

INFRASTRUCTURE PLANNING

THE INFRASTRUCTURE PLANNING (EXAMINATIONS PROCEDURE) RULES 2010

THE THANET EXTENSION OFFSHORE WIND FARM ORDER

Written Representations submitted on behalf of Estuary Services Limited

(Rule 8 letter 18 December 2018)

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1. Introduction

1.1 These Written Representations are made on behalf of Estuary Services Limited (“ESL”) 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 – ESL

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. ESL

2.1 ESL is a company with the company number 02262789, with registered office at Maritime Centre, Port of Liverpool, L21 1LA. ESL is jointly owned by the Port of London Authority (“the PLA”) and the Port of Sheerness Ltd (Part of Peel Ports Operations Limited).

2.2 ESL provides pilot boarding and landing services which those ports are required to provide. Pilotage services for the Port of London are provided from, amongst other locations, the North East Spit and the Tongue boarding stations. The proposals under the dDCO are in close proximity to these boarding locations, with the North East Spit most affected. In addition, the proposals would encroach into existing shipping lanes, lengthening journey times into the Port for services which would have to reroute around an extended wind farm.

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 ESL 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 and the viability of two of ESL’s pilotage stations, and accordingly ESL 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 ESL is seeking to work with the Applicant to identify the basis on which ESL 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. ESL 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 ESL 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, ESL 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 ESL 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 ("NRA") (document reference 6.4.10.1) outlines 0.5nm as "the minimum safe distance considered acceptable by ships masters to pass a wind farm". ESL contests 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. ESL 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 a distance of 11nm. ESL contests 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 taken 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 The Inshore Route may not become impassable as a result of the TEOWF but, in the view of ESL, whose pilots have 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. In order to continue to offer a safe operation at the NE Spit Station, ESL would have to make the baseline assumption the area is unsafe and therefore relocate the boarding area.

Collision risk

- 4.5 Evidently, as set out above, ESL does not accept the Applicant's position that this Inner Route 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 ESL is the impact that the Scheme would have on its pilotage operations. 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. ESL provides these services on behalf of the PLA. 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 ESL 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 ESL's coxswains 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 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 ESL 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, ESL and the users of its pilotage services.
- 5.12 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 ESL to continue its pilotage services.
- 5.13 The ESL 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.
- 5.14 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, and the cost of the additional resource would need to 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 01/01/2017 – 30/11/2018

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

- 5.19 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.
- 5.20 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.
- 5.21 ESL 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 proposed sufficiently mitigates the risks involved.

6. Navigation Risk Assessment

- 6.1 ESL does not consider the identification, assessment and management of shipping and navigation risks in the NRA to be sound. There are four main reasons for this assertion: lack of stakeholder involvement in the drafting of the NRA; insufficient data sets being

used for analysis; too much reliance being placed upon the inadequate Pilot Transfer Bridge Simulation Report and non-compliance with MGN543.

Lack of stakeholder involvement

- 6.2 ESL is disappointed at the lack of engagement it has received from the Applicant about the NRA. The Applicant did hold meetings with ESL which are set out in Table 8 in the NRA, and ESL 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, 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 ESL'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 ESL 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 ESL prior to the Applicant putting in its application.

