

Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Appendix 7 to Deadline 5 Submission: Response to
ExA Action Points arising from Issue Specific
Hearing 8 – Shipping and Navigation

Relevant Examination Deadline: 5

Submitted by Vattenfall Wind Power Ltd

Date: April 2019

Revision A

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Date of Approval:	April 2019
Revision:	A

Revision A	Original Document submitted to the Examining Authority
N/A	
N/A	
N/A	

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1 Introduction

- 1 This note has been drafted in response to requests by the Examining Authority (ExA) during Issue Specific Hearing 8 (ISH5) on 17/04/2019 and through reference to the ISH8 Action Points document PINS Ref EV-046. This document focuses in particular on Shipping and Navigation Action Points.

- 2 The ExA, in EV-046, has set out 19 Action Points which can be summarised as follows:
 - Action Point 1 - Submission of material presented at ASI2 on 15 April 2019 (for London Gateway/Tilbury only, no response from Applicant necessary);
 - Action Point 2 - Differentials between NRA and NRAA;
 - Action Point 3 – Shipping and Navigation Expert Witness credentials;
 - Action Point 4 – Policy Position on Sea Lanes or Routes (not for the Applicant);
 - Action Point 5 – Policy Considerations – EN-3 para 2.6.166 (not for the Applicant);
 - Action Point 6 – IMO GPSR 1974 Para 6.4;
 - Action Point 7 – Applicability of the UNESCO Guidance on MSP;
 - Action Point 8 – Risk Controls;
 - Action Point 9 – Positions on Sea Room Availability at NE Spit Racon Buoy;
 - Action Point 10 – Maritime and Coastguard Agency (and Trinity House) oral submissions;
 - Action Point 11 – NRA Risk Controls exercised by other organisations;
 - Action Point 12 – Effective density of use of inshore route;
 - Action Point 13 – not included in ExA action point list – numbers retained for consistency;
 - Action Point 14 – Check if risk control proposed is already embedded as an MC requirement;
 - Action Point 15 – Future Traffic Growth Assumptions;
 - Action Point 16 – Proposal of a Structures Exclusion Zone (as opposed to a change in order limits);
 - Action Point 17 – Potential Commercial, Employment or Economic Effects;
 - Action Point 18 – Consultation with the Port of Sheerness;
 - Action Point 19 – Ship traffic data;

2 Action Point 1 – Submission of material presented at ASI2 on 15 April 2019

ACTION POINT - Port of Tilbury London Limited to submit to Examination Library:

- ***Copy of presentation given at ASI2 on 15 April 2019***
- ***Masterplan of facility DP World London Gateway to submit***
- ***Masterplan of facility.***

3 This response is not for the Applicant but if any submissions are required in response the Applicant will make them at Deadline 6.

3 Action Point 2 – Differentials between NRA and NRAA

Applicant to submit in tabular form the differentials between the Application NRA, the Outline Addendum submitted following the 29 March workshop and the NRA Addendum (NRAA).

- 4 A table is presented below that outlines the similarities and differences between the Application NRA, the Outline Addendum NRA and the NRA Addendum. A further revision of the NRA Addendum was carried out following ISH 8, and it is this version of the NRA Addendum that is referred to in the context of the table and discussion below. The NRA Addendum was revised post ISH 8 to enable hazard risk scores to be updated based on the feedback received at Deadline 4c by the PLA/ESL and DPWLG, and clarified at ISH 8 (specifically in relation to the PLA / ESL risk assessment appended to their Deadline 4C submission). The NRA Addendum was also revised to provide a residual assessment of risk (not previously provided), through the implementation of the Additional Risk Controls in the hazard log and the apportioning of effectiveness scores (of risk controls) to hazard likelihoods, to complete the NRA Addendum.
- 5 The fundamental differences between the Application NRA and the NRA Addendum as revised, is in the number and type of hazards, which was refined based on Interested Party feedback through the Examination process. This does make the direct comparison of the different assessments difficult, however it was undertaken to enable a focus to be placed on the inshore routes.
- 6 The Hazard Workshop element of the NRA Addendum was also undertaken with Interested Parties asked to attend and feed into the hazard scoring – whereas in the Application NRA this was undertaken by the project team, comprising technical and mariner experts, following individual meetings with each interested party. A workshop was offered to the MCA and Trinity House to review the hazard scoring, but both parties declined to attend.
- 7 The Outline NRA Addendum was issued to provide details of the hazard workshop carried out on 29th March, prior to ISH 8, and as such is now superseded by the NRA Addendum.

- 8 The NRA Addendum, through the Hazards Workshop and subsequent submissions, enabled Interested Parties to feed directly into the hazard likelihood and consequence scores for the baseline and inherent assessment of risk for the TEOW. As a result, many of the individual hazard input scores were scored on a more precautionary basis than the incident data analysis shows for the Baseline Assessment of risk. For the inherent assessment of risk, the Interested Parties thought that without additional controls the likelihood could be up to double that of the baseline case (e.g. Class 1 or Class 2 Vessel Collision hazard). Whilst not reflective of what may be considered a more quantitative representation of the relationship between the baseline and inherent assessment, adopting such a factoring for the likelihood was considered to allow for the qualitative concerns raised by IPs, in particular those less familiar with the process of hazard scoring but more familiar with the local conditions.

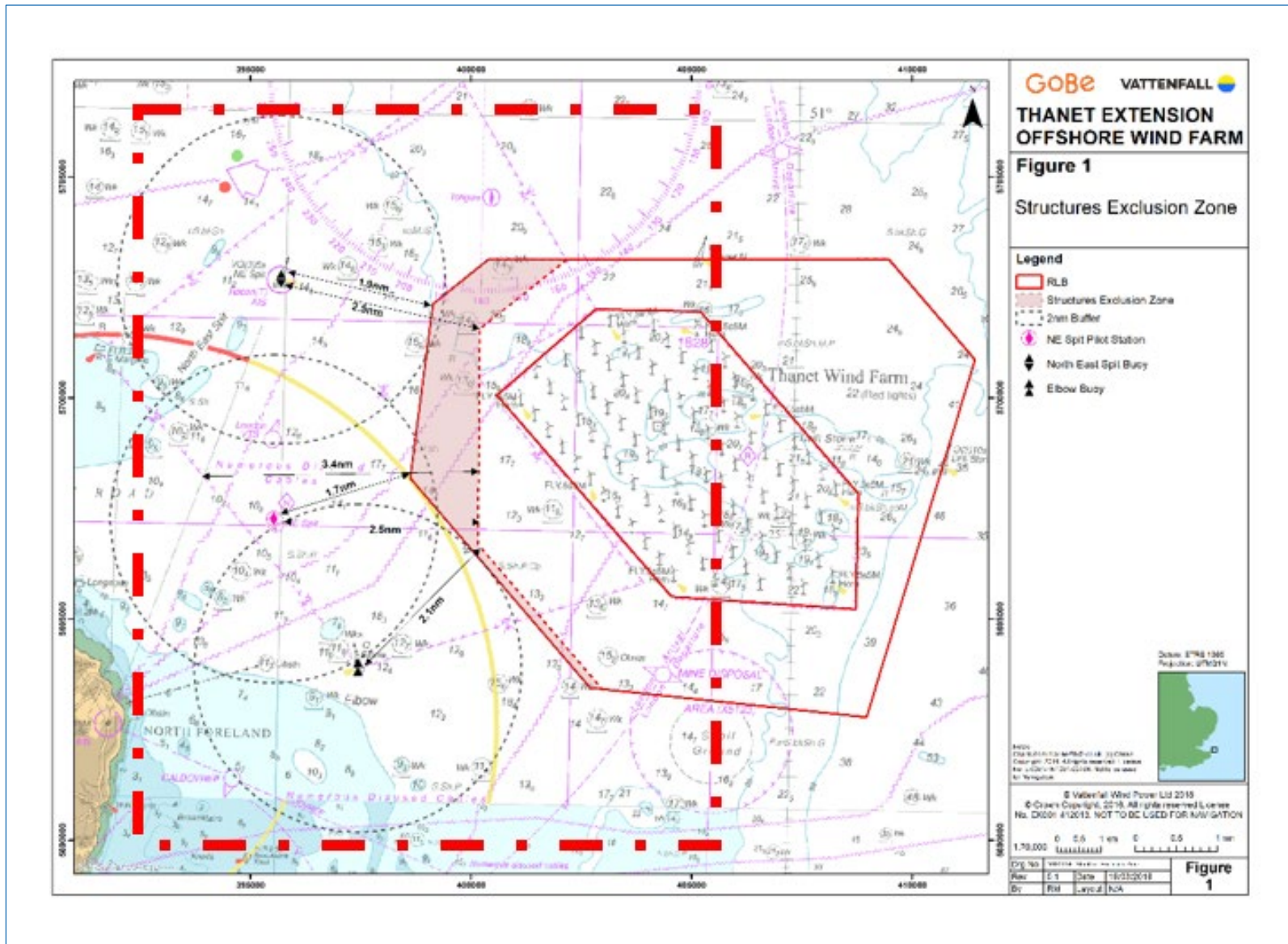
Detail	Application NRA	Interim NRA	Addendum NRA	Rationale for difference
Hazard Identification: Area	<ul style="list-style-type: none"> TEOW + 5nm 	<ul style="list-style-type: none"> Area to West of TEOW* 	<ul style="list-style-type: none"> Area to West of TEOW* 	Recognised as the area of concern for all IPs, agreed at the outset of the hazard workshop following prior submission with the hazard workshop information pack
Hazard Identification: Hazard Type	<ul style="list-style-type: none"> Collision Contact Grounding Obstruction Swamping/Capsize 	<ul style="list-style-type: none"> Collision Contact Grounding 	<ul style="list-style-type: none"> Collision Contact Grounding 	Recognised as the key hazards of concern for IPs, agreed at the outset of the hazard workshop following prior submission with the hazard workshop information pack
Hazard Identification: Phase	<ul style="list-style-type: none"> Construction / Decommissioning Operational 	<ul style="list-style-type: none"> Operational 	<ul style="list-style-type: none"> Operational 	Recognised as the key phase of concern for all IPs, as all other phases are comparatively transient, short term in duration, and are managed through standard vessel management control measures, as opposed to the introduction of fixed structures; agreed at the outset of the hazard workshop following prior submission with the hazard workshop information pack
Total Number of Hazards	<ul style="list-style-type: none"> Construction / Decommissioning - 38 Operational - 29 	<ul style="list-style-type: none"> Operational - 18 	<ul style="list-style-type: none"> Operational - 18 	Refined to allow focussed consideration at the workshop; agreed at the outset of the hazard workshop following prior submission with the hazard workshop information pack

