

INFRASTRUCTURE PLANNING

THE INFRASTRUCTURE PLANNING (EXAMINATIONS PROCEDURE) RULES 2010

THE THANET EXTENSION OFFSHORE WIND FARM ORDER

Written Representations submitted on behalf of the Port of London Authority

(Rule 8 letter 18 December 2018)

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|-------------------------|---------------------------------|
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1. Introduction

1.1 These Written Representations are made on behalf of the Port of London Authority (“the PLA”) in respect of an application for Development Consent submitted by Vattenfall Wind Power Limited (“the Applicant”) for the Thanet Extension Offshore Wind Farm Order (“the DCO”). The application is accompanied by a draft of the proposed DCO (“the dDCO”).

Structure

1.2 The structure of this Written Representation is as follows:

Section 1 – Introduction

Section 2 – The PLA

Section 3 – The DCO and areas of agreement

Section 4 – The effects on ports and shipping routes

Section 5 – Pilotage

Section 6 – Navigational Risk Assessment

Section 7 – Desired mitigation

2. The PLA

2.1 The PLA is the statutory harbour authority for the tidal River Thames (“the River”) between Teddington and the outer Thames Estuary. It is governed by the Port of London Act 1968 (“the 1968 Act”). Its statutory functions include responsibility for conservancy, hydrographic surveying, dredging, managing the public navigation and controlling vessel movements.

2.2 Under section 66 of the 1968 Act, the PLA’s licence is required for the construction by other people of any works in, on, under or over the River and, under section 73, for the carrying out of dredging or other comparable operations. The PLA provides moorings in the River and licenses their provision by others. As the body responsible for licensing river works and moorings, the PLA must have special regard for the unimpeded use of and access to licensed works by the PLA’s existing licensees.

2.3 The proposed extension of the wind farm under the dDCO lies outside the PLA’s statutory limits under the 1968 Act. However, the PLA’s functions include the promotion of the use of the River for freight and passengers as an important and sustainable

transport corridor for London and access to the River is therefore a key concern for the PLA.

- 2.4 The proposals under the dDCO are in close proximity to the PLA's pilot boarding locations, with that at the North East Spit most affected. Moreover, the proposals have the potential to impact on the operation of the Port. The proposals would encroach into the existing shipping lanes, lengthening journey times into the Port for commercial services that would have to re-route around an extended wind farm.
- 2.5 The PLA is a competent harbour authority for the purposes of the Pilotage Act 1987 ("the Pilotage Act"), as it has powers and duties under the 1968 Act to improve, maintain and manage the Port of London. As a competent harbour authority, the PLA – under s.2 of the Pilotage Act – is under a duty to keep under consideration whether it needs to provide pilotage services to secure the safety of ships navigating in or in the approaches to its harbour. The PLA is therefore under an obligation to provide such services as need to be provided, which clearly can extend to providing pilotage services to ensure that when vessels enter into the PLA's statutory limits, those vessels have the benefit of a pilot.
- 2.6 The PLA is a trust port. Accordingly, it manages the River for the benefit of all river users and is obliged to turn its assets to account for the benefit of its statutory undertaking. As part of this obligation it must also minimise the conservancy and other charges payable under the 1968 Act by river users. The PLA is wholly funded by such charges and the other funds it generates: it does not receive any central or other Government subsidy.

3. The DCO and areas of agreement

- 3.1 The DCO would authorise the Applicant to construct and operate an extension to the existing Thanet Offshore Wind Farm ("the Wind Farm") to be located approximately 8km offshore at the closest point. The extension will consist of 34 wind turbine generators and associated onshore and offshore infrastructure. This development (in the dDCO defined as "the authorised development") and the powers sought in the dDCO are referred to in these Written Representations as "the Scheme".
- 3.2 The PLA does not object in principle to an extension of the Wind Farm. However, the extent of the proposals to the south-west and north-west of the current Wind Farm pose a risk to navigational traffic, the port's operations and the viability of two of its pilotage stations, and accordingly the PLA does not agree with the extent of the Applicant's

proposed works to the south-west and north-west of the existing Wind Farm. The reasons for such disagreement are set out in these Written Representations, in accordance with Rule 10(4) of the Infrastructure Planning (Examination Procedure) Rules 2010.

