

# **Vattenfall Wind Power Ltd**

## **Thanet Extension Offshore Wind Farm**

Appendix 4 to Deadline 4: Response to Deadline 3  
Submissions by Interested Parties – Shipping and  
Navigation

Relevant Examination Deadline: 4

Submitted by Vattenfall Wind Power Ltd

Date: March 2019

Revision A

|                   |                           |
|-------------------|---------------------------|
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## **1 Introduction**

- 1 As requested in the Rule 8 letter (PINS Ref PD-009) the Applicant has reviewed submissions by Interested Parties made at Deadline 3 and has provided responses to those. Responses to non-shipping interested parties can be found in Appendix 3 to this Deadline 4 Submission.
  
- 2 Appendix 5 to this Deadline 4 Submission provides the Applicant's response to the interested parties Issue Specific Hearing 5 Action Point 1 with regards the full and specific details of the important and relevant policy considerations to this case.

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## 2 Comments on additional Submissions from Deadline 3

| Interested Party                                      | Key points raised in the Submission   | Applicant’s response  |
|---|---|---|
| <p>London Pilot’s Council<br/>(PINS Ref REP3-083)</p> | <p>The greatest concern is the amount of searoom at the NESP as a result from the proposed Red Line Boundary (RLB) on all types of vessels transiting the area including pilotage operations.</p> | <p>The Applicant can confirm that further consideration has been given to the searoom necessary for a range of activities and vessel types. A revision to the project, introducing a Structures Exclusion Zone (SEZ) with rationale, was submitted to the IPs on 19<sup>th</sup> March for consideration in advance of meetings between 21<sup>st</sup> – 25<sup>th</sup> March. The proposed amendment, with a more detailed rationale for the SEZ, accompanies this Deadline 4 submission at Appendix 14.</p>   |
| <p>London Pilot’s Council<br/>(PINS Ref REP3-083)</p> | <p>The Applicants 500m Safety zone is unacceptable.</p>   | <p>For the avoidance of doubt, the Applicant seeks to clarify the distinction between the 500m safety zone and the buffer. The latter being the minimum distance that a vessel will normally elect to transit from a structure in general navigation and pilotage operations. The Applicant can confirm that the 500m safety zone is a rolling advisory zone during the construction period and would be limited to vessels/areas of construction. The zone is not to be applied to the entirety of the array or cable boundary during construction, and will not be applied to the array during the operational phase with the exception of during major maintenance works. During major maintenance works the 500m safety zone will apply only to the feature/vessel under maintenance and will not apply to the full array area. Additional controls are required during construction including, where necessary, the use of Guard Vessels, marine</p> |

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| Interested Party                           | Key points raised in the Submission   | Applicant’s response   |
|--|---|--|
|  |   | co-ordination of construction traffic and appropriate Aids to Navigation to be agreed with Trinity House.  |
| London Pilot’s Council (PINS Ref REP3-083) | Extra searoom is required for a range of factors, not just a function of length and draft, which have not be adequately considered by the Applicant.  | The Applicant has noted this submission by the LPC, and those made by the LPC at the workshop on the 27 <sup>th</sup> February, and has sought to address them through the introduction of the SEZ.  |
| London Pilot’s Council (PINS Ref REP3-083) | The proposed red line boundary will require the Deep Water Diamond, the deep water Pilot boarding position to the East of the NESP Buoy, to be repositioned. The repositioning of the Deep Water diamond to the East of the NESP Racon will have both safety and an economic impact on large vessel operations. | It is the Applicant’s position that it will not be necessary to reposition the NESP pilot diamond. With regards the Deep Water Diamond (Tongue) it is not proposed to relocate this position either, with the SEZ providing an increase in searoom when compared to the Application boundary.  |
| London Pilot’s Council (PINS Ref REP3-083) | Using the NESP for Ultra Large Container Ship vessels, has been undertaken by two vessels, and provides shorter transit times for vessels inbound or outbound from the Western Approaches and to aid an overall quicker port call and turnaround at the London Gateway as the ULCS business continues to grow.  | <p>This is noted by the Applicant and submissions made by LPC on this were welcomed at the workshop of the 27<sup>th</sup> February, however the Applicant does not consider that this activity would be required to change as a result of the project.</p> <p>The consideration of the largest vessels combined with reference to MGN543 and the marine spatial planning (MSP) guidance referred to by London Gateway and Port of Tilbury is presented in Appendix 14 of this Deadline 4 submission, but in brief the Applicant has considered Ultra Large Container Ship (ULCS) vessels (noting that they are currently only approved for the stated operations at a draught of 9.5-</p> |