Detail	Application NRA	Interim NRA	Addendum NRA	Rationale for difference
Hazard Identification: Vessels (Operational Phase)	<ul style="list-style-type: none"> • Large Commercial • Small Commercial • Fishing Vessel • Recreational Craft • O& M (Windfarm Service Vessel) 	<ul style="list-style-type: none"> • Class 1 & 2 Vessels (including LNG vessels) • Class 3 & 4 Vessels (including DG vessels) • Vessels less than 90m • Fishing & Recreational • Windfarm Service Vessel • Pilot Launch 	<ul style="list-style-type: none"> • Class 1 & 2 Vessels (including LNG vessels) • Class 3 & 4 Vessels (including DG vessels) • Vessels less than 90m • Fishing & Recreational • Windfarm Service Vessel • Pilot Launch 	<p>Recognised as the preferred method of vessel classification by most IPs, agreed at the outset of the hazard workshop following prior submission with the hazard workshop information pack. Vincent Crockett on behalf of Port of Tilbury noted that his preference was for other forms of vessel classification but was content to go with the preference of local experts.</p>
Hazard Scoring Approach	<ul style="list-style-type: none"> • Quantitative <ul style="list-style-type: none"> ○ Vessel Traffic Analysis ○ Vessel Track Analysis ○ Collision Risk Modelling • Qualitative <ul style="list-style-type: none"> ○ Pilot Transfer Bridge Simulation ○ Consultation Meetings 	<ul style="list-style-type: none"> • Quantitative <ul style="list-style-type: none"> ○ Vessel Traffic Analysis ○ Vessel Track Analysis ○ Collision Risk Modelling • Qualitative <ul style="list-style-type: none"> ○ Pilot Transfer Bridge Simulation ○ Hazard Workshop ○ Project Personnel 	<ul style="list-style-type: none"> • Quantitative <ul style="list-style-type: none"> ○ Vessel Traffic Analysis ○ Vessel Track Analysis ○ Collision Risk Modelling • Qualitative <ul style="list-style-type: none"> ○ Pilot Transfer Bridge Simulation 	<p>Introduction of local expertise with, port, fishermen and pilotage operators and statutory bodies in an advisory and observer basis to recognise the process as appropriate and accurately reflecting IP input. MCA confirmed this to be the case following the workshop.</p>

Detail	Application NRA	Interim NRA	Addendum NRA	Rationale for difference
	<ul style="list-style-type: none"> ○ Internal hazard analysis process involving Project Personnel reflecting mariner and technical expertise 		<ul style="list-style-type: none"> ○ Hazard Workshop involving local expertise and Interested Parties ○ Project Personnel 	
Hazard Scoring: Baseline Assessment	<ul style="list-style-type: none"> ● Completed by project staff before formal consultation with Interested Parties 	<ul style="list-style-type: none"> ● Completed 	<ul style="list-style-type: none"> ● Completed collaboratively with Interested Parties 	Structured hazard workshop arranged to provide for technical and qualitative input.
Hazard Scoring: Inherent Assessment	<ul style="list-style-type: none"> ● Completed by project staff before formal consultation with Interested Parties 	<ul style="list-style-type: none"> ● Completed 	<ul style="list-style-type: none"> ● Completed collaboratively with Interested Parties 	Structured hazard workshop arranged to provide for technical and qualitative input.
Hazard Scoring: Residual Assessment	<ul style="list-style-type: none"> ● Completed by project staff through reference to regional experience before formal consultation with Interested Parties 	<ul style="list-style-type: none"> ● Not Completed 	<ul style="list-style-type: none"> ● Completed through reference to and benchmarking against suitable local NRAs drafted by key Interested Parties, and 	Provision of local NRAs drafted by IPs allowed suitable benchmarking

Detail	Application NRA	Interim NRA	Addendum NRA	Rationale for difference
			QA/QC by independent mariners with local expertise	
Hazard Scoring: Future Uplift	<ul style="list-style-type: none"> 10% (included in hazard uplift for inherent) 	<ul style="list-style-type: none"> No Uplift 	<ul style="list-style-type: none"> 10% Uplift added to hazard likelihood scores for commercial vessels 	No difference as approach aligns with good practice, expectations of other regional projects, and reference to appropriate regional plans

9 * Extract from Hazard Workshop Presentation showing geographical coverage of Addendum NRA Hazards discussed in the \hazard Workshop.



4 Action Point 3 – Shipping and Navigation Expert Witness credentials

To help the ExA to assess the relative credibility of expert witnesses, the Applicant to submit more detailed credentials of its Shipping and Navigation expert witnesses, including where available experience of navigation of or command of vessels in the Thames Estuary and the largest type and size of vessels commanded, explaining in detail the relevance of that experience to understanding the specific safety hazards of navigation in the vicinity of the Thanet Wind Farm or equivalent.

4.1 Captain Simon Moore

10 Summary Statement

11 As a previous Class One unrestricted Pilot and current practicing senior master of a large RoPax (Roll-On-Roll-Off-Passenger-ship/ferry) ferry operating in the Dover Straits TSS and current PEC (Pilotage Exemption Certificate) holder, Captain Simon Moore is highly experienced in the requirements of pilotage and in handling large vessels in confined harbours and their approaches. Captain Moore additionally has experience as a PLA Pilot, operating in the NE Spit Area, together with practical experience of undertaking navigation risk assessment in the operation and development of harbour projects.

12 Career Overview

13 Captain Simon Moore is a Master Mariner with 24 years' professional maritime experience. Captain Moore has 8 years sailing as Master on large RoPax Ferries and high speed craft of which 5 of these years have been in the capacity of Senior Master and has also acted as a Class One Unrestricted Pilot and a duty Harbour Master.

14 Captain Moore has a variety of industry experience at senior management level and a Masters Unlimited Certificate of Competency issued by the MCA. Captain Moore holds all the relevant valid STCW (Standards for Training, Certification & Watchkeeping) qualifications to fulfil his current role as a Senior Master on RoPax Ferries.

15 Project Role

16 On the Thanet Extension Offshore Wind Farm Project Captain Moore has provided Mariner input to the examination process, the proposed SEZ, took part in the hazard workshop on the 29th March 2019, and undertook an independent review of the hazard scoring of the Navigation Risk Assessment Addendum.

17 **Navigation, Command and Pilotage Experience**

18 Captain Moore's Masters Unlimited Certificate of Competency issued by the MCA enables him to sail as Master on any size vessel worldwide without any restrictions.

19 Captain Moore currently holds PECs (Pilotage Exemption Certificates) for the ports of Dover & Calais which enables him as Master to take his vessel in/out of the ports without employing the services of a Marine Pilot. Captain Moore has previously held PECs for the ports of Boulogne and Fishguard.

20 Captain Moore has 7 years working as a Class One Unrestricted Marine Pilot and Duty Harbour Master at the Port of Dover. As a Class One Pilot Captain Moore was authorised by the Competent Harbour Authority to pilot the largest ships to visit the port. (300m length, 10m draft and up to 110,000 gross tons). This role required him to transfer from the Pilot boat to a variety of vessels at times in very exposed sea conditions. As a Senior Class One Pilot at the Port of Dover, Captain Moore was also responsible for training new pilots and examining external candidates for the reward of a pilotage exemption certificate.

21 Captain Moore was previously employed by the Port of London Authority as a Class Four Marine Pilot restricted to ships of 120m length by 6m draft.

22 Vessels piloted include:

- RoPax Ferries up to 212m
- Cruise ships up to 300m
- Container Ships up to 240m
- Bunker Tankers up to 120m
- General Cargo & Reefers (refrigerated cargo vessel) up to 200m
- Dredgers up to 100m
- Tug and Tows various but maximum of 150m entering port
- Large Sailing Vessels up to 60m

23 **Thames Estuary and Approaches Experience**

- 24 Captain Moore has experience as a Class 4 PLA Pilot in 2006 predominantly boarding and landing at the NE Spit. He has a strong and current knowledge of the project area through his current role as the Senior Master on a Dover to Calais ferry.
- 25 **Navigation Risk Assessment Experience**
- 26 Captain Moore has conducted various navigational simulations for proposed new ports, re-developments within existing ports and vessel suitability trials for existing and new vessels. In current role of Senior Master Captain Moore is responsible for implementing the SMS (safety management system) and conduct a review of this on an annual basis.
- 27 Captain Moore has excellent working knowledge of the safety management systems for both ships and ports (ISM and the MCA's Port Marine Safety Code) and is experienced in using and revising risk assessments. Captain Moore was author of the marine risks document for the corporate risk register at the Port of Dover which formed the basis for the Navigation Risk Assessment at the Port.

