (summarised under the final heading) of developing the three offshore wind farm areas off the Firth of Forth (including NnG, Inch Cape and the Round 3 zone). Vessels passing to the south east (into the Firth of Forth) are unlikely to be affected, however vessels headed to Dundee, north and south of Bell Rock could be impacted.

1.8 Recreational Vessels/Activities

- RYA noted that a portion of incidents in the area (for example, machinery failures and during adverse weather conditions) involved recreational craft from Scandinavian that had sailed off course when heading to Northern and Eastern Scotland.
- In addition, it was stated that the main risk is likely to be from foreign sailing vessels, who do not carry up-to-date charts, as local users are likely to become aware of the wind farm site.
- SCA commented on liaison with local harbour masters regarding the planned development.
- In terms of ship-to-ship collision risk, RYA noted concern for vessels been squeezed into narrower shipping routes, however most sailing routes are either north/south or east/west and hence it is less of an issue for recreational craft.
- RNLI commented on the popularity of diving activities in the area, and that this is likely to increase as divers may go on trips (using Rigid Inflatable Boats (RIBs)) to take a look the wind turbines, although the consensus was that this was unlikely.

1.9 Cumulative Issues

- A general discussion took place on the current Rochdale Envelope for the Forth Round 3 Phases and it was noted that there is a channel west of the potential wind farms (east of Inch Cape and NnG); however there is limited routeing options for vessels headed east/west.
- In terms of the cumulative impacts, Forth Ports commented on smaller merchant vessels and coastal tankers re-routeing around the Round 3 zone. They did not think these types of vessels would route east of the Round 3 development zone given the marginal cost of operating smaller vessels and their need to take the shortest route.
- A general point was made that the NnG wind farm site in isolation is not a problem in terms of ship-to-ship collision risk due to the available sea room (east and west of the site). However, with the construction of the Round 3 zone to the east of NnG and Inch Cape to the north there could be an increased cumulative impact.