3.3 The PLA is seeking to work with the Applicant to identify the basis on which the PLA and the Applicant can agree a Statement of Common Ground. There are substantial differences between the parties regarding the extent of meaningful consultation that has taken place and the extent to which the red line boundary for the Scheme poses a risk both to navigation and to the viability of the inner route, leaving limited scope for common ground. The PLA will seek to provide in conjunction with the Applicant a joint SoCG as soon as possible setting out the position on the matters identified as being agreed and not yet agreed.

3.4 These Written Representations are addressing the Scheme, the details of which are subject to change. At this stage the PLA has not gone into details which, while very important for implementation, are overly technical and capable of resolution and do not affect matters of principle. If such issues remain unresolved, the PLA will provide particulars of any that should be brought to the attention of the Examining Authority (the “ExA”) at a later stage in the examination.

3.5 Unless otherwise stated, references to the dDCO are to the draft published on the Planning Inspectorate website on 25/07/2018), which is the form in which the DCO was applied for.

4. Effects on ports and shipping routes

4.1 The siting of the proposed extension to the Wind Farm to be authorised by the DCO causes the PLA great concern as regards risks to navigation and shipping routes. The sea lane in between the existing Wind Farm and North Foreland (“the Inner Route”) is already narrow due to the shallow waters off the coastline and the presence of the Wind Farm. The proposed extension will encroach onto some of the key routes into the Port of London and Peel Ports Medway areas and provide restrictions for certain sizes and drafts of vessel on their entries into the Port. Masters bringing their vessels into the Port will always require a safe area of sea room from the coastline, from the Wind Farm and from other vessels. Chapter 10 of the Applicant’s Environmental Statement (“ES”) shows the constrained path vessels follow in this area and it also shows the ‘buffer zone’ that Masters put between themselves and the Wind Farm.

Re-routing of vessels

- 4.2 At paragraph 7.1.1, the Applicant's Navigation Risk Assessment (document reference 6.4.10.1) ("NRA") outlines 0.5nm as "the minimum safe distance considered acceptable by ships masters to pass a wind farm". The PLA contest this value and would argue that this figure will vary depending on a whole variety of conditions including weather and tidal conditions and congestion in the area. The PLA would suggest a distance of 2nm for the 'lane' width with a 1nm buffer between the lane and the extended Wind Farm as a more appropriate figure; this distance is needed as the area concerned is used for pilotage operations, not merely vessels passing through.
- 4.3 The siting of the proposed extension, and in particular its western-extent, will cause Masters to redirect their vessels in certain situations to avoid the Inner Route. At paragraph 7.1.2 of the NRA, it is suggested that the extent of the increase in journey for a vessel which does re-route by passing to the east and then to the north of the Wind Farm would be at least a distance of 11nm. The PLA contest this figure, and suggests that the increase is more likely to be 14nm journey distance if the additional distance to the North East Spit is included with a corresponding increase in the time take for each vessel journey. It would also raise safety concerns with additional traffic passing to the east and the north of the existing Wind Farm.
- 4.4 At ISH2, the ExA indicated that it would like to see an aggregate of this value as well as an analysis of the projected aggregate additional shipping costs to be caused by these re-routings. The PLA does not have the data available itself to make such a calculation prior to Deadline 1 but will continue to work with other parties to determine what projections can be made in respect of additional shipping costs. The Inshore Route may not become impassable as a result of the TEOWF but, in the view of the PLA, which has extensive practical and recent day-to-day experience of working with Masters in this area, a significant number of Masters would be unwilling to accept the increased risk to their vessels and would therefore avoid it

Proposed alterations in the area

- 4.5 The ExA requested that projected data on the use of the Port and the impact of any proposed works in the area be provided.
- 4.6 The key potential works which could be undertaken by the PLA over the lifetime of the extended Wind Farm would be the potential dredging of either Fisherman's Gat or the North Edinburgh Channel. The PLA is currently carrying out work to assess the effects

of these and no decision has been made as to which of the proposals to take forward. The PLA has recently undertaken a Route Option Analysis to determine which channel (Fisherman's Gat/North or South Edinburgh) would be most cost effective to dredge and maintain, and will be undertaking pilotage simulation and sediment transport modelling in the near future. The PLA is committed to taking the proposal forward and would expect to finalise the project in approximately 2 years. The Fisherman's Gat is most likely to be the most cost effective option and the project is estimated to cost in the region of £5M. If selected, it is proposed to dredge the Fisherman's Gat to 10m below chart datum, for vessels of routinely up to 12m during higher tides.