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| Interested Party | Key points raised in the Submission | Applicant’s response  |
|------------------|-------------------------------------|---|
|                  |                                     | <p>10m) and allowed for 4 x333m vessels to concurrently pass and transit the area - noting that:</p> <ul style="list-style-type: none"> <li>• the MSP relates a 4 vessel side by side scenario to in excess of 18,000 transits per year whereas the current no. of AIS transits between NE Spit Racon and the existing wind farm is 4,910)</li> <li>• The sea room required by a scenario of 4 x 333m LOA vessels (at 1.53nm) is more onerous in sea room requirement than 3 x 366m LOA vessels (1.28nm) or 3 x 400m LOA vessels (1.39nm)</li> </ul> <p>Whilst projections of 333m vessels could increase it is noted that when combining the datasets from Thanet Extension and London Gateway there is an AIS dataset from December 2016 to November 2018 (reviewed by LG/PoT at Deadline 3 and the Applicant at Deadline 4) during which time there was only one transit of a 333m vessel in this area and vessels over 299m more broadly were only recorded 12 times, an average therefore of one vessel a month and at no stage were two such vessels transiting at the same time. It is therefore a rare occurrence to have one such vessel in the area at the same time with most vessels of this size navigating in/out the Estuary via alternative means. This cannot be considered a likely frequent vessel size. The 1.53nm of sea room plus a further 0.97nm of buffer inherently allows 2 larger, ULCS, vessels to pass one another and other marine operations to take place. In light of this data the Applicant considers that the multiple layers of precaution that have been applied</p> |

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| Interested Party                           | Key points raised in the Submission  | Applicant's response   |
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|  |  | allows for safe operation of a broad range of activities and vessel sizes.   |
| London Pilot's Council (PINS Ref REP3-083) | The NRA - The accuracy of the data, the provision of data obtained using the most favourable times and states of tide and the assumptions made upon risk to Pilot operations and general navigation continue to be extremely contentious.  | The Applicant does not accept but acknowledges these concerns, and has provided some further data validation at Appendix 27 of this Deadline 4 submission. A thorough analysis of a full 12 month of AIS data held by the Applicant (not therefore including the data referred to by LG/PoT) indicates that the NRA is an appropriate characterisation of the operations being undertaken in the area.   |
| London Pilot's Council (PINS Ref REP3-083) | In our opinion the PLA simulator was not fit for purpose for such a project as the Thanet Windfarm Extension NRA where data and a requirement for detailed and accurate simulations are critical to the decision making process. All Pilots have experienced the superior facilities offered by either Wallingford or Marin in the Netherlands | <p>The Applicant has responded to these concerns at various deadlines. In summary the use of the PLA simulator was agreed with PLA and PLA pilots, and was considered to be an appropriate simulation facility given the confidence in it identified by PLA.</p> <p>Notwithstanding this the Applicant can confirm that the simulator was a single facet of the original NRA and not the entire basis on which conclusions of tolerability were reached. The project has issued two significant changes since the simulation was undertaken (the boundary change pre-application and the SEZ) which have moved turbines approximately 1,5nm from the closest vessel track recorded. The simulation remains a useful benchmark of feasibility of pilot transfers to which significant precaution can be applied as a result of the aforementioned project amendments.</p> |
| London Pilot's Council (PINS Ref REP3-083) | The LPC confirm that the deviation distance for a vessel transiting around the proposed  | The Applicant notes this revision to the LPC submission on potential deviation distance. The Applicant does not agree  |



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| Interested Party                                      | Key points raised in the Submission   | Applicant's response   |
|---|---|--|
|   | <p>Windfarm red line boundary when arriving at the SE VTS reporting arc ... would incur an additional 14.4 nautical miles.</p>  | <p>that this is the additional distance and considers that this is a result of 'dipping' down to the NE Spit pilot boarding station which is not required in all cases and would not be the most efficient transit for the vessel (where a pilot transfer could occur at NE Goodwin or the Tongue).</p>  |
| <p>London Pilot's Council<br/>(PINS Ref REP3-083)</p> | <p>The table previously submitted by the LPC showing the suggested turning data typical for individual class of vessel cannot be taken as the total required sea room at the NESP. Additional factors require consideration for determining the requirement for sea room for safe manoeuvring of vessels.</p> | <p>The Applicant notes this revision to the LPC position and has welcomed the continued engagement with the LPC to define the additional factors for determining sea room for safe manoeuvring of vessels and drawing upon the relevant Regulatory guidance and vessel manoeuvring data in conjunction with their professional expertise and local area knowledge. This information has been incorporated within definition of the SEZ as set out in Appendix 14 of this D4 submission. This document provides the detailed rationale behind the SEZ which is considered to address the requirements of unrestricted sea room of 'at least 2nm' for general navigation and pilot operations as stated by LPC in this submission at Deadline 3.</p> |
| <p>London Pilot's Council<br/>(PINS Ref REP3-083)</p> | <p>Vessel Manoeuvring Characteristics taken from Vessel Manoeuvring Data were provided in Figure 1.</p> <p>The following observations for vessels in excess of 200m LOA transiting the NESP sea area at 10 knots:</p>   | <p>The Applicant notes this and can confirm that this information has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the requirements of unrestricted sea room of 'at least 2nm' for general navigation and pilot operations as stated by LPC in this submission at Deadline 3.</p>  |