4.2 Commander Paul Brown

28 **Summary Statement**

29

30 As a Class 1 pilot of seven years, Commander Paul Brown has had extensive experience of pilotage, marine navigation and operations coupled with a deep routed understanding and application of navigation risk assessment. This is arising most recently from his role as Senior Operations Manager and harbour master in which he held responsibility for operations at the Port of Dover including the intimate workings of a busy VTS, towage and pilotage service in the tight confines of one of the busiest ports in the UK.

31 Commander Brown has a profound understanding of the requirements of marine and navigation safety beyond that of a practitioner. At the Port of Dover he held accountability for delivery of the ports statutory responsibility for marine and navigation safety. As a previous member of the MCA Port Marine Safety Code Steering Group (the national standard for how port marine safety is applied within statutory harbour authorities) and chair of the regional representation of Harbour Masters. Commander Brown has a strong senior industry presence and knowledge of the South East region - specifically recognising the complexity of the Dover Straits and the traffic routing measures in this area (e.g. Dover TSS) and their relationship with traffic routing measures and the approaches to the Thames estuary.

32 Accordingly, Commander Brown has a unique skillset with managerial and practitioner pilotage experience together with an understanding of hazards and the application of navigation risk assessment within busy and constrained waters.

33 **Career Overview**

34 Commander Paul Brown is a Principal Consultant at Marico Marine and also a marine pilot at the ports of Bideford, Brixham and Dartmouth. Commander Brown is also the Associates Representative on the UK Harbour Masters Association Council and, until July 2017, was the Harbour Master and a Class 1 pilot for the Port of Dover for 5 years. Commander Brown previously has 18 years' experience as a deck officer in the Royal Navy with 3 different warship commands.

35 **Project Role**

36 On the Thanet Extension Offshore Wind Farm Project, Commander Brown participated in the pilotage bridge navigation simulation as lead marine facilitator, took part in the searoom workshop on the 27th February 2019, and also reviewed the hazard scores in the Navigation Risk Assessment Addendum - specifically with regard to baseline, and residual scores.

37 **Navigation, Command and Pilotage Experience**

38 As a Class 1 Port of Dover pilot, Commander Brown has handled cruise vessels of varying size, and handling characteristics, up to 320m in length and other vessels including reefer (refrigerated cargo vessel), cargo ships, ferries up to 250m in length and bunker tankers and smaller grain, dredger and construction vessels in the constrained waters and approaches of the port.

39 Commander Brown was also responsible for recruiting and training new pilots, maintaining the standards of Pilotage Exemption Certificates (PEC) exams and introduced a structured PEC enforcement regime as well as an annual pilot continuation training syllabus.

40 Commander Brown continues to practice as a pilot in the UK South West handling cargo vessels, warships, cruise ships, tall ships, dredgers and tug and tows in the three ports where he has acted as a pilot.

41 Commander Brown has 18 years' experience as a deck officer in the Royal Navy gaining the military equivalent of a Masters unlimited STCW 11/2 qualification and commanding 3 different warships on operations throughout the world.

42 Vessels piloted include:

- RoPax Ferries up to 212m
- Warships up 150m
- Cruise ships up to 320m
- Container Ships up to 290m
- Bunker Tankers up to 120m
- General Cargo & Reefers (refrigerated cargo vessel) up to 250m
- Dredgers up to 100m
- Tug and Tows various but maximum of 150m entering port
- Large Sailing Vessels up to 60m

43 **Thames Estuary and Approaches Experience**

44 Commander Brown has been the navigator and Master of military vessels transiting the Thames Estuary and entering the River Thames (transiting as far upstream as London Bridge).

45 Through his role as a Council member for the UK Harbour Masters Association and regional Chairman for the South-East UK Harbour Masters (including Port of Dover, Port of Tilbury, DP World London Gateway, Port of London Authority and Port of Felixstowe), Commander Brown has knowledge of the safety of navigation and marine operations of ports in the region of the area including traffic routing schemes and wider pilotage operations.

46 **Navigation Risk Assessment Experience**

47 Commander Brown was the Harbour Master and General Operations Manager for the Port of Dover with direct statutory responsibility for safety of navigation and the safety management system of the port and its approaches - including ownership of the ports Navigation Risk Assessment.

48 Commander Brown also sat as a council member on the UK Harbour Masters Association Council and sat on the MCA Port Marine Safety Code Steering Group.

49 Commander Brown has worked as a consultant on navigation risk assessment projects on the Thames and the outer estuary (Rotherhithe to Canary Wharf Bridge Project and Thanet Extension Offshore Wind farm) as well as in other UK areas.

5 Action Point 4 – Policy Position on Sea Lanes or Routes

IPs to submit final policy positions on the questions of:

a) which (if any) routes approaching London and Sheerness ports does the definition of ‘...recognized sea lanes essential to international navigation...’ apply, with reference to UNCLOS 1967; and whether the proposed TEOW development could cause interference with their use (NPS EN-3 para 2.6.161).

And:

b) which (if any) routes approaching London and Sheerness ports does the definition of ‘strategic routes essential to regional, national and international trade’ (NPS EN-3 para 2.6.162) apply, and whether or how the proposed TEOW development could cause ‘disruption or economic loss to the shipping and navigation industries with particular regard to approaches to ports’ (NPS EN-3 para 2.6.162)

- 50 As per the time table the Applicant will provide their policy position for Deadline 8 following provision of IP final policy positions at Deadline 7.

6 Action Point 5 – Policy Considerations – EN-3 para 2.6.166

Relevant IPs to respond in writing to the question of whether the scheme has been ‘designed to minimise [the] effects on recreational craft and that appropriate mitigation measures, such as buffer areas ...allow for recreational use outside of commercial shipping routes’?

- 51 The Applicant notes that the Action is directed at Interested Parties although makes the following observations, the first of which is to note that following consultation with the Royal Yachting Association a complete Statement of Common Ground has been agreed, with no project specific concerns arising, and submitted to the examination.
- 52 Recreational craft have been assessed, drawing upon the vessel traffic survey (including visual, radar and AIS assessment) together with reviewing the RYA’s boating intensity maps. This is summarised in Section 5.3.4 of the Navigational Risk Assessment (Ref: Annex 10-1) and also includes consultation as undertaken with the Royal Temple Yacht Club and RYA. Additionally, this work and the underlying data was further benchmarked (Ref: Appendix 27 to Deadline 4 Submission: Data Analysis and Validation Paper) particularly with regards to seasonality and the Applicant concluded, on the basis of the robust dataset and evidence base presented, that the underlying characterisation is considered compliant (in accordance with the requirements of MGN543), robust, and an appropriate characterisation of the receiving environment with regards all relevant forms of vessel navigation for the purposes of undertaking an EIA.
- 53 The vast majority of recreational traffic, with ‘high intensity’, is distributed inshore and outside of commercial shipping routes (with most transiting vessels transiting inshore around North Foreland Point). Very low numbers of recreational transits occur in close proximity to the wind farm and only one vessel was noted to transit through the wind farm during the survey period (a 13m LOA yacht). Following the construction of Thanet Extension this position is expected to remain the same, with no identifiable reason for the inshore, high intensity, area altering in its use. Whilst the wider area of navigation may see a slight reduction in searoom, the area of greatest density for recreational use will not change, and the general cruising routes will remain navigable without any hindrance associated with the Thanet Extension project.

- 54 In light of this it is the Applicant's position that whilst it is not considered necessary to introduce further design amendments to minimise effects on recreational craft, the Applicant can confirm that the mitigation measures as presented within the NRA addendum, and secured within the DCO, inclusive of enhanced promulgation of information through the shipping liaison plan (which will include the RYA and local yachting interests as appropriate) are proportionate, appropriate and fit for the purpose of minimising effects on recreational use of the area.
- 55 Furthermore, the Environmental Statement (Ref: Section 10.16 of Chapter 10) concluded the residual impact on recreational vessel activity to be 'minor' and therefore that effects are low. Nevertheless, buffer areas, including the 0.5 and 1.0nm areas proposed by the Applicant within the SEZ are considered to provide further mitigation and room which is available for recreational users which further minimises any effect. The Applicant also notes that safety zones during construction and operation will also be applied, with appropriate promulgation of information to ensure all marine users, inclusive of recreational craft, will be made aware of the works underway.

7 Action Point 6 – IMO GPSR 1974 Para 6.4

The Applicant to respond in writing on the extent to which the [] applies to navigation in the vicinity of the TOWF and the London Pilot Council D4C submission arguing that the development presents an obstacle to vessels approaching from the east and north-east and/or an interference with forward visibility.

