

FIVE ESTUARIES OFFSHORE WIND FARM

10.20.9 TECHNICAL NOTE: USE OF PORTS FOR CONSTRUCTION

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In preparation of this document Five Estuaries Wind Farm Ltd has made reasonable efforts to ensure that the content is accurate, up to date and complete for purpose.

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DEFINITION OF ACRONYMNS

Term	Definition
VE	Five Estuaries Offshore Wind Farm
ExA	Examination Authority
DCO	Development Consent Order
EA2	East Anglia 2 Offshore Wind Farm
SOFIA	Sofia Offshore Wind Farm (Formerly Teeside A and B)
PATP / PCTMP	Port Access and Transport Plan / Port Construction Traffic Management Plan
OPCTMTP	Outline Port Construction Traffic Management Plan

For ease a list of the relevant documents from the Five Estuaries, EA2 and SOFIA DCO libraries is provided below

[REP1-071]	Post-Hearing submissions including written submissions of oral case as requested by Examining Authority
[REP4-039]	10.28 Applicant's Responses to ExQ2
EA2 OPCTMTP	East Anglia 2 Outline Port Construction Traffic Management and Travel Plan
SOFIA DCO	Development Consent Order - Tracked Version for Dogger Bank Teesside A / Sofia Offshore Wind Farm (formerly Dogger Bank Teesside B) - Project previously known as Dogger Bank Teesside A&B

1. INTRODUCTION

1.1 REQUEST FOR TECHNICAL NOTE

- 1.1.1 During the Five Estuaries Development Consent Order (DCO) examination Suffolk County Council (SCC) has requested the Applicant produces an Outline Port Construction Management Plan [OPCMP] similar to that produced for EA1N and EA2 [REP1-071].
- 1.1.2 Port Traffic Management Plans (PTMP / OPCMP) have been a requirement of a small number of Offshore Wind Development Consent Orders, such as Sofia and East Anglia 2. The majority of Offshore Wind DCOs do not include reference to, or commitments for the submission of a PTMP. Recent Offshore Wind DCOs along the East Coast of England, including the Hornsea 4 project and the Sheringham Shoal and Dudgeon extension project do not include reference to specific PTMP.
- 1.1.3 The Applicant has discussed this topic directly with SCC on 15th November. During this meeting SCC requested the Applicant provide a case study to aide in the understanding of the Applicant's position regarding purposelessness, limitations, impracticalities and negative impacts of requiring such documents.
- 1.1.4 This Technical Note is the Applicant's presentation of the case study. This is being submitted at Deadline 5 prior to the third set of hearings to allow for the consideration of the issue by The Examination Authority.
- 1.1.5 This Technical Note seeks to provide additional information and does not supersede the Applicant's responses to written questions, such as TT.2.01 in [REP4-039] and verbal responses given in hearings.

1.2 BACKGROUND TO SCC REQUEST

1.2.1 To aide in the context of the SCC request, the Applicant refers to Figure 1 where the purpose of the equivalent East Anglia 2 outline plan is highlighted.

1.2 Purpose and Scope

- 3. At the time of writing this Outline Port Traffic/Travel Plan, the Applicant has not identified the port(s) to be used for construction of the Project (construction port(s)) or for the ongoing operational management of the Project (operation port). Therefore, the Outline Port Traffic/Travel Plan serves to capture a framework of measures and commitments to be implemented should the need for a Port Construction Traffic Management Plan (PCTMP) and / or a Port Travel Plan (PTP) be established in consultation with the relevant planning authority for the selected construction port(s) or operation port(s).
- 4. The final PCTMP and PTP will be specific to the construction port(s) and operation port(s) selected, and will provide details on the construction and operational traffic demand and related effects associated with these phases of the Project. The final PCTMP and PTP will include an evaluation of potential traffic and transport impacts associated with construction and operational movements.
- Components delivered to the construction port(s) or operation port(s) by ship do not fall within the scope of the Outline PCTMP and PTP.