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| Interested Party                                      | Key points raised in the Submission   | Applicant's response   |
|---|---|--|
|   | <ul style="list-style-type: none"> <li>• Stopping distances are in excess of 0.8 miles for emergency contingency measures.</li> <li>• Turning distances are between 0.5 and 1.5 miles should a vessel require to take avoiding action during transit.</li> </ul>  |  |
| <p>London Pilot's Council<br/>(PINS Ref REP3-083)</p> | <p>Blind sectors on vessels from right ahead to the water surface are between 300m and the IMO maximum of 500m. This is of particular note where mitigation measures using buoyage along a 500m safety buffer zone have been proposed.</p>  | <p>The Applicant notes this however buoyage is not currently proposed during operation, and any aids to navigation during construction would be set out and agreed with Trinity House.</p>   |
| <p>London Pilot's Council<br/>(PINS Ref REP3-083)</p> | <p>LPS noted that the water depth below a vessel can be further reduced by turning the vessel and by squat.</p>   | <p>The Applicant notes this and can confirm that this information has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the requirements.</p>   |
| <p>London Pilot's Council<br/>(PINS Ref REP3-083)</p> | <p>Given that turning a large vessel at 10 knots requires 1 mile of sea room then an unrestricted sea room of at least 2 nautical miles eastwards from the NESP Racon Buoy and eastwards from the NESP boarding diamond and eastwards from the Elbow Buoy, to a yet to be determined exclusion zone, is required for general navigation and Pilot operations.</p> | <p>The Applicant notes this and can confirm that this information has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the requirements. Specifically- the stated 2nm sea room has been provided for at all locations in the study area (eastwards from the NESP Racon Buoy and eastwards from the NESP boarding diamond and eastwards from the Elbow Buoy) with justified exclusions zones at each of these</p> |

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| Interested Party                               | Key points raised in the Submission   | Applicant's response   |
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|  |   | locations varying depending on the volume, nature and complexity of navigation.  |
| Maritime Coastguard Agency (PINS Ref REP3-082) | It is a recognised route for shallower draught vessels not wishing to make a detour around the Sunk Traffic Separation Scheme.  | The Applicant notes the inshore route is a recognised route for those shallower draught vessels that are able to navigate into/from the Thames Estuary via the Princes Chanel or Fisherman's Gat. The Applicant would note that vessels transiting around the array do not necessarily need to then make an onward transit to the Sunk TSS.                                  |
| Maritime Coastguard Agency (PINS Ref REP3-082) | The MCA is satisfied that the applicant has consulted with key stakeholders as part of the NRA process, and therefore is in line with MGN 543. However, it is clear there is a disconnect between stakeholder feedback and the tolerability results of the NRA.             | The Applicant acknowledges that the stakeholder feedback differs from the NRA results, but welcomes confirmation that key stakeholders have been consulted as part of the NRA process and in line with MGN543 requirements; and notes any concerns have not been expressed in direct reference to identifiable and detailed aspects of the tolerability results of the NRA.  |
| Maritime Coastguard Agency (PINS Ref REP3-082) | The applicant has now agreed to reduce the redline boundary on the western extent and this is being done in consultation with relevant stakeholders in the area. The MCA is hopeful that the redline boundary can be reduced to the satisfaction of all interested parties. | The Applicant can confirm that this information has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised. It should be noted for clarity that this is not a change to the red line boundary per se, but places a constraint on where structures can be placed. |
| Maritime Coastguard Agency (PINS Ref REP3-082) | The MCA attended the Workshop on Wednesday 27th February 2018 in order to further the discussions on the reduction to the redline boundary on the western extent,   | This is noted by the Applicant   |