- 56 The Applicant does not consider that the GPSR, in particular paragraph 6.4, apply in this case.
- 57 The introduction to the GPSR states that “Ships' Routeing is intended primarily for Administrations responsible for planning and supporting routeing systems for use by international shipping. Part A consists of General Provisions on Ships' Routeing which have been developed to ensure that all adopted routeing systems conform to the same general criteria and principles”. It adds that “IMO keeps the subject of ships' routeing under continuous review by adopting new routeing systems and amending or, when necessary, withdrawing existing systems. A Government intending to establish a new or amended routeing system should be guided by this publication and follow all recommended consultative procedures to ensure that a proposed system will comply with the General Provisions in part A”.
- 58 The GPSR go on to set out their objectives, which include the following: “1.1 The purpose of ships' routeing is to improve the safety of navigation in converging areas and in areas where the density of traffic is great or where freedom of movement of shipping is inhibited by restricted sea-room, the existence of obstructions to navigation, limited depths or unfavourable meteorological conditions”. As previously discussed at the examination, there is no evidence in this case of any routeing measures being defined through the GPSR with this objective in mind.
- 59 The GPSR then sets out a series of definitions that are used in connection with matters related to ships' routeing. These include the following: “2.1 Routeing system: Any system of one or more routes or routeing measures aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, recommended tracks, areas to be avoided, inshore traffic zones, roundabouts, precautionary areas and deep-water routes.” Further provisions define terms within this broad definition.

- 60 Paragraph 3.1 confirms that “IMO is recognized as the only international body responsible for establishing and adopting measures on an international level concerning ships' routeing systems for use by all ships, certain categories of ships or ships carrying certain cargoes”. By provision 3.4, “IMO shall not adopt or amend any routeing system without the agreement of the interested coastal States, where that system may affect:....2 the environment, traffic pattern or established routeing systems in the waters concerned...” By paragraph 3.8 “A new or amended routeing system adopted by IMO shall not come into force as an IMO adopted system before an effective date promulgated by the Government that proposed the system, which shall be communicated to IMO by the responsible Government. That date shall not be earlier than six months after the date of adoption of a routeing system by IMO but, when new chart editions necessitate a substantially longer period between adoption and implementation, IMO shall set a later date as required by the circumstances of the case”.
- 61 The GPSR also explain (at 3.11) that “A Government, or Governments jointly, proposing a new routeing system or an amendment to an adopted system, any part of which lies beyond its or their territorial sea, should consult IMO”. Separate provision is made for circumstances pertaining to territorial waters (see 3.14): “Governments establishing routeing systems, no part of which lies beyond their territorial seas or in straits used for international navigation, are requested to design them in accordance with IMO guidelines and criteria for such schemes and submit them to IMO for adoption”. By paragraph 3.15 “where, for whatever reason, a Government decides not to submit a routeing system to IMO, it should, in promulgating the system to mariners, ensure that there are clear indications on charts and in nautical publications as to what rules apply to the system”.
- 62 The Applicant has referred to these provisions because they establish procedures which should be followed for the establishment of routeing systems, whether at international IMO level or domestically within territorial waters. However in this case, there is no evidence that any of shipping “routes” next to the project (in particular the inshore route or the northern route used by traffic dipping down next to the NE Racon buoy) has been established as part of any routeing system within territorial waters, whether under these general provisions or other measures including UNCLOS.

- 63 Section 6 sets out standards to “be applied in the design of ships routeing measures” (6.1). Paragraph 6.4 provides that “Course alterations along a route should be as few as possible and should be avoided in the approaches to convergence areas and route junctions or where crossing traffic may be expected to be heavy”. Subject to considering any views expressed by the MCA in particular, the Applicant considers that paragraph 6.4 sets out a design standard to be applied where a new route is being established by the IMO or within territorial waters. Reading the GPSR as a whole, it is not setting any form of policy criterion against which proposals near general routes used for shipping, which are not routeing measures falling within GPSR, must be tested. The Applicant does not consider that this provision applies in this case and there is nothing else in EN-3 to suggest that it should be specifically applied alongside or instead of the tests in that NPS.
- 64 In any event, the Applicant would make the following general comments on the underlying point raised by LPC.
- 65 It is the Applicant’s position that there would be no significant interference with visibility or lines of sight as a result of the extension. With the project in place there would be a slight change in manoeuvres in that a vessel routing through the north west corner of the wind farm (transiting to/from the Margate Roads Anchorage or when dipping to transfer a Pilot at North East Spit Pilot Boarding Station) would make this turn slightly further to the west than it currently does but there would remain ample sea room for the necessary manoeuvres to be performed. The application of guidance (from MGN543 and the MSP) in determining the sea room between the North East Spit Racon Buoy and the SEZ for this turn (on a precautionary basis of concurrent transits of four 333m LOA vessels and allowing for vessels turning) ensures that adequate sea room is maintained for continued transits and that this turning procedure remains acceptable. Furthermore whilst a clear line of sight is desirable it is not essential. It should be highlighted that the new wind turbines will be larger but spaced further apart. Therefore, the line of sight visually and by radar would be better than that currently experienced with the various wind farms in the Thames Estuary. This in addition to AIS would help the prudent mariner determine what vessels are in the vicinity of the sea area to the west of the windfarm.
- 66 Rule 5 of COLREGS requires that a vessel keeps maintains a proper lookout by sight and by hearing to as to make a full appraisal of a situation and the risk of collision.

- 67 A vessel passing north of the wind farm will in the worse case scenario alter from a heading of 270 degrees round to 230 degrees (A change of 40 degrees) to proceed down to the NE Spit diamond. The vessel would be proceeding at reduced speed with her engines on standby for immediate manoeuvring. Once the Pilot is onboard the vessel will need to steer a heading of 010 degrees (A change of 140 degrees) to pass to the east of the NE Spit buoy and then alter heading to 310 degrees. (A change of 60 degrees) There is ample sea room in the vicinity of the NE Spit buoy to make this turn.
- 68 The wind farm does not interfere with the visibility forward on a vessel as a vessel will seldomly be steering directly at a wind farm. If a vessel was to steer directly at a wind farm naturally the view would be restricted in parts but the prudent mariner would still be able to see through the windfarm by keeping an effective lookout using all available means. The Applicant would also note, as above in this section, that with the SEZ in place a vessel approaching from the NE would have ample searoom in which to operate and pass other vessels even at the narrowest point between the North East Spit Racon Buoy and the wind farm. The vessel could maintain 1nm off the SEZ at all times, if it elects to do so, as it tracks down towards the North East Spit pilotage diamond. If it were to encounter another vessel (either overtaking or on a reciprocal course) in the narrowest area between the North East Spit Racon buoy and the wind farm both vessels could safely pass one another at 1nm apart and there would still be 0.5nm searoom between the second ship and the North East Spit Racon buoy (and in guidance terms concurrent transits of up to four 333m LOA vessels is feasible – albeit the Applicant does not consider this a likely scenario) . It is therefore demonstrably the case that there remains adequate searoom. The Deadline 4C submissions, and direct email submissions from London Pilots Council to the Applicant and Trinity House, identifies an area of searoom proposed by the LPC as their suggestion in relation to this issue and this is illustrated and expanded further in context with the Applicants SEZ and in the response to Action Point 9 in this document.

8 Action Point 7 – Applicability of the UNESCO Guidance on MSP

The Applicant to comment on the applicability of UNESCO Guidance on MSP to the proposed development and submit the guidance document into the examination.

- 69 The Applicant has agreed with other IPs that the MSP document (The Shipping Industry and Marine Spatial Planning – A Professional Approach) is relevant to the project in that it includes guidance to the shipping industry on specific issues such as manoeuvring characteristics and the width of shipping lanes that is consistent with similar guidance in MGN543 (which is agreed to be relevant).
- 70 The MSP document provides more generic guidance on marine spatial planning, which is not directly applicable to the consideration of individual projects, by reference to UNESCO guidance “Marine Spatial Planning – a step-by-step approach” (<https://unesdoc.unesco.org/ark:/48223/pf0000186559>). That guidance is also directed primarily at the general process of preparing marine spatial management plans and is not directly applicable to individual projects. The Applicant would note that whilst it is not applicable, given that it is directed at the preparation of marine spatial plans, its broad principles of considering existing and future activities have been reflected in the NRA which methodologically follows the more specific MGN543 checklist as agreed with stakeholders.

9 Action Point 8 – Risk Controls

Port of London Authority to confirm in regard to the risk controls identified in Table 13 of the Navigation Risk Assessment Addendum: 'Risk Controls identified as part of PLA NRA Working Group 2015 on the Safety of Navigation in the North East Spit Area' which controls (if any):

- ***have been adopted***
- ***have been definitively rejected***

71 This response is for the PLA and the Applicant will respond as necessary at Deadline 6.

10 Action Point 9 – Positions on Sea Room Availability at NE Spit Racon Buoy

The Applicant to submit a composite plan comparing the dimensions submitted by the London Pilots Council with their plan as submitted at D4C and those of the Applicant submitted at D4 showing the separation distances between the SEZ boundary, the RLB and the NE Spit Racon Buoy, Elbow buoy and the intersection of the North Foreland Sector light and the no-anchorage zone, overlaid on data plots of density of AIS vessel tracks for high windage car carrier vessels and cruise passenger vessels.

- 72 The Applicant notes that LPC have provided the Applicant with two submissions within the Deadline 4 cycle. The first (shown at Figure 1) was issued by email on 19 March to the Applicant and Trinity House (shortly after the Applicant issued the SEZ) and shows the hatched area along the north west face as their suggested revision to the Applicants red line boundary. The second (shown at Figure 2) was provided in the Deadline 4C submission (as shown in Figure 3 and Figure 8 of their submission) with the accompanying narrative of their submission.