Non-compliance with MGN543

- 6.4 ESL 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 ESL 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 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 Applicant has provided a Pilot Transfer Bridge Simulation Report (“the Simulation Report”) as Annex 10.2 to its ES (document reference 6.4.10.2). This is used to support the Applicant’s conclusion in the NRA that “piloting transfer would be feasible” (p.v).
- 6.7 Although ESL was involved in the Simulation, they raised concerns with Marico Marine about the simulator use prior to, during and after the simulation. In particular, these concerns related to the complex nature of shipping and landing pilots. While ESL accepts that bridge simulations are an accepted process when investigating the possible impact of a development such as the extension to the Wind Farm, it has concerns over the ability of a simulation to account for all of the complexities involved. ESL sets out below the ways in which the technical restraints of the simulator have heavily diluted the possible outcomes in this situation.
- 6.8 Firstly, the simulator was unable to accurately recreate the relevant MetOcean conditions. ESL acknowledges that it was agreed that 25 knots could represent challenging operation conditions (as stated at paragraph 3.2.1 of the Simulation Report). However, once in the simulator, the coxswains in attendance did not consider this wind speed to be realistically represented.
- 6.9 The height of tide during the Simulation was represented by two states of tide (being high water or low water +3) which is not an exhaustive representation of the scope of tidal heights, and in particular does not represent low water conditions. Vessels of a deeper draft (approximately 10m) can be served closer to low water, this would be factored into the launch programme typically after consultation with the coxswain/ DPC and pilot. A larger (10m draft) vessel being served closer to low water would have to remain to the east of the boarding ground, at least 1nm depending on other traffic.
- 6.10 The ability to vary visibility conditions in the simulator was also considered to be inadequate. In particular, the night-time conditions were thought to be closer to a representation of summertime dusk conditions by the ESL coxswains present.
- 6.11 The simulator was also unable to capture the reality of launch-ship interaction in various weather conditions. The ESL coxswains present considered that both the launch and the ship being boarded were quite static even during what were meant to be more challenging weather conditions. Further, pilot launches are heavily reliant on radar in reduced visibility but the tug simulator was not fitted with radar (see comments below).

This makes five of the runs completed unrealistic because in true conditions, radar would have been required by the launch,

- 6.12 Secondly, ESL is concerned that the Simulation used a tug simulator throughout. This is because the simulator used did not offer a pilot boat or small fast craft. ESL acknowledge that the use of the tug was deemed necessary in the circumstances but wish to raise that this provides obvious issues in terms of being a 'true representation' of a launch. As mentioned above, the tug's handling alongside a ship and interaction with MetOcean conditions were not consider by the representatives of ESL present to be reflective of reality. In addition, the lack of radar was entirely unrealistic given that ESL standing orders required that they do not proceed to sea without a fully operational radar.
- 6.13 Additionally, the representatives from ESL did not consider that the representations of other craft, in particular leisure craft, were realistic. All of the other vessels were being operated by experience pilots and "each introduced vessel was compliant with the rules of the road" (paragraph 3.3.3 of the Simulation Report). From the experiences of ESL coxswains, this is frequently not the case. ESL agree with the comment in the Simulation Report that "a more detail examination of the increased vessel congestion and the consequent increase in collision risk" (paragraph 3.3.3) is required. However, it does not consider that the NRA fulfils this.
- 6.14 ESL has concerns about the simulation run sequence set out at paragraph 4.1 of the Simulation Report. Point 1 does not acknowledge that a pilot launch will typically have engaged with the vessel(s) being served before they are 1nm from the ship. Leaving communication until 1nm away is consider by ESL to be bad practice. Point 5 allows only 1-2 minutes for the physical transfer of the pilot. ESL consider this to reflect optimal conditions and in the experience of their coxswains, it can take longer than this for the launch to be stable and allow transfer. This is significant as a longer transfer would require a greater amount of sea room. This was not considered in the Simulation.
- 6.15 ESL consider that the six failure criteria set out at paragraph 4.2 were unlikely to occur in the types of scenario being tested. The ESL representatives present consider that the limitations of the Simulator (in particular, the limited number of vessels being simulated at any one time and the fact that all participants were highly experienced) mean that each of the failure criteria would be very difficult to meet. ESL would argue that there was an element of imbedded mitigation in the Simulation in that all non-pilotage vessels were being operated by a pilot and were fully adhering to the rules of the road,

combined with good communication and all participants being aware of the structure of each run.

- 6.16 Finally, ESL does not consider that 14 simulated runs are sufficient to draw the conclusion that continuing pilotage operations with an extended Wind Farm in place would be feasible. Two further runs (in addition to the original 12) were only completed at the insistence of one of the ESL coxswains in attendance. ESL is particularly concerned that most of the simulated runs are what the representatives from ESL in attendance at the simulation would consider 'basic'.