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| Interested Party  | Key points raised in the Submission  | Applicant’s response   |
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|   | and to reduce the risks to an acceptable level.  |  |
| Maritime Coastguard Agency (PINS Ref REP3-082)                            | The MCA provided a copy of “GENERAL PROVISIONS ON SHIPS' ROUTEING”.  | The Applicant notes this and can confirm that this information has been reviewed, in parallel with the IALA MSP document within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised. |
| Maritime Coastguard Agency (PINS Ref REP3-082)                            | The MCA provided a copy of “The weekly/ monthly AIS graphic for routes taken by tankers”.  | The Applicant notes this and can confirm that this submission has been noted and considered in the context of the SEZ which is considered to address the concerns raised.  |
| Port of London Authority and Estuary Services Limited (PINS Ref REP3-068) | <p>PLA and ESL response to ISH5 Action Point 1</p> <p>Paragraphs 2.6.147, 2.6.148, 2.6.149, 2.6.162, 2.6.165 and 2.6.168 of the Renewable Energy Infrastructure NPS are important and relevant to the EXA’s consideration of the Application:</p>  | Responses with regards Action Point 1 and relevant policy are addressed in Appendix 5 of this Deadline 4 submission.   |
| Port of London Authority and Estuary Services Limited (PINS Ref REP3-068) | <p>PLA and ESL response to ISH5 Action Point 2</p> <p>The PLA and ESL believe the Applicant, the MCA and Trinity House do not consider there should be designation as a sea lane, and they accept this view. However, the PLA and ESL consider legal submissions regarding designation to be a matter for the MCA and Trinity House.</p> | The Applicant notes this and has responded to the legal submissions in Appendix 5 of this Deadline 4 Submission.   |

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| Interested Party   | Key points raised in the Submission  | Applicant’s response  |
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| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-068)</p> | <p>PLA and ESL response to ISH5 Action Point 5</p> <p>The key concerns regarding the NRA were –</p> <ul style="list-style-type: none"> <li>• Data (not the methodology)</li> <li>• Consultation with PLA</li> <li>• Conclusions of the NRA</li> </ul>  | <p>The Applicant notes these concerns and can confirm that an addendum to the NRA, reflecting the introduction of the structures exclusion zone (SEZ) will be submitted following a HAZID workshop to which PLA and ESL have been invited.</p> <p>The Applicant does not accept this but recognises the concerns regarding data, and has provided some further data validation at Appendix 27 of this Deadline 4 submission. A thorough analysis of an additional 12 months of AIS data indicates that the NRA is an appropriate characterisation of the operations being undertaken in the area. In brief Appendix 27 demonstrates that the use of July/August data, or a longer term survey would therefore make no material change to the characterisation of the receiving environment and would not alter the findings of the NRA.</p> |
|  | <p>At a workshop arranged by the Applicant on 27 February 2019 the PLA and others discussed the NRA and the issues of sea room and pilotage, for which an adequate NRA is essential. The Applicant is understood to be considering a revision of the RLB. At the workshop the PLA, the MCA and Trinity House all expressed the view (which the Applicant was understood to agree) that any proposed change must be the subject of full assessment resulting in a revised NRA. It was emphasised to the Applicant that proper</p> | <p>The Applicant can confirm that an addendum to the NRA, reflecting the introduction of the structures exclusion zone (SEZ) will be submitted following a HAZID workshop to which PLA and ESL have been invited.</p> <p>It should be noted that the details of the consultation held to date has been provided at previous deadlines, and provides a comprehensive level of consultation with all parties.</p>   |

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| Interested Party   | Key points raised in the Submission   | Applicant's response  |
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|  | <p>consultation with, and participation of, the PLA, ESL, the MCA and Trinity House would be a necessity. The PLA understood the Applicant to commit to revising the NRA on this basis. The hope is that that exercise will enable the parties to reach a satisfactory outcome.</p>   |   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-068)</p> | <p>PLA and ESL response to ISH5 Action Point 5</p> <p>The length of deviation will be dependent on which pilot station and presented as 14nm and 11nm for the NE Spit and Tongue respectively.</p> <p>Because the Tongue is significantly further out to sea than the NE Spit, its use would result in longer pilot boat transfers. That, and the greater risk of interruption due to weather conditions, would have a significant impact on both ESL's pilot boat service and the PLA's pilotage services.</p> <p>PLA noted that if the NE Spit remains available then it would be the station used by preference.</p> | <p>The Applicant notes the difference in deviation lengths, however this relates to the additional distance required to be travelled by a vessel which would be 11nm, whether this distance is further extended due to preference by the PLA or ESL is separate factor.</p> |
| <p>Port of London Authority and Estuary Services</p>                             | <p>Empirical Data</p>   | <p>The Applicant can confirm that 12 months of data has been analysed to contextualise and validate the data presented in</p>   |