Figure 1: LPC Submission by Email to Applicant on 19 March 2019 (also repeated at Figure 3 of LPC Submission at Deadline 4C)

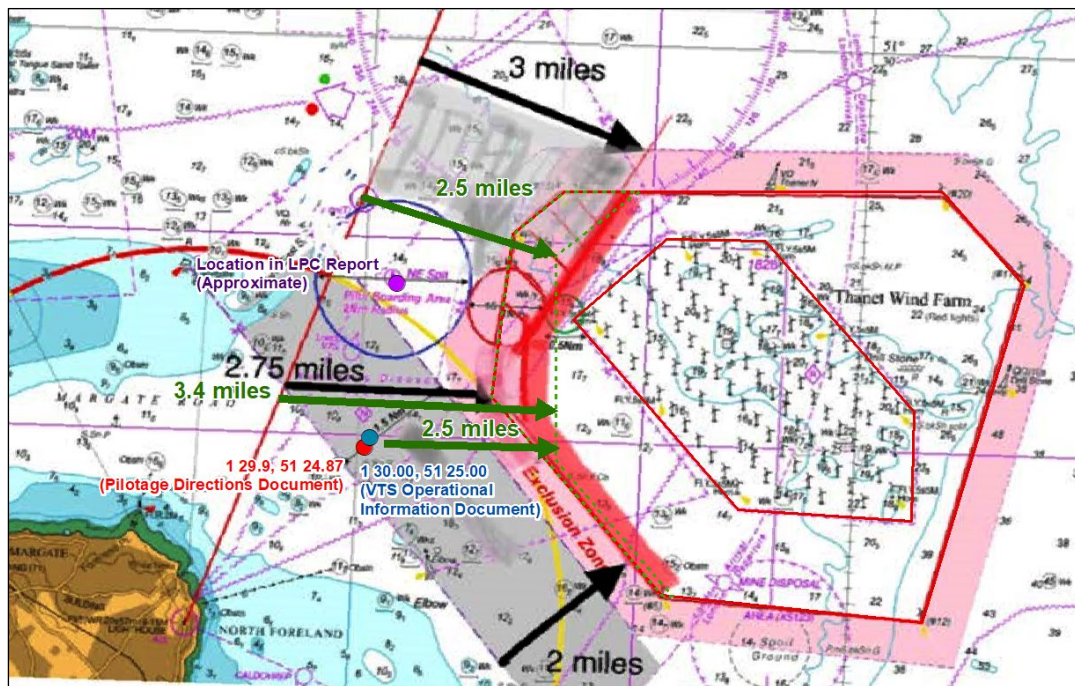


Figure 2: LPC Submission at Deadline 4C (Figure 8) with Applicant overlays in green

73 The Applicant has overlaid the SEZ and comparative measurements in green onto Figure 2 (noting that it was in poor resolution with potential georeferencing inaccuracies) by way of reference and has also prepared a composite plan of the LPC Figure 3, as per this ExA Action Point, to show the LPC submission more clearly in context with the RLB and SEZ together with the separation distances requested by the ExA at the NE Spit Racon Buoy, the intersection of the North Foreland Sector light and the no anchorage zone and the Elbow Buoy. The distances are also summarised in Table 1.

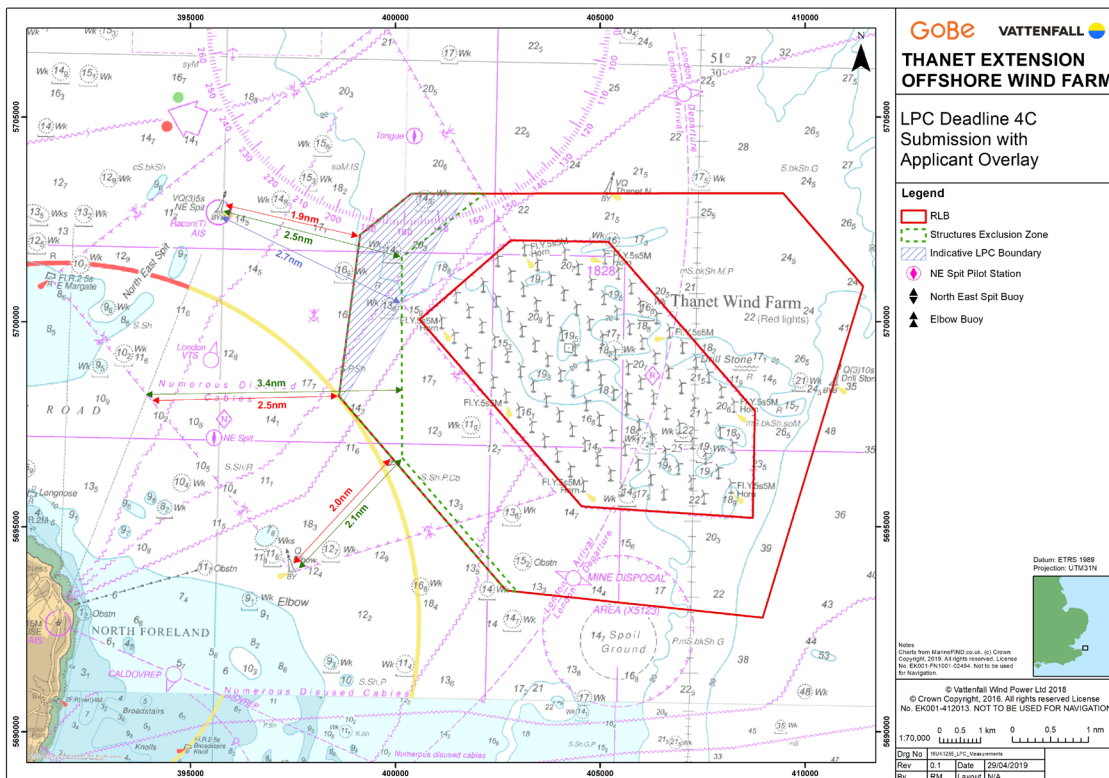


Figure 3: Composite Plan: Red Line Boundary, Structures Exclusion Zone and LPC Deadline 4C Submission

Table 1: Separation Distances

Separation Distance	Red Line Boundary	Structures Exclusion Zone Boundary	LPC Deadline 4 submission Boundary
North East Spit Racon Buoy to boundary (nm)	1.9	2.5	2.7
intersection of the North Foreland Sector light and the no anchorage zone to boundary (nm)	2.5	3.4	2.5
Elbow Buoy to boundary (nm)	2.0	2.1	2.0

74 Table 2 provides further commentary on Figure 2 and the LPC Deadline 4C submission in Figure 8 and Section 5.1 specifically with regards to areas of inconsistency and the stated LPC requirements together with where the Applicant considers that the SEZ meets the LPC requirements.

Table 2: Comments on the LPC Figure 8 of Deadline 4C and SEZ

LPC Requirement at Deadline 4C	Comment by Applicant on LPC requirements in relation to SEZ
Elbow Buoy total distance to be not less than 2 miles.	This has been met by the proposed SEZ and 2.1nm has been provided.
South of the NESP Pilot boarding diamond to be not less than 2.75 miles	Note this 2.75m (as marked on Figure 2 / LPC Fig. 8) is <u>not</u> shown south of NESP PBD as stated (due to NESP PBD being shown incorrectly circa 2.1nm north of it's charted position (see Figure 2) but is a lateral measurement from the intersect of the no anchoring line and sector light line (agreed by Applicant as western extent available for 'large' draught vessels) to the wind farm. At this location (which is coincident with the area of greatest transfer density) the SEZ provides 3.4nm of sea room (more than shown in the LPC proposals). See Figure 3.

LPC Requirement at Deadline 4C	Comment by Applicant on LPC requirements in relation to SEZ
	<p>At the location south of the location indicated by LPC (and co-incident with the actual NESP PBD location – the SEZ provides a sea room of circa 2.8nm (2.5nm from NESP PBD to SEZ plus a further 0.33m to the west).</p>
<p>Pilot boarding diamond to be not less than 3 miles.</p>	<p>An absolute sea room width at the actual NESP PBD is provided of 2.8nm (2.5 plus 0.33m) at this point which is very close to meeting the 3nm requested. However, it should be noted that immediately north of this point (actually in the area of greatest pilotage transfer density) the SEZ provides for 3.4nm of sea room which is in excess of the 3nm requested in any case.</p> <p>We note that in the location that LPC have shown NESP PBD (circa 2.1nm north of its charted location) the 3nm is not met (and extends beyond the North Foreland sector light and on top of NESP Bank)</p>
<p>NESP Racon Buoy to be not less than 3 miles</p>	<p>It should be noted that in the actual location where LPC have shown 3nm (see Figure 2) this sea room is provided.</p> <p>The Applicant also notes that in interpretation of the LPC submission approx. 2.7nm is provided at the NESP Racon Buoy rather than the stated 3nm. At NESP Racon Buoy, The Applicants SEZ has provided 2.5nm for the reasons as stated in the SEZ Submission (Appendix 14 to Deadline 4) which allows for all stated turning circles and stopping distances provided by LPC (1.45nm and 1.53nm respectively for 333m LOA vessel at Fig 4 table) and/or allows for the concurrent transit and overtaking/meeting scenario of 1.53nm as defined by the MSP with 0.97nm of additional sea room remaining - which can be considered as a buffer.</p>

75 Figure 4 and Figure 5 have been created by the Applicant in response to this ExA Action. Data from the AIS Seaplanner Dataset between Mar 2017 to February 2018 (as presented by the Applicant across various Deadline 4 submissions) has been utilised and filtered for vessels that have passed through any of the following ‘gates’:

- NE Spit Pilot Boarding Station and RLB
- NE Spit Buoy and RLB
- Elbow Buoy and RLB

76 A further filter has been applied to the AIS dataset to extract 'cruise' and 'car carrier' vessels (presented in Figure 4 and Figure 5). It should be noted that 'car carrier' vessels are a sub category of 'cargo' vessel type and, due to sub categories not always being fully complete within AIS datasets, the Marico Marine internal database of static vessel information has been utilised to identify these vessels although some remain unallocated and thus the presented vessel types for 'car carrier' are representative sample extracts.