Collision risk

- 4.7 Evidently, as set out above, the PLA does not accept the Applicant's position that this inshore channel will be used by the same number of vessels after the Scheme is implemented as before. However, if that argument is accepted, there would be the same number of vessels slowing down and changing direction – 5500 to 6000 vessels per year at a conservative estimate – but in a smaller area of sea room. In reality, the presence of an increased number of vessels serving the wind farm will mean that there would be a greater number of vessels in that smaller area. This will inevitably lead to an increase in risk of vessel collisions.

5. Pilotage

- 5.1 The key area of concern for the PLA is the impact that the Scheme would have on its pilotage operations. As set out in the introduction, under s.2 of the Pilotage Act 1987 ("the Pilotage Act"), the PLA – as a competent harbour authority – is under a duty to keep under consideration whether it needs to provide pilotage services to secure the safety of ships navigating in or in the approaches to its harbour. Providing pilotage services means having to board pilots in the vicinity of the port limits so as to safely guide vessels into the area within the port limits.
- 5.2 There are four pilot boarding stations of importance to this Scheme, which are as follows:
- 5.2.1 North East Spit;
 - 5.2.2 Tongue;
 - 5.2.3 North East Goodwin; and
 - 5.2.4 the Sunk.

- 5.3 The first three of these can be seen on the plan included at Figure 9 of the NRA.
- 5.4 Originally, prior to the construction of the existing Wind Farm, there was one pilot boarding/landing station, the NE Spit (inner) diamond. Larger and deeper draft vessels were served to the east of this position in the deeper water. After the Wind Farm was constructed, pilots of larger vessels were unwilling to use the North East Spit due to its proximity to the Wind Farm and safety concerns. The NE Spit Deep Water diamond was created to service the needs of these larger vessels. This was later renamed the Tongue Deep Water.
- 5.5 However, the Tongue is more exposed – it is further north and further offshore – meaning it is particularly susceptible to adverse weather conditions. It is a longer journey for pilots and is not in general a practical alternative to the NE Spit due to the increased journey time, and the corresponding increase in requirements for vessels, fuel and crew. The extension of the wind farm to the west – and the impacts on the pilot boarding locations, especially the NE Spit – raises serious concerns about the continued viability of the ESL pilotage services at these locations and, in turn, the attractiveness of the Port of London.

Safety concerns

- 5.6 When undertaking pilotage operations, safety is paramount. A vessel is kept underway while the pilot transfer is taking place and must continue to interact with everything else around it. Pilots will need to factor in weather, tide, type and size of vessel, surrounding traffic and other factors before engaging with the ship to create a safe lee. The pilot will then need sufficient time to get on board, get to the bridge and have a handover with the master.
- 5.7 A key concern of the PLA is the reduction in sea room. The closest point of the extended wind farm to the NE Spit pilot station would be 1.7 miles (leaving approximately 2.1nm to the most eastern extent of the Margate Roads anchorage). At this point there is a lot of crossover traffic which needs to be taken into account.
- 5.8 In addition, it is the experience of the PLA's pilots that their launches frequently suffer with interaction between their radar and the Wind Farm. When a pilot launch is operating between the Wind Farm and a ship, with the ship in close proximity, the radar becomes less effective. High sided vessels will often severely impede Very High Frequency (VHF) communication with the shore side operation (including Vessel Traffic Services (VTS)), the ship itself and other vessels on the side of the ship being served.

In effect, the pilot boat can be blindsided. The coxswain will have to be confident that little or no deviation will be necessary during an act of pilotage. The reduction in sea room and, therefore, the potential increase in congestion present a significant planning issue for the coxswain with regards to a confident 'clear path' before he engages with the ship. This is an issue that the existing sea room allows the PLA and ESL to plan for and work with. However, with a reduction in available sea room between the pilotage boarding area and TOW this would become a more significant safety concern.

5.9 These risk factors mean that the coxswains need a significant amount of sea room because there can be a period of no communication when everything needs to stay the same. If a captain suddenly changes route, the safe lee can be lost, personnel can be exposed to possible injury or a pilot launch can easily be damaged. It is ESL's case that there will not be sufficient safe sea room at North East Spit if the western expansion of the wind farm is permitted.