7. Desired mitigation

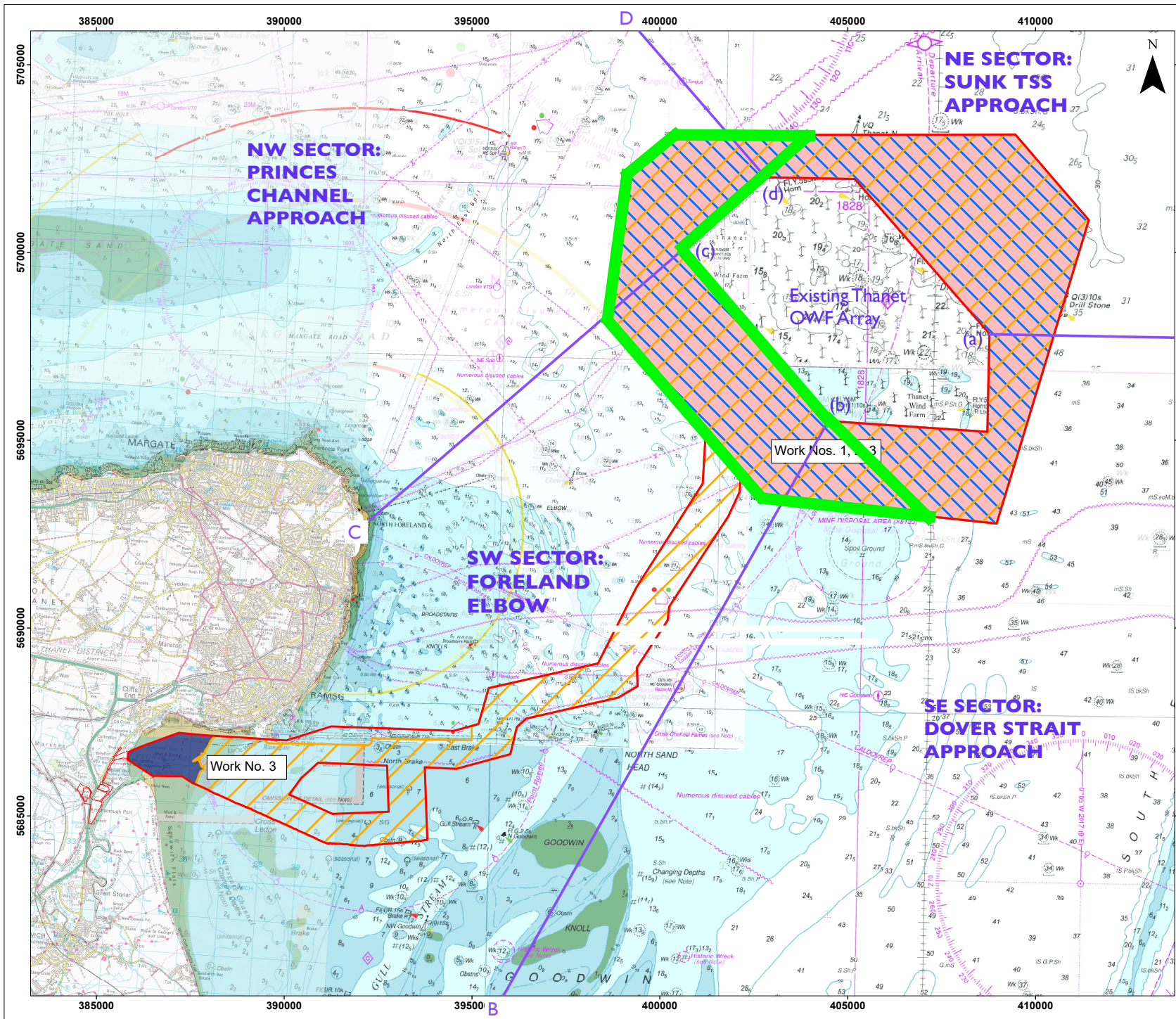
- 7.1 The mitigation desired by ESL is a further reduction in the Red Line Boundary of the application at the Western boundary of the site. Although the Applicant has already proposed a reduction in the Red Line Boundary, it is the position of ESL that this is insufficient to address its concerns about navigational safety. ESL'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 ESL requests be removed from the DCO edged in green. Reducing the area of the proposed red line boundary to this extent would address the ESL's concerns with the Scheme.

**Winckworth Sherwood LLP
Solicitors and Parliamentary Agents
On behalf of Estuary Services Limited
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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