- Ro-Ro Cargo Vessel (Figure 4)
- Vehicles Carrier Vessel Figure 4)
- Cruise Vessel (Figure 5)

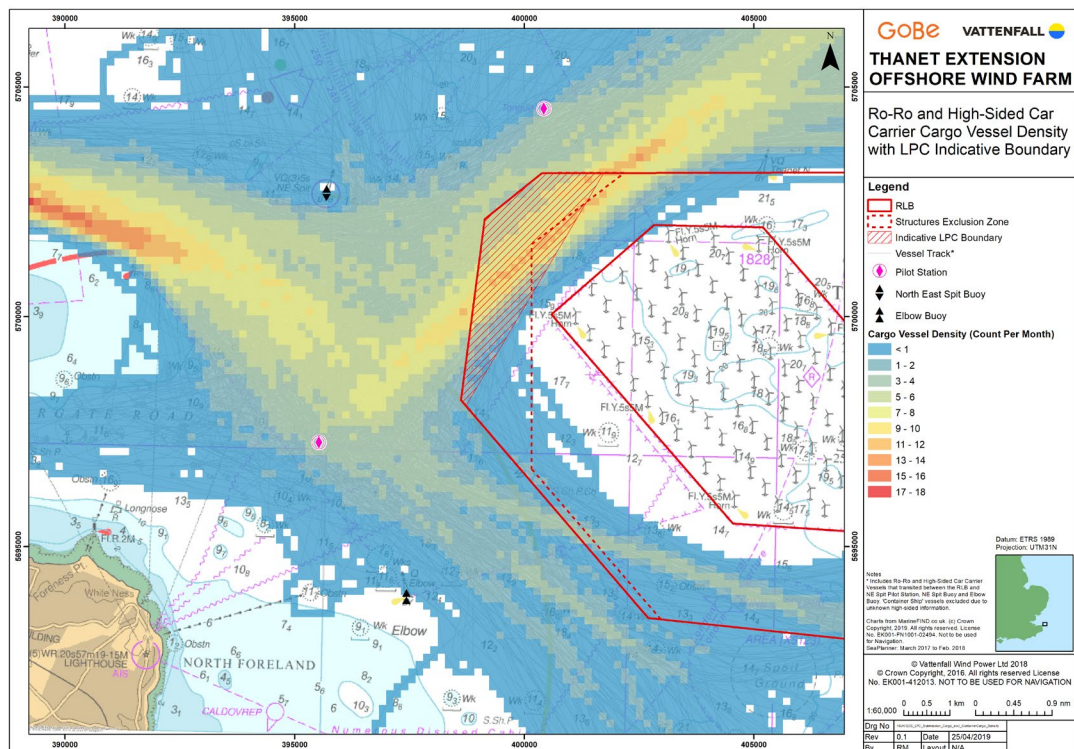


Figure 4: Ro-Ro Cargo and Vehicle Carrier Vessel Density

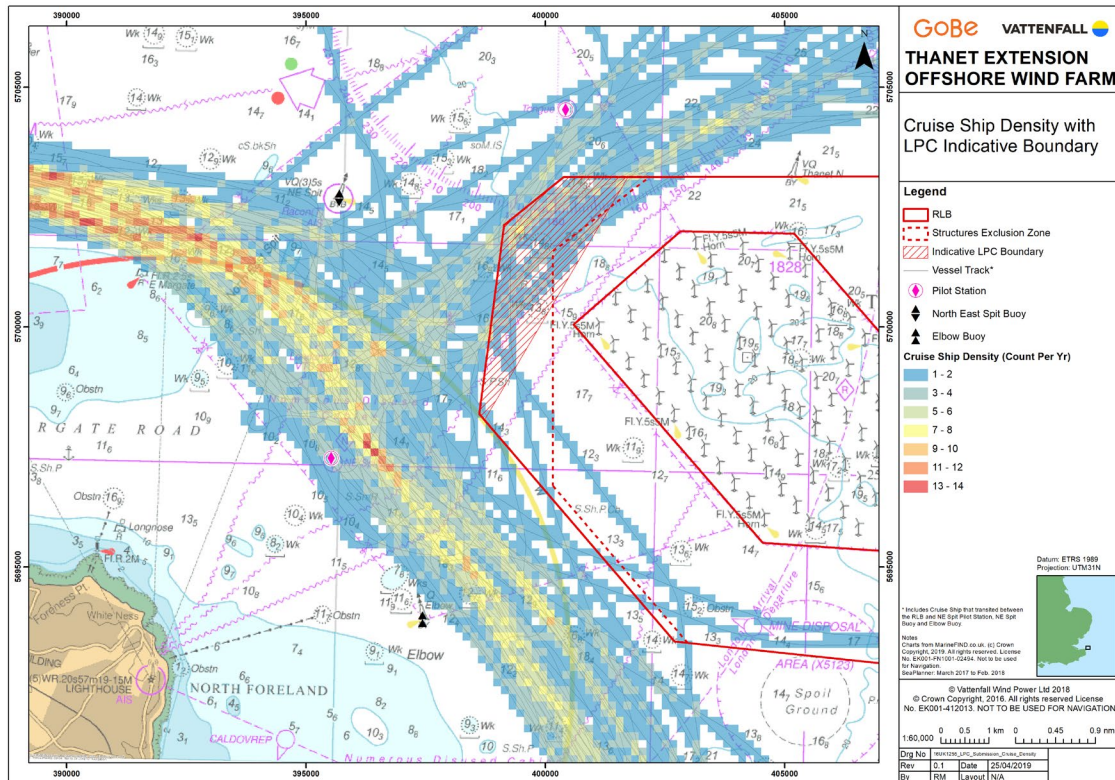


Figure 5: Cruise Ship Vessel Density

- 77 As reported in the NRA (Section 7.1.2) assessment was undertaken to determine the effect on routes of the wind farm in terms of increased transit distances of displaced traffic. With reference to the Routes 3 and 6 from Figure 46 and Table 10 of the NRA a displacement of 1nm or less was concluded (and considered minimal – particularly in context with a vessels wider transit) and, in relation to Figure 4 and Figure 5 of this Action point, any routing diversion is further reduced and improved.
- 78 Vessels routing through the north west corner of the wind farm will be displaced a commensurate distance away from the new boundary when transiting to the Margate Roads Anchorage or when dipping to transfer a Pilot at North East Spit Pilot Boarding Station). The application of guidance (from MGN543 and the MSP) in determining the sea room between the North East Spit Racon Buoy and the SEZ (on a precautionary basis of concurrent transits of four 333m LOA vessels and allowing for vessels turning) ensures that adequate sea room is maintained for continued transits and that this turning procedure remains acceptable.

11 Action Point 10 – Maritime and Coastguard Agency oral submissions

Maritime and Coastguard Agency and THLS to submit a written copy of their oral submissions in relation to ISH8 Agenda Items 5 and 6 at D5. They are requested to add observations on the conduct of the March and April stakeholder workshops including whether they consider that there might be scope for additional mitigation and risk controls to be introduced to achieve or to reduce to lower in the range of As Low as Reasonably Practicable (ALARP) mitigation of any of the primary navigation risks that have been identified by the Applicant.

79 The Applicant notes this Action relates to MCA and THLS.

12 Action Point 11 – NRA Risk Controls exercised by other organisations

The Applicant to set out in writing to what extent does the NRA (and not just the NRAA) rely on:

a) risk controls being introduced by other parties to reduce baseline risk; or

80 Neither the Application NRA or the NRA Addendum rely on risk controls being introduced by other parties to reduce baseline risk in the area. The baseline assessment of risk in the study area has been assessed as part of the Application NRA and NRA Addendum to be ALARP or Low Risk. The risk scores derived from these assessments are aligned to those risk scores carried out by the PLA, MCA and Port of Sheerness (2015 NE Spit NRA). It is assumed that the recommended risk controls identified as part of the 2015 NE Spit NRA have been implemented, however if these have not been implemented the net result of PLA implementing them at this stage would be a further reduction in baseline risk and an associated reduction in the inherent risk profile for Thanet Extension. It is not therefore necessary for the PLA to implement them for the risk associated with Thanet Extension to remain ALARP, but by doing so the baseline risk for the region would be reduced and the potential effect associated with the introduction of the Thanet Extension project would be lower within ALARP.

b) risk control during Operational and Maintenance phase of the proposed development in the context of this NRA needing to be managed by PLA; or

81 The embedded and additional risk controls identified as part of the Addendum NRA do not need managing by the PLA. However, it is anticipated that the PLA would be a member of the Shipping and Navigation Liaison Group and would therefore contribute local knowledge and expertise to aid in management rather than undertake the management itself.

c) additional risk controls that are suggested in the NRA that IPs contend should in fact be considered as embedded, with the consequence of producing a difference in residual risk scores

82 Comment has been made by the MCA that *Enhanced Promulgation of Information* and *Enhanced Optimisation of TEOW line of Orientation and Symmetry* risk controls are embedded risk control measures. However, the Applicant does not agree with this observation as:

- Enhanced Promulgation of Information includes for more encompassing and proactive dissemination of information, including that generated as part of the Shipping and Navigation Group, compared to that included in the Embedded Risk Control measure - Information Dissemination via 'standard' notices to mariners.
- Ensure TEOW orientation is optimised for navigation safety through 2 lines of orientation taking into account existing TOW WTG's. This exceeds Layout Plan requirements of the embedded control which would ordinarily leave the discussion of a line of orientation to be confirmed in consultation with the MCA and Trinity House.