5.10 The PLA would argue that the impact of this is for pilotage operations to be pushed out to either NE Goodwin or the Tongue. In addition, the location of the Tongue will need to be pushed further north, out into less sheltered waters. The NE Spit boarding area has been strategically placed to afford the service maximum shelter, particularly with MetOcean conditions WNW through to SE. This can allow ESL to continue operations when alternative boarding areas are unable to operate. If launch crew and pilots are forced to operate with an increase in passage times and a potential for greater exposure to adverse weather conditions, this increases the likelihood of personnel fatigue.

Economic impacts

5.11 As well as these concerning safety implications, the movement of pilotage operations away from North East Spit will have economic impacts on the PLA and the users of its pilotage services. At a basic level, if the pilotage boarding station is moved further out to sea, each individual pilotage act will take longer. This has a knock on effect in terms of the number of pilots and number of launches which will be required to enable the PLA to continue its pilotage services.

5.12 The PLA pilotage service currently operates at a service level of 95% so would not be able to serve more vessels with the existing complement of pilots and launches without incurring delays.

- 5.13 The average additional time in a pilot boat if using the re-located Tongue instead of the NE Spit is 17 minutes. This gives an additional 1680 hrs of pilotage time per year spent in the pilot boat. This equates to more than 1.5 full time equivalent pilots, therefore an additional 2 full time pilots would be required to cover this.
- 5.14 The cost of this would be passed on to the customers through increased pilotage charges.
- 5.15 If the NE Goodwin was used instead of the NE Spit the average additional time in the pilot boat would be only a few minutes, equating to between 300 and 400 additional pilot hours per year. However, the average additional time under pilotage for each voyage would be between 30 minutes and 1 hr, depending on whether the vessel used the inshore route or transited around the outside of the windfarm, putting additional strain on the pilotage service.
- 5.16 It has not been possible in the time frame to establish the relative use of the Tongue and NE Goodwin if the NE Spit diamond was no longer available.
- 5.17 Further economic impacts will be felt when, inevitably, there are an increased number of days where there are no pilotage services available in the PLA area. This consequence is inevitable when the protected North East Spit station is not useable.
- 5.18 Based on the information inputted by London Vessel Traffic Services (which manages and oversees the safety of navigation in the area) into the POLARIS database, the following table shows the relative number of days that the NE Spit and Sunk were off station during a 12 month period from 01/11/2017 – 30/11/2018

| | SUNK | NE SPIT |
|------------|-----------|----------|
| OFF | 19.6 days | 7.3 days |
| RESTRICTED | 8.1 days | 9.6 days |

The NE Spit being restricted usually means that it is restricted to the inshore diamond only (because that is more sheltered). If the NE Spit diamond became redundant there would almost certainly be an increase in the number of days off station, which would be more similar to the Sunk. This would mean that there would be approximately 12 to 20 additional days per year where it would not be possible to board a pilot at Tongue.

5.19 Although there are alternative pilotage options, including pilots being transferred to continental ports and sailing from there, each will have inevitable economic consequences for the continuation of pilotage operations.

5.20 The PLA does not agree with the conclusion of the NRA (at paragraph 7.2.4) that “pilotage would still be feasible with the extension in place” nor that the reduction in the Red Line Boundary that the Applicant has propose sufficiently mitigates the risks involved. Further detail on these points is included below

6. Navigation Risk Assessment

6.1 The PLA does not consider the identification, assessment and management of shipping and navigation risks in the NRA to be sound. There are three main reasons for this assertion: lack of stakeholder involvement in the drafting of the NRA; too much reliance being placed upon the inadequate Pilot Transfer Bridge Simulation Report and non-compliance with MGN543.

Lack of stakeholder involvement

6.2 The PLA is disappointed at the lack of engagement it has received from the Applicant about the NRA. The Applicant held meetings with the PLA which are listed in Table 8 in the NRA, and the PLA made requests and gave recommendations at these meetings and expressed its concerns about the reduction in sea room. However, the Applicant has not made adjustments to its Scheme as a result of these requests and recommendations, save for excluding a corner of the westernmost extent of its proposals to extend the Wind Farm from the application for the Scheme; this adjustment does not address the PLA’s concerns about the risk to navigation, in particular because it does not deal with the issue of the narrowing of the inner channel.

6.3 At a meeting in December 2017, the Applicant presented the methodology they intended to use to produce the NRA. Representatives from the PLA raised a number of concerns about this but these were not taken into account in the final version of the NRA. In addition, no draft version of the NRA was provided to PLA prior to the Applicant putting in its application.