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| Interested Party  | Key points raised in the Submission  | Applicant’s response   |
|---|--|--|
| <p>Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-014</p> | <p>a) Clarification is requested on vessel traffic analysis data (presented schematically in Annex G to Appendix 25) demonstrate approximately 10 vessels per day using the inshore channel.</p> <p>b) Clarification on Figures 35 and 38 of the NRA is requested with regards to vessel types shown and the ability to compare between the two.</p> <p>c) It follows that the information currently provided by the Applicant does not support calculations based on an average of 10 vessels per day using the inshore channel.</p> <p>d) An analysis of traffic for the purpose of determining available sea room must include non-AIS traffic.</p> | <p>the NRA. This will be included within the NRA addendum to be submitted at Deadline 4a following the HAZID workshop.</p> <p>In the 12 months of data analysed by the Applicant, 3978 vessels were identified between Elbow Buoy and the wind farm equating to approximately 10.9 vessels per day. This is similarly reflected in the figure provided by PoTLL and DPWLG at Deadline 3, of 4114 vessels using the inshore route, or 11.2 vessels per day.</p> |
|   | <p>Minimum Safe Distances</p> <p>Vessels shown at 0.5nm from the TOWF only demonstrates that it is capable of being a circumstances when that minimum will be safe, but many occasions when factors mean that it is unsafe and a greater distance must be maintained. Vessels may be forced to pass</p>  | <p>In identifying the SEZ the Applicant has taken into consideration the areas of greater shipping density and complexity of vessel manoeuvres in determining where greater buffer distances may be required. To that end, an approximately 1nm buffer (in addition to the base calculation of sea room) has been introduced between the NE Spit RACON buoy and the closest turbine</p>  |

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| Interested Party | Key points raised in the Submission   | Applicant's response  |
|------------------|---|---|
|                  | <p>as little as 0.5nm from the windfarm at this point because of the high volume of traffic in the area.</p> <p>The MCA guidance relates to appropriate minimum safe distances for passage. As explained below, greater distances will be needed for safe boarding and landing operations. A minimum safe distance for passing vessels will not provide sufficient room for the safe boarding and landing of pilots in a high density traffic area.</p> |   |
|                  | <p>For boarding and landing operations a 1nm buffer should give safe distance when combined with an operational area (i.e. the safe area for boarding and landing) of 2nm. Whilst ESL have boarded/landed pilots within 1 nm of a windfarm, this is rare and typically an outward bound vessel (pilot already on board) so the arrangements are made with the pilot beforehand.</p> <p>A buffer of 0.5nm is not considered appropriate.</p>             | <p>The Applicant notes this and can confirm that this information has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ and available searoom for a range of operations which is considered to address the concerns raised.</p> |
|                  | <p>The most severe disruption is often caused by fog, necessitating a larger buffer zone. The</p>   | <p>This is noted by the Applicant. It is also noted that the concerns with regards the February survey data are now</p>   |



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| Interested Party  | Key points raised in the Submission   | Applicant’s response   |
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|   | <p>foggiest period of the year is mid-February to mid-April, not December and January as stated in the NRA. In foggy conditions more reliance is placed on vessels’ radars for navigation so there is a special need to keep well away from wind farms so as to avoid the risk of radar interference from the turbines.</p> | <p>reduced. The requirement for larger buffer zones is noted and this is reflected in the SEZ proposed by the Applicant as set out in Appendix 14.</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-014</p> | <p>Vessel size<br/>Due to weather conditions the survey vessel was only able to remain on station for 28 days, a relatively short data period.</p>  | <p>The Applicant notes this, and whilst the survey was entirely compliant with the requirements of MGN543, a full 12 months of AIS data have been acquired in order to contextualise and validate the survey data.</p>   |
|   | <p>February is an appropriately representative month, but June is not. It is noted as a quiet period. The peak is August. As a result the survey does not take full account of seasonal traffic fluctuations.</p>   | <p>The Applicant notes this and welcomes confirmation that the February data are representatively characteristic of the area. The Applicant has compared the vessel numbers from the MGN543 survey and the August 2017 and found them to be within 1.6% of each other at Elbow, and within 10% at North East Spit, with June data being 10% greater than August (Appendix 27).</p> |
|   | <p>All those present at the workshop on 27 February agreed that calculations should be on the basis of vessels with a maximum draught of 11.5m.</p>   | <p>The Applicant notes this and can confirm that this information has been incorporated within Appendix 14 of this D4 submission when considering the largest vessels that currently transit the inshore route, and those which may in the future.</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p>                                      | <p>Sea room<br/>There is no “empirical” formula that can be adopted. So far as the</p>  | <p>The Applicant acknowledges the position that an empirical formula cannot be adopted wholesale, however it does provide a sound, reasoned basis on which to consider further issues such as the complexity of traffic. The calculations</p>  |