13 Action Point 12 – Effective density of use of inshore route

Applicant to reconsider as a measure of density of large commercial vessels using the inshore route its assessment of 11 vessels on average per day, after taking into account its analysis of tidally restricted periods during which no vessels over a certain size pass that route; and clarify which “gate” this analysis refers to (in response to query raised by Richard Jackson of ESL).

- 83 The Applicant confirms that the ‘11 vessels on average per day’ is consistent with the following 1 year datasets utilised by the Applicant and IP’s:
- 3,978 vessels (10.8 vessels per 24 hour period) passing between Elbow Buoy and the wind farm from the Mar 2017 to Feb 2018 AIS SeaPlanner Data (as referred to by Richard Jackson of ESL during ISH8 with reference to Para 35 (and Table 4) of the NRA Addendum Appendix 1 to Deadline 4B)
 - 4,114 (11.3 vessels per 24 hour period) “vessel passages (inbound and outbound) was recorded in the AIS data [PLA provided] using the inshore route” (Ref: Section 3.2 of DPWLGL and PoTLL Deadline 3 submissions)
- 84 This average number of transits per day incorporates the consideration of a variable temporal spread of the transits of pilotage qualifying vessels (rather than an assuming an even spread over a 24 hour period). This was interrogated in the NRA (Section 7.1.3) which demonstrated that for circa 80% of any 24 hour period there were either none or one transiting vessel. Therefore transits at any time of more than one vessels accounts for approximately 20% of the time, which translates as 4.8 hours. In this context the bulk of the 11 vessels will be transiting during a 4.8 hour period.
- 85 In determining whether ‘concurrent’ transits were due to height of tide, analysis demonstrated that there was no discernible difference in height of tide for none to three concurrent transits. It should be noted that concurrent in this context means three vessels transiting within a 1 hour period rather than side by side. Concurrent transits of four or more vessels, again taken to mean within a 1 hour period (noting that vessels will normally spread to the extent that they will rarely transit side by side and will seek to locally deconflict) were shown to occur slightly more often for higher tidal heights – albeit these are infrequent occurrences. It is also noted that the practice of ‘concurrent’ transits may be scheduled to enable concurrent pilot transfers to be undertaken from one pilot cutter sortie albeit these vessels will spread themselves temporally and spatially to allow sufficient separation to deconflict themselves and allow for the pilot cutter to service each vessel safely.

- 86 With regards to tidal restrictions it should be further noted that the inshore route itself should not specifically be considered the cause of any limiting tidal restriction (noting that 8.6m is the PLA stated critical depth at NE Spit Pilots as of 16-April-2019 at 1709 hours). In accordance with PLA Pilotage Directions it is the Princes Channel (critical depths stated variously of 5.7m, 8.0m and 8.1m of 16-April-2019 at 1709 hours), Fisherman's Gat (8.5m) and Long Sand Head that are considered the features which delineate tidal restrictions for vessels with operating draughts of greater than 7.5m.
- 87 Whilst the depth limitations at North East Spit Bank are also noted and agreed (and notwithstanding that significant numbers of vessels navigate over the bank when safe to do so) it should be noted that deeper water is available to the east of North East Spit Racon Buoy for those vessels requiring it and the bank is therefore not a restriction to prevent passage. Additionally, it is noted that other tidal restrictions, also outwith of the project influence, such as localised depths at berths of arrival/departure should be considered relevant.
- 88 The Applicant seeks to clarify that the Gate C referred to in the NRA (Section 7.1.3) is a typographical error and the data and accompanying text and conclusions refer to Gate E (which transects between East Margate Buoy and the wind farm). The above analysis and conclusions remain correct and relevant.

14 Action Point 14 – Check if risk control proposed is already embedded as an MC requirement

The Applicant to check and confirm in written submission in response to the question raised by Mr Nick Salter of MCA whether there is double counting of additional mitigation proposed and already embedded by virtue of being an MCA compliance requirement (optimisation of line of orientation and symmetry).

89 The Applicant has responded to MCA commentary at Action Point 11 but can confirm that *Enhanced Promulgation of Information* and *Enhanced Optimisation of TEOW line of Orientation and Symmetry* risk controls are not embedded risk control measures in the context proposed by the Applicant.

- Enhanced Promulgation of Information includes for more encompassing and proactive dissemination of information, including that generated as part of the Shipping and Navigation Group, compared to that included in the Embedded Risk Control measure - Information Dissemination via 'standard' notices to mariners.
- Ensure TEOW orientation is optimised for navigation safety through 2 lines of orientation taking into account existing TOW WTG's. This exceeds Layout Plan requirements of the embedded control which would ordinarily leave the discussion of a line of orientation to be confirmed in consultation with the MCA and Trinity House.

90 The Applicant is therefore making the commitment to 2 lines of orientation at the consent stage rather than a single line of orientation to be discussed post-consent. The introduction of the shipping liaison plan and associated shipping and navigation group is also considered an enhanced additional control as this goes considerably beyond the norm of notices to mariners being issued via the UKHO.

15 Action Point 15 – Future Traffic Growth Assumptions

The Applicant to provide the underlying assumptions used and basis for arriving at a future traffic growth assumption of 10%.

- 91 Future traffic profiles are considered within the NRA hazard log by applying an uplift to the hazard likelihood scores based on a projected uplift in vessel numbers by vessel type. It is noted that Vince Crockett at ISH8 on behalf of London Gateway noted that the growth for the inshore route was unlikely to be greater than 10%. It is therefore considered to be a common ground that 10% growth for the inshore route is a reasonable assumption on which to consider future traffic. Notwithstanding this the Applicant presents the following further justification.