Non-compliance with MGN543

6.4 The PLA is concerned with the collection of data which has been used as the basis of the NRA. It also has concerns about the extent of the Applicant’s compliance with Marine Guidance Note 543 (MGN543).

- 6.5 The PLA does not agree that the NRA was undertaken fully in line with the requirements of MGN 543. MGN543 requires that the environmental impact assessment and resulting environmental statement (ES) (and therefore the NRA), “should evaluate all navigational possibilities, which could reasonably be foreseeable, by which the [...] extension [...] of an Offshore Renewable Energy Installation could cause or contribute to an obstruction of, or danger to navigation”. Most of the data used for the NRA was from all or part of a three month period over the winter (see paragraph 5.1 of the NRA), which tends to be the quietest period of the year, for both shipping and recreational activity. Where there was seasonal variation it was still based on a month that was below the monthly average for vessels using the NE Spit pilot stations and outside of the busiest months for recreational activity.

Pilot Transfer Bridge Simulation Report

- 6.6 The PLA considers that the ExA cannot rely on the conclusions of the Pilot Bridge Simulation ((Annex 10-2 to the NRA) (Document Reference 6.4.10.2)) to determine whether pilot boarding and landing operations could safely continue in the area of the NE Spit boarding and landing diamond with the proposed extension in place.
- 6.7 The extent to which the Simulations represented real world conditions is very limited. The vessels were all ‘manned’ by experienced PLA pilots who are all very familiar with the NE Spit area. The vessel models used were all ‘well found ships’. The extent to which the PLA simulator can re-create true environmental conditions is limited. It does not represent true darkness and does not give a true impression of the weather that may be being experienced. The simulation runs undertaken did not represent the full range of environmental conditions, e.g. wind strength and direction in which the pilot cutters are able to operate, using a maximum of 25 knots. The simulator does not have a model of a pilot cutter so this had to be substituted with a tug, which reacts very differently. The simulations did not fully take into account the lack of local knowledge of a Master bringing his vessel to the NE Spit for the first time; the potential lack of understanding of the cutter’s requirements due to the limitations of their ability to communicate in English; the potential for delays during the boarding and landing due to poorly/incorrectly rigged pilot ladders. No emergency scenarios were simulated and the simulations did not include the range of small vessels such as recreational vessels and crossing traffic, such as windfarm support vessels that may be found in the area.
- 6.8 In order to robustly test the feasibility and operating risk, there would need to be more runs. The important point would be to ensure that the runs represent the full extent of

environmental conditions and traffic situations that may be encountered. A range of emergency scenarios would need to be simulated and more realistic traffic situations, including those where ships / bridge crews do what they are expected to. The PLA simulator is not necessarily the best tool to use to quantify the operational risk, as it cannot realistically simulate the sea conditions and other environmental factors, or on-board situations.