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| Interested Party                     | Key points raised in the Submission  | Applicant's response  |
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| <p>Response to PINS Ref REP2-014</p> | <p>PLA and ESL are concerned the RLB must be moved because in its present proposed position there is insufficient safe distance and sea room, this for all the reasons explained elsewhere in these comments. They look forward to seeing the Applicant's proposed revised RLB.</p>  | <p>taken from Marine Spatial Planning documents reflect the number of vessel movements and the Applicant has taken a very precautionary approach to both the number of vessels and the size of vessels, as set out in Appendix 14, to which further considerations including additional buffers for some activities where made.</p>   |
|                                      | <p>The LPC's sea room calculation, based on MGN 543 recommendations, is representative of a best case scenario. There is no allowance for the effects of bad weather or other traffic, and the LPC says as much. It is precisely to make such an allowance that the PLA and ESL seek provision for a 2nm operational area (with 1nm buffer) so as to enable that a safe and dynamic service to remain in place.</p> <p>It should also be noted that the calculations here are for shipping and passing vessels, not boarding and landing. As regards the reference to shipping routes, all those present at the 27 February workshop agreed that they would not wish to see the area designated as a sea lane.</p> | <p>The Applicant does not agree that the MGN543 calculations represent a best case scenario and in many respects it provides a worst case scenario when looking at vessel traffic numbers and the use maximum vessel sizes. In considering the SEZ (Appendix 14) a very precautionary approach has been taken to ensure that a high degree conservatism is factored into the calculations.</p> <p>With regards IP's preference not to see a designated sea lane this is noted by the Applicant.</p> |
|                                      | <p>The PLA and ESL note that paras 26 to 29 relate to shipping (vessel passage), not</p>   | <p>The Applicant notes this and can confirm that this information, has been incorporated within Appendix 14of</p>   |

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| Interested Party | Key points raised in the Submission   | Applicant’s response   |
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|                  | <p>boarding and landing. The area would still remain open for vessels on passage but for the purposes of boarding and landing pilots the area would become too restricted.</p>  | <p>this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised.</p>   |
|                  | <p>Given the reduction in sea room, the condensing of traffic and the visual obstruction the windfarm puts in place the PLA and ESL consider it likely that vessels approaching from the south will choose to go around the TEOWF and approach from the North. They raise concern of the requirement to move pilotage stations as a result of this and the associated increased risk.</p> | <p>The Applicant does not accept this view but can confirm that this information has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised. It is proposed that with the additional searoom, which is based on highly precautionary analysis, these concerns are now addressed and there is no requirement to move pilotage stations.</p> |
|                  | <p>If boarding and landing pilots took place further out to sea, away from the inshore channel, it would follow that vessels requiring pilotage would not use the inshore channel so that pilotage issues of sea room and safe distances would fall away. But if the pilot stations are not forced to move these problems would be as stated elsewhere in these comments.</p>             | <p>The line of sight for vessels approach from the south has been significantly increased and there is no reason relating to the wind farm why vessels would choose to avoid this area.</p>  |

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| Interested Party  | Key points raised in the Submission   | Applicant's response  |
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| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-014</p> | <p>Sea Room - Dipping traffic to take a pilot route</p> <p>Initial discussions between the PLA/ESL and the LPC have taken place and the question of use by larger vessels is a work in progress.</p>  | <p>This is noted</p>  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-014</p> | <p>Distance of re-routing</p> <p>Due to significant operational costs (both in time and money) to ESL and the PLA, the Tongue and NE Goodwin stations are not used unless absolutely necessary. If the NE Spit station remains viable, that will continue to be the station ESL will use. Vessels requiring a pilot will therefore dip down to take a pilot at the NE Spit, resulting in the 14nm increased journey. There will continue to be occasions when the Tongue and NE Goodwin stations are used but shippers accept that the station of choice is a matter for ESL.</p> | <p>The Applicant can confirm that the amendment to the project design, as detailed in Appendix 14 of this D4 submission provides for adequate searoom for a range of vessel types and sizes.</p>  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p>                                      | <p>Collision Risk</p> <p>PLA and ESL clarified the two scenarios identified –</p> <ul style="list-style-type: none"> <li>i) the volume of traffic at the inner boarding ground (NE Spit) will be unaffected, resulting in a high</li> </ul>   | <p>The Applicant notes this and can confirm that the amendment to the project design, as detailed in Appendix 14 of this D4 submission provides for adequate searoom for a range of pilotage operations, vessel types and sizes. In summary the introduction of the SEZ has provided for a reduced interaction with an area of sea that represents in</p> |

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| Interested Party                     | Key points raised in the Submission  | Applicant’s response  |
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| <p>Response to PINS Ref REP2-014</p> | <p>volume of traffic operating in a condensed area. In that case the risk of collisions will increase.</p> <p>ii) vessels will avoid a congested area and re-route round the TEOWF. In that case the risk of collisions will reduce.</p> <p>Scenario (ii) would force pilot operations to move further offshore, whether to a repositioned NE Spit or to the Tongue or NE Goodwin. Any of these would give rise to significant additional costs in terms of time, longer pilot boat journeys, longer acts of pilotage and not least the cost of moving a pilot station. There would also be increased safety risks for pilots.</p> <p>It should be noted that both scenarios have a negative impact on the pilotage and pilot boat operations of the PLA and ESL.</p> <p>The NRA concludes that there will be a 23% increase in collision risk. The PLA and ESL invite the ExA to agree that such an increase would be unacceptable.</p> | <p>excess of 90% of the area in which pilotage vessels operate. This can be differentiated from the area in which pilotage transfers occur which is a more discrete area of sea and therefore &gt;95% of the sea room in which pilotage operations take place have been avoided through the introduction. There will therefore be no discernible increase in congestion as the majority of sea in which pilotage operations take place, and the vast majority of the actual pilotage transfers take place.</p> <p>As a result of this there is not considered to be a discernible increase in the risk of collision, or of vessels seeking to avoid the area.</p> <p>Appendix 14 clearly demonstrates that in the area of greatest density of pilotage activities, there remains 3nm of sea room, which is notably aligned with representations made by Interested Parties including pilotage operators.</p> <p>The Applicant notes that an addendum to the NRA will be drafted on the basis of the revised project design which sees the introduction of the SEZ, the rationale for which accompanies this Deadline 4 submission at Appendix 14.</p> |

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| Interested Party   | Key points raised in the Submission   | Applicant’s response  |
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|  |   | <p>The NRA addendum will be submitted at Deadline 4a following a HAZID workshop to aid in reviewing the revise project design.</p> <p>The purpose of the approach to the NRA of hazard scoring (and the forthcoming HAZID workshop) is because it is not possible conclude on the basis of a single figure of collision risk whether the risks are ALARP. The issue that the NRA seeks to address is not whether there is an increase in risk but whether the risk is tolerable.</p>  |
|  | <p>It seems to be suggested that most of the events will be insignificant encounters. Without any analysis of the events that have occurred it is not possible to say whether this is correct for the present or rely on this as an assumption to that effect for the future.</p> | <p>The collision risk modelling identifies an increased likelihood of encounter, but as with all such modelling exercises including those undertaken for PLA by Marico, they do not account for human intervention. Notwithstanding this clarification the modelling was based on a baseline level of risk which drew on national statistics due to the regional low number of incidents, none of which were associated with the presence of the existing wind farm. It is therefore highly precautionary as it seeks to take national statistics and applies these to an area in which there have been zero none incidents attributable to the OWF..</p> |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> | <p>Sea Room<br/>Location of Sea Room for Pilot Transfer</p> <p>For all practical purposes the relevant distance is between the RLB and the charted</p>  | <p>The Applicant has taken these factors into account in determining the SEZ, not least the point relating to the sea room west of the no anchoring line. Appendix 14 identifies that there will be 2nm of clear sea room to the east of the no anchoring line, with a 1 nm buffer in the area of highest</p>   |

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| Interested Party   | Key points raised in the Submission   | Applicant’s response  |
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| Response to PINS Ref REP2-012  | boarding position, the NE Spit Pilot Station, is the 1.7nm referred to in PLA’s submissions.  | density of pilot transfers. Given that this is has presumably been proposed by IPs as the requirement for a worst case scenario (i.e. poor weather, large vessel etc) it should be considered that there is no conflict between the ongoing use of this area and the operation of the wind farm.<br><br>It should further be noted that whilst the no anchoring line represents a nominal boundary which the Applicant has provided sufficient sea room from, it is clear from vessel plots that there is a substantial amount of pilot transfers that occurs to the west of the line and there the use of this sea room should not be discounted when considering the overall area available for pilotage. |
| Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)<br><br>Response to PINS Ref REP2-012 | The Applicant should re-calculate the yellow area [on Figure 1] so as to show the area that is suitable for use by larger/deeper draught vessels.<br><br>When the area of sea room was discussed the Applicant agreed that ‘clear and available’ sea room relates to the no anchoring line and the fact the Margate Roads anchorage can’t be assumed as ‘clear’. The Applicant confirmed that it was not suggesting that the no anchoring line should be moved (i.e. the anchorage reduced in size) in order for more of the yellow area to provide sea room. |   |
| Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)<br><br>Response to PINS Ref REP2-012 | For the reasons explained in section 2.5.2 the Pilotage Study also includes Fig. 14, which shows the tracks of vessels meeting the pilotage criteria at less than 10 knots. This additional graphic produced by the Applicant shows an increased interaction (duration) between vessels engaged in pilotage, supporting the PLA and ESL’s view that the act of pilotage has a bigger footprint than   |   |

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| Interested Party  | Key points raised in the Submission   | Applicant’s response   |
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|   | just the point of ‘contact’ between launch and ship.  |  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The PLA and ESL believe a longer survey period would have increased both elements. For all these reasons the PLA and ESL believe the sea room plot to be inadequate.</p> | <p>The Applicant can confirm that an analysis of 12 month of AIS data has been undertaken to validate and contextualise the survey data (Appendix 27). This analysis confirms that the data used in the NRA is representative of the baseline conditions with respect to pilotage, general transiting of vessels, and seasonal fluctuations in the use of the area. It is apparent from the 12 months AIS data, combined with the existing survey and AIS data employed in early studies that Therefore the use of July/August data, or a longer term survey would therefore make no material change to the characterisation of the receiving environment and would not alter the findings of the NRA.</p> |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>A request for the baseline information on locations of pilot transfers was not made to the PLA or ESL.</p>   | <p>The Applicant can confirm that the information was requested in 2017 and has provided the minutes of the meeting at which the request was made in the Applicants Deadline 1 submission (Annex J to Appendix 25). However, data analysis of pilot vessel tracks, as illustrated in Appendix 27 to this Deadline 4 submission demonstrates an accurate representation of the areas used for pilotage operations, both with regards areas of transfer and pilotage more broadly. I</p>   |
| <p>Port of London Authority and Estuary Services</p>  | <p>The simulation also used only four types of vessel. 14 runs, 20 transfers and four vessel types is adequate for the purpose of studying</p>                              | <p>The Applicant notes this and would highlight the submissions made at Deadline 1 with regards the setup and washup of the simulation exercise. Simulation is noted as a tier 2 evidence</p>  |



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| Interested Party  | Key points raised in the Submission   | Applicant's response  |
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| <p>Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p>   | <p>feasibility and available sea room but is not sufficiently representative for a fuller assessment. No discussions were held as to how this may feed into the NRA.</p>  | <p>base within MGN543 and as such it is reasonable for a simulation to form one facet of a wider NRA.</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The PLA does not have a specific risk assessment for Havens vessels at the NE Spit, but is happy to provide what incident and risk assessment data we have to the Applicant to help inform the proposed discussions/workshops ahead.</p> | <p>The Applicant is grateful to the PLA for providing the incident data and risk assessment for the NE Spit area and this will be considered alongside other information in the HAZID workshop being held with IPs on 29<sup>th</sup> March.</p>  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-040)</p> <p>Response to PINS Ref REP2-012</p> | <p>Safety Concerns – Other Factors</p> <p>PLA and ESL noted that radar interference can occur from TOWF and vessels in close proximity. This can be a safety concern in restricted visibility.</p>  | <p>The Applicant notes this and has provided responses at Deadline 1 (ExQ 1.12.28) with regards radar interference (Appendix 25 to that submission) which refers to the NRA and concludes through consideration of industry publications and practical trials that the wind farm will not significantly effect radar.</p> |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The PLA and ESL would be happy to have the opportunity to investigate the position with the Applicant and should be grateful for any information the Applicant can provide regarding a VHF repeater and its possible placement.</p>      | <p>The Applicant welcomes confirmation of continued engagement and will review all appropriate mitigation at the HAZID workshop in April 2019.</p>  |

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| Interested Party  | Key points raised in the Submission   | Applicant’s response  |
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| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The LPC submission is a technical calculation applying MGN543 guidance is not appropriate for pilotage.</p>  | <p>The Applicant has provided the rationale for the introduction of the SEZ in Appendix 14 which considers mariner input, responses from IPs and relevant guidance in identifying the sea room in the area of pilotage.</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The Applicant has also produced a schematic for areas of required safe sea room for pilot transfers. PLA and ESL made the following observations:</p> <ul style="list-style-type: none"> <li>• The schematic relates to a specific class of vessel in a particular location</li> <li>• The fact that the schematic relates to the largest vessel size does not mean that it represents the most demanding conditions</li> <li>• The schematic works with the turning circles in the positions shown, but that cannot be guaranteed. Other factors may mean that the turning circle may be located elsewhere.</li> </ul> <p>ESL and PLA note that the Applicant’s own studies show vessels touching or overlapping the current RLB.</p> <p>ESL do not think these schematics are representative of what would occur in reality.</p> | <p>The Applicant notes this and can confirm that this information, the information provided by IPs on the 27<sup>th</sup> February, with regards searoom calculations has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised.</p> <p>In brief the SEZ notes that provision has been made for multiple vessels to