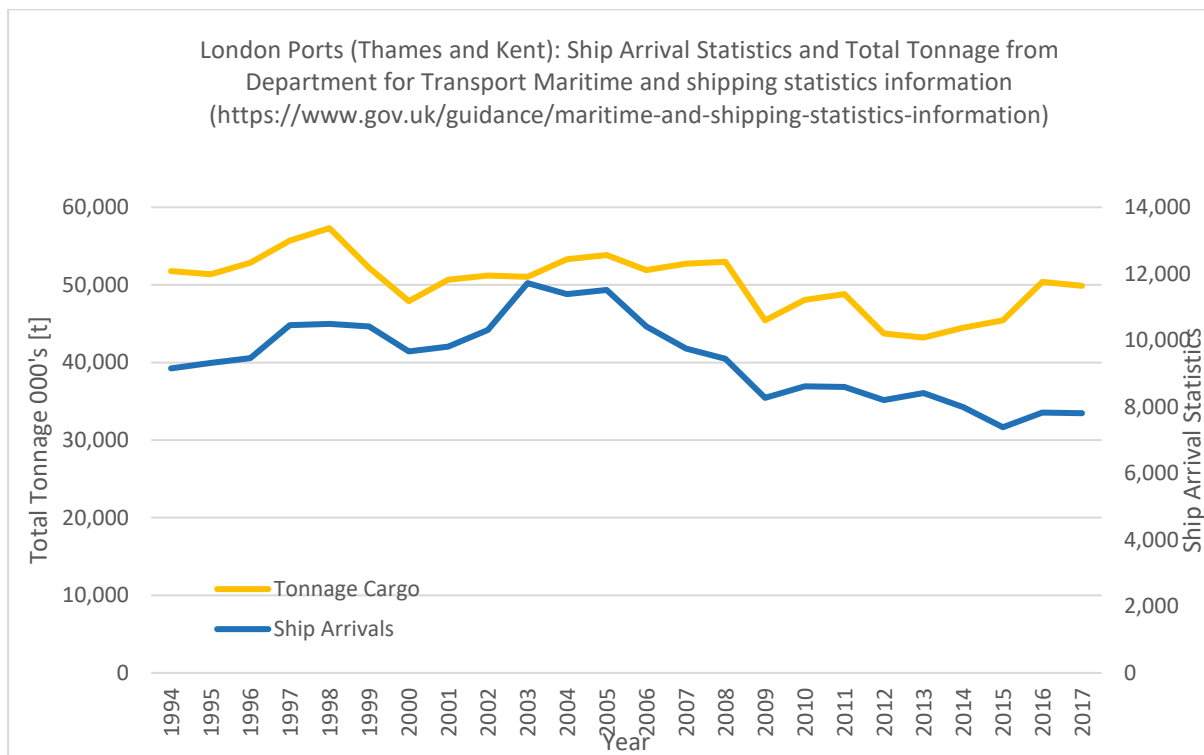


Figure 6: Ship Arrival and Cargo Tonnage data for London Ports

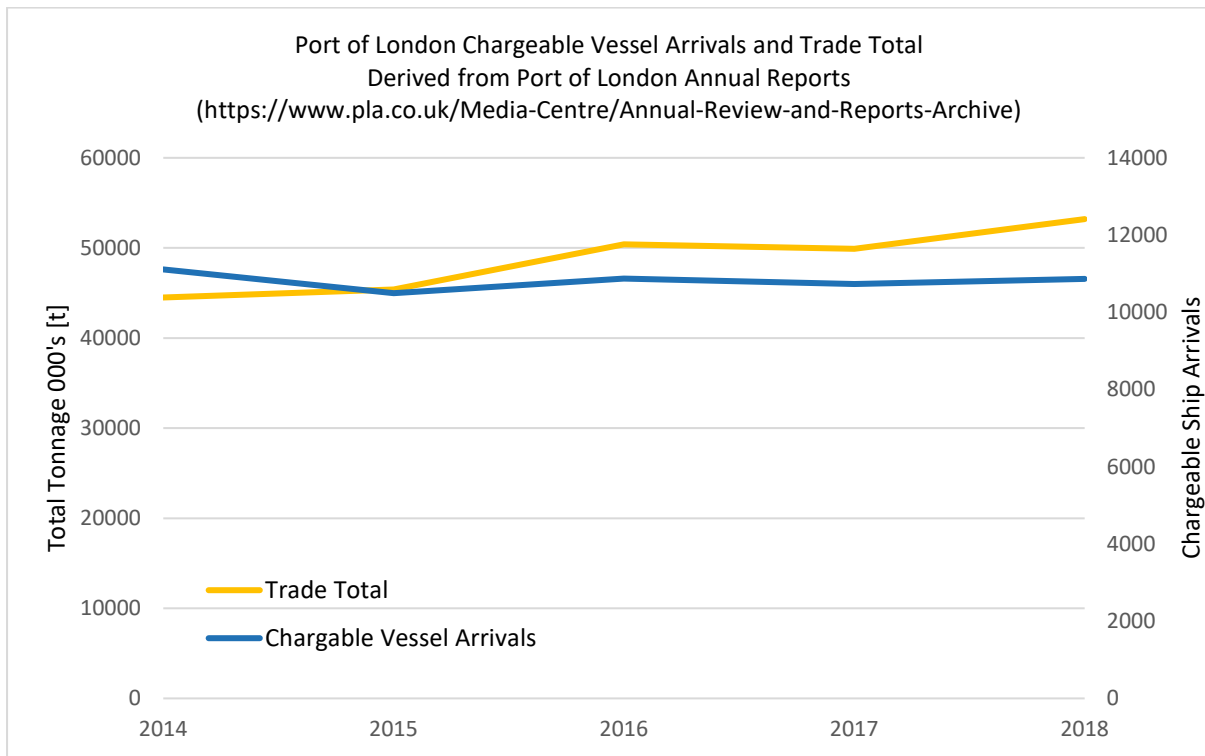


Figure 7: Port of London Chargeable Vessel Arrivals and Trade Total

92 The original NRA reviewed vessel traffic trends based on available historical cargo tonnage data for the Thames Estuary and the PLA Thames Vision, and applied an uplift of 10% to account for any change in commercial vessel activity. The original NRA made this judgment based on uplift of all commercial vessel traffic passing the TEOW site and also on the basis of trends towards use of larger vessels which would necessarily use the deep draught approach to the PLA via the SUNK pilot boarding ground. Interested Parties, especially Port of Tilbury and Dubai Ports World London Gateway have questioned this conservative uplift, and whilst within both these ports development of additional berth facilities (e.g. Tilbury 2) and increased utilisation of existing infrastructures is likely, these ports only account for a proportion of vessel movements in the Thames Estuary and no details to date have been provided on uplifts from these IPs related to passage of vessel past the TEOW site. It is clear however that vessel traffic from the ports only represents a minority of the traffic using the inshore route or dipping at NE Spit (see the ports' D3 submissions (REP3-070) compared with the AIS data at Appendix 27 to the Applicants D4 submissions (REP4-030)).

- 93 Analysis of the cargo tonnage data, in addition to ship arrival data from the Department for Transport (presented in Figure 26), shows that since a peak in 2003, there has been a steady decline in ship arrivals, and that in terms of cargo, following a significant turn down in 2008 from the financial crisis there has been relatively little change in cargo volumes between 2008 and 2017. This evidences the shift towards larger less frequent ship arrivals, as shown in Figure 27, which is PLA data taken from their annual report showing an increase in trade but a largely static (and in fact a slightly downward) trend in chargeable ship arrivals over recent years – it is important to note that the PLA figures do not include other estuary ports such as the Port of Sheerness and use a different unit of measurement compared to the Department of Transport figures.
- 94 Therefore, to account for an uplift in larger vessels, and based on an actual downward trend in vessel numbers evident from the Department for Transport data for the wider Thames Estuary, a conservative and precautionary 10% uplift in hazard has been applied to PLA pilotage Class 1 and Class 2, Class 3 and 4, and less than 90m vessels. This is in line with many other OWF NRA assessments (e.g. Galloper OWF NRA (2011), East Anglia Two OWF NRA (2019) and East Anglia One North OWF NRA (2019)).
- 95 Further to this the PLA recently issued a Thames Vision Progress Report dated Oct 2018, that stated Port trade in 2017 was 49.9 million tonnes (+10%, compared to 2015 baseline: 45.3 million tonnes), however when compared to PLA Chargeable Vessel calls the ship arrivals have actually remained static, and decreased between 2014 to 2018. This further points to fewer larger vessels carrying more cargo. This further supports the hypothesis that ship movement past the TEOW is expected to be largely static, and the 10% uplift applied to commercial vessels represents a conservative uplift.

- 96 Also it is important to note that the “MMO1127: Futures analysis for the north east, north west, south east and south west marine plan areas” report of June 2017 notes in its assumptions and impacts under the future scenarios for ports, shipping, dredging and disposal for the south east region that an allowance be made for annual growth in terms of freight tonnage of 1% between 2017 and 2027 and 2% between 2028 and 2036 under the business as usual scenario, or 1% between 2017 and 2036 under a local stewardship scenario. Under these marine planning scenarios the assumption is also made that the trend for larger vessels would continue. Indeed, it is of note that in this strategic assessment of the region a key assumption is that Thanet Extension is consented in its initial (scoping stage) proposed layout. It is important to note in this context that the Marine Management Organisation future analysis for the region assumed that overall freight tonnage would increase, by between 1 and 2%, but that the trend for larger vessels would continue meaning little or no change in total vessel numbers; as vessel size increases use of SUNK over NE Spit pilot boarding stations would therefore be apparent and ship movements past the TEOW project are unlikely to change significantly.
- 97 A downward, or static trend is also evident in recreational and fishing vessel activity categories in the area, and therefore no uplift to account for future growth has been included. This is evidenced in national trends for recreational craft (boat ownership trends show static numbers between 2007 and 2017) and fishing vessels (pg 13 of UK Sea Fisheries Statistics 2017 – MMO - shows <=10m vessel no. at 2014 – 2,573, 2015 – 2,598, 2016 – 2,569, 2017 - 2,512). Thanet Fisherman’s Association have also stated that due to economic impact on fishing the fleet size in the area shows no increase.
- 98 An uplift in Windfarm Service Vessels (WSV) is considered within the Inherent assessment of risk as this includes additional WSV in operation associated with the TEOW. WSV engaged on other projects within the Thames Estuary and transiting through the study area are anticipated to remain largely the same as current day usage based on consultation.

16 Action Point 16 – Proposal of a Structures Exclusion Zone (as opposed to a change in order limits)

The Applicant to explain

- *The reasoning for proposing a SEZ rather than a change in order limits; and*
- *What activities may be carried out in the DCO can be done within the SEZ during the different project phases.*

99 The Applicant has provided a separate document at Annex A to this Deadline 5 submission.

17 Action Point 17 – Potential Commercial, Employment and Economic Effects

All IPs to present evidence on potential commercial, employment or economic consequences of effects of the proposed development.

- 100 The Applicant notes this Action Point is for IPs and will respond to representations made.

18 Action Point 18 – Consultation with the Port of Sheerness

The Applicant to confirm whether the Port of Sheerness was consulted in any way in regard to the HAZID workshop or the development of the NRAA.

- 101 The Applicant has focussed the participants within the development of the SEZ, HAZID workshop and NRA Addendum to those who are actively engaged within the Examination Process.
- 102 Vattenfall liaise with Port of Sheerness outwith the formal process, but have invited formal consultation responses on the SEZ.

19 Action Point 19 – Ship traffic data

PoT and LGPL to clarify their REP3-070 submission by submitting evidence on numbers of ships and volume of freight or passengers being served at Tilbury and London Gateway in relation to overall numbers of ships and volume of freight or passengers served at London and Sheerness ports, by type of cargo or passenger and for a period or periods relevant to the NRA; with an estimate of the proportion of which are passing over NE Spit or transferring a pilot at or near NE Spit diamond.

- 103 ***The ExA is interested in passenger/cruise vessel as well as freight utilisation.***
- 104 The Applicant will respond to this information when it is submitted

20 Action Point 20 – Updated simulation report

The ExA has considered requests that an updated simulation report be carried out to inform the NRA/ NRAA process in the light of the SEZ material change. The ExA has declined to make a procedural decision that such a study should be prepared at this time, for reasons set out fully in Annex A to this action list. However, the Annex provides an action for the Applicant and ISH8 IPs / OPs to:

- ***comment on what the precise brief for such a body of work might be (Deadline 6);***
- ***respond to submitted comments by others on this point (Deadline 7; and***
- ***the Applicant to exercise its final right of reply on all such submissions (Deadline 8).***

105 The Applicant will respond to Deadline 5 submissions at Deadline 6, as requested by the ExA.