7. Desired mitigation

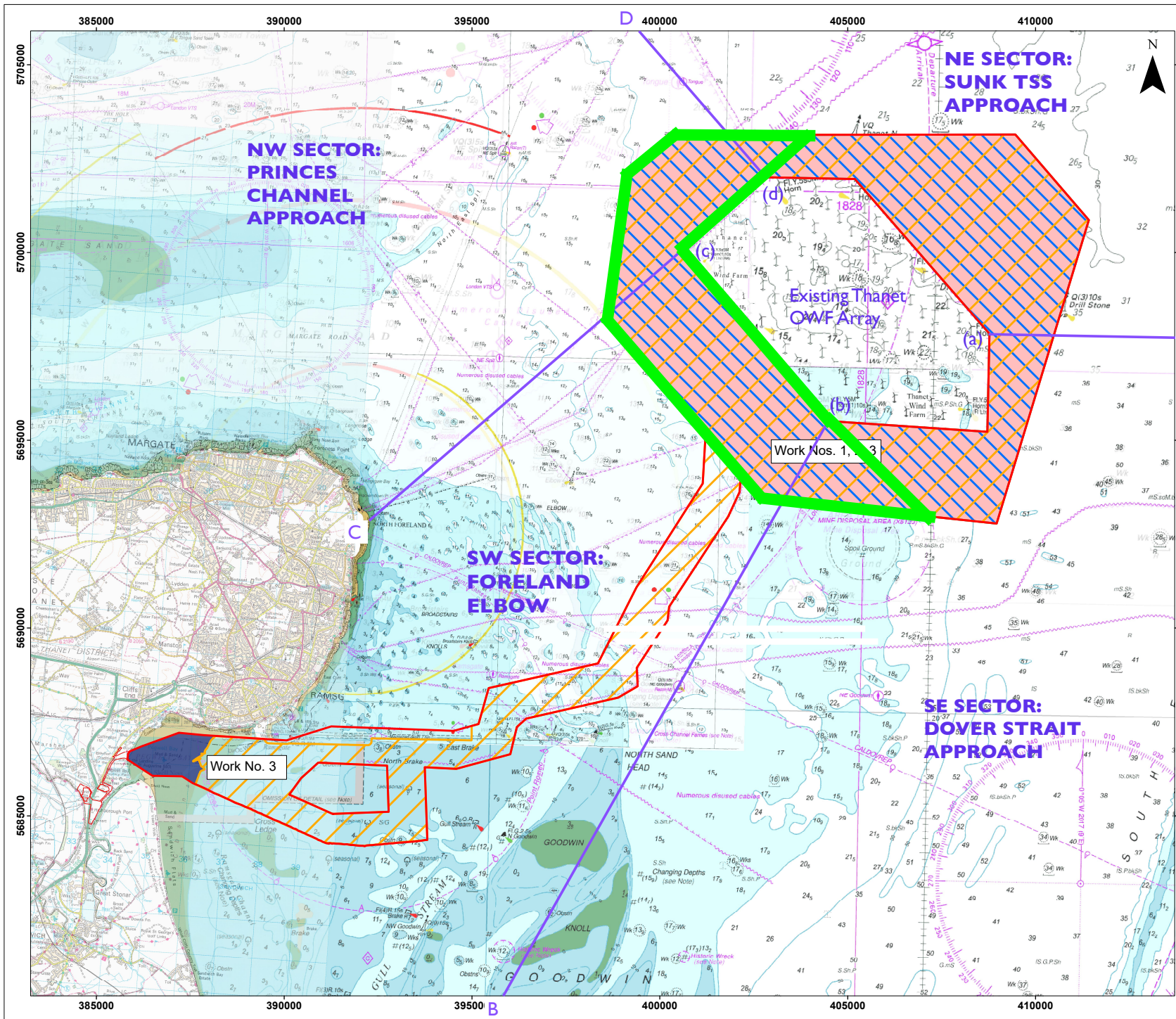
7.1 The mitigation desired by the PLA is a further reduction in the Red Line Boundary of the application at the Western boundary of the site. Although the Applicant has already proposed a reduction in the Red Line Boundary, it is the position of the PLA that this is insufficient to address its concerns about navigational safety. The PLA's desired revised Red Line Boundary is illustrated on the Sea Zones plan included with these Written Representations as Appendix 1. This plan illustrates the area of the proposed extension which the PLA requests be removed from the DCO edged in green. Reducing the area of the proposed red line boundary to this extent would address the PLA's concerns with the Scheme.

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On behalf of the Port of London Authority
15 January 2019**

APPENDIX 1

Sea Zones Plan – Reduction in red line boundary

Proposed area for reduction shown edged green.



THANET EXTENSION OFFSHORE WIND FARM

Works Plan (Offshore)
With Reference Sea Zones

Document reference: 2.5
APFP Regulation: 5(2)(j)

Legend

- Order limits
- Work No. 1
- Work No. 2
- Work No. 3
- Work No. 3A

Sea Zone Boundaries

- (a) - A from Existing Array (a) due West (90 degrees)
- (b) - B from Existing Array (b) via NE Goodwin to shore (210 degrees)
- (c) - C from existing Array (c) to shore (N Foreland)
- (d) - D from existing array (d) to London Array North West (320 degrees)

Where a sea zone intersects with the English coast less than 13nm from the centroid of the Existing Thanet OWF Array, the English coast forms its outer boundary.

Where a sea zone does not intersect with the coast for a distance of 13nm or greater, an arc with a radius of 13nm from the centroid of the Existing Thanet OWF Array forms its outer boundary.

Sea Zone Names

- A to B - SE Sector: Dover Strait Approach
- B to C - SW Sector: Foreland - Elbow
- C to D - NW Sector: Princes Channel Approach
- D to A - NE Sector: Sunk TSS Approach

Sea zone names, boundaries and boundary definitions added by the Examining Authority, November 2018.

Datum: ETRS 1989
Projection: UTM31N



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