Figure 1 Extract from EA2 OPCTMTP

1.2.2 Key points

- > The EA2 OPCTMP provides a framework of measures to be implemented in the case the relevant planning authority where the port is located deems this necessary,
- A final PCTMP and PTP will be specific to each port for construction and operation
- > Each final PCTMP and PTP will include and evaluation of construction and operational movements
- Components delivered by ship are outside of the scope of the final PCTMP and PTPs

2. THE APPLICANT'S CASE STUDY: SOFIA

- 2.1.1 The Sofia Offshore Wind Farm is used as an example of a UK construction project with a high percentage of utilisation of UK ports.
- 2.1.2 It should be noted that other UK offshore wind farms have historically used ports in Continental Europe where components are transported directly to the offshore array area. An example of this is the Rampion Offshore Wind Farm where the foundations were transported from Port of Vlissingen in the Netherlands directly to the offshore array area. The WTG components were transported directly from Esbjerg in Denmark to the site.
- 2.1.3 For any given project the approach to selection of ports and number of ports depends on a number of factors such as the contracting strategy, selection of contractors, location, availability and commercial attractiveness of the ports.
- 2.1.4 The key requirements of the Sofia DCO condition are:
 - > A PATP is required for each port in each local authority if the local authority deems this necessary.
 - The PATP relates to activities in construction and operation including survey
 - > The PATP relates to works associated with the offshore works and offshore export cables (Marine Licences 1-4)
- 2.1.5 The overview of Ports used for the construction of Sofia is provided in Table 1. In total, approximately 10 UK ports are used, in addition up to 10 global ports are used.

Table 1: Overview of Ports utilised for the construction of the Sofia offshore wind farm

COMPONENT	PORT	NUMBER OF PEOPLE	FREQUENCY	DESCRIPTION
Project Marine Coordination & Offshore Site Management	Blyth	2-10 people	Daily	Office type facility on quayside
Project Maintenance SOVs (1) project maintain FOUs + davit cranes pre WTG, (2) commission WTGs / SGRE (3) support cable pull-in, termination and testing	Blyth/Sunderland	Typical SOV houses 40 technicians who work on a two week shift rotation, and 20 marine crew working on a 1-3 month rotation. Crew changes in port and via helicopter		Port selected by RWE through competitive process
2 Category 1 CTVs	Blyth	5-10 people per day per CTV on 2 week rotation		Port selected by RWE through competitive process
Inter Array Cable. Spares are stored in Blyth for the lifetime 30-35 project of		ne crew (1-6 month rotation) ect delivery crew (2 week rotation). ges in port and via helicopter	Contractor chose the port for the project	
Export Cables	Cable Lay: Middlesborough Cables are fabricated and loaded out from Finland, then remain on the carousel on the vessel. Commissioning equipment/spares are stored in Middlesborough. Post Lay Burial: Various local ports	Cable Lay: 30-55 marine crew (1-6 month rotation) 30-45 project delivery crew (1-2 month rotation). Crew changes in port and via helicopter Post Lay burial: 40-60 1-2 months duration		Port associated with the contractor
Offshore Converter Platform	Commissioning from European port	20-30 people (3 week rotation) Crew changes primarily via helicopter		Port associated with the contractor

COMPONENT	PORT	NUMBER OF PEOPLE	FREQUENCY	DESCRIPTION
Monopiles (TP less)	Tyne Foundations load out from Rostock to Barge, then Barge to Jack Up Vessel, then Jack Up Vessel travels to site. Main Access platforms, Secondary Steel, and Impressed Current Cathodic Protection (ICCP) are stored in port of Tyne and load in/load out via sea.	30-50 onshore staff in base. Vessel Max 75 (30 on 1-2 month, 45 on 2-6 month) Crew changes in port and via helicopter		Contractor chose the port for the project
O&M port (SOV)	Grimsby	Typical SOV houses 40 technicians who work on a two week shift rotation, and 20 marine crew working on a 1-3 month rotation. Crew changes in port and via helicopter		
WTG	Hull WTG Pre-assembly and marshalling (towers shipped from China + Spain; Nacelle shipped from Cuxhaven). Blade made in Hull.	100 persons on board 30-50 marine crew (1-6 month rotation) 30-50 project delivery crew (2 week rotation). Crew changes in port (Hull) and via helicopter		Port associated with the contractor
Survey	Great Yarmouth	20-30	1-2 months duration	Port associated with the contractor
Guard vessels	various North East Ports, including some ports in Scotland	2-5	1-3 weeks duration	Numerous smaller ports associated with the guard vessel
Piling Support Vessel	European Port	10-20	6 months duration	Port associated with the contractor
Scour protection & rock bags	European Port	10-20	1-2 months duration	Port associated with the contractor
Seabed preparation vessel for export cable	Sunderland/Blyth	20-24	1 month duration	Port associated with the contractor

2.2 COMMENTARY ON THE USE OF UK PORTS AND ASSOCIATED TRAFFIC

Number of ports and PTMPS in practice

- 2.2.1 It can be seen that the UK ports being used are;
- 2.2.2 Blythe, Middlesbrough, Tyne, Grimsby, Hull, Sunderland, Great Yarmouth and at least 3 other smaller ports where guard vessels originate from.
- 2.2.3 In each of these cases the project must discuss with the local authority whether they consider a need for a PTMP.
- 2.2.4 This requirement has been problematic and time consuming to administer on the Sofia project due to the blanket requirement as a number of the local authorities are unclear as to the purpose of such a request, as this is not a requirement for any other type of project that uses the port (because the port traffic is considered and controlled under the port's own planning requirements). This has hence created potential for delays as the Local Authorities are unclear how to deal with the request or do not have the capacity to follow the process
- 2.2.5 This is a particular issue for smaller ports which may be used by smaller vessels for activities that are more immediate and have less notice.

WTG port

- 2.2.6 The WTG assembly port of Hull was selected as it is relatively close to the offshore wind farm and is associated with the existing blade factory of the contractor providing the WTGs. The tower, nacelle and other equipment are shipped to the port from the manufacturer.
- 2.2.7 Traffic associated with the contractor's facilities was considered under the planning process for the port facility, and hence there is no need for an additional PTMP for this facility.

Export Cable ports

- 2.2.8 The export cables are fabricated in Finland and then transported on the vessel to Middlesbrough. Only commissioning equipment/spares are stored in Middlesborough, though these are also transported from Finland.
- 2.2.9 The main crew changes are done both via helicopter and from the port depending on the crew member's location.
- 2.2.10 Assuming half of the crew change via the port every 1-2 months this is 15-20 people travelling to the port every 1-2 months, and this is considered normal use of the port, and comes under the port's planning.
- 2.2.11 Additional ports are used for the seabed preparation and post lay burial campaign. All of these are associated with the contractors and vessels in use and did not require expansion of the ports and hence any associated traffic for crew changes is covered under the existing port's traffic numbers.

Foundation port

- 2.2.12 The foundations are transported by sea to the port of Tyne. This is so they can be stored until they are ready to be installed. While onshore these are stored within the port marshalling area.
- 2.2.13 The installation vessel has it's crew change in Tyne and this is where the main contractor has their project office. The travel to and from the port was already covered under the port's planning.

Operation and Maintenance (O&M) port

2.2.14 The O&M port is used for the SOV to berth, and also for some crew changes, and storage of components. This is a dedicated facility and was subject to it's own planning approvals which included consideration of any potential traffic impacts.

Survey vessels and guard vessels

- 2.2.15 Survey vessels and guard vessels are typically smaller vessels that have a "home" port.
- 2.2.16 For survey vessels this is near the survey contractor's storage and office facilities and is where they store equipment, offload samples, and conduct crew changes. For guard vessels this is typically the port where the vessel berth's the most frequently.
- 2.2.17 In both of these cases any traffic associated with the operations is the contractor conducting normal operations, and there is no difference caused by a wind farm project compared to any other type of project that these contractors service.
- 2.2.18 Traffic generated is also small in number and as above covered by the planning associated with the establishment of the facilities and port itself.
- 2.2.19 In the case of Sofia wind farm there has been notable disruption to the construction program with the requirement for a PTMP as the project had to consult with Local Authorities for the ports where some of these smaller vessels were based (and already operating, serving multiple clients). These Local Authorities are unfamiliar with the DCO process and requirements, and are unable to process the request for confirmation of the need for PTMP or accept a PTMP in good time.

Project Marine Coordination & Offshore Site Management

- 2.2.20 The project itself (rather than a contractor associated with the construction), has the responsibility of marine coordination and has a relatively small (compared to the contractors) number of staff who are based in an office type facility in the port of Blythe.
- 2.2.21 These staff (2-10 persons) travel daily to the office facilities. The traffic numbers are covered under the lawful use of office space being occupied. Any traffic generated by the office space is attributable to that use whether or not is occupied by the specific OWF business.
- 2.2.22 This function is typically located within / in the locality of a port, but the decision on the specific location is made once the project has a clearer understanding of the various ports being used for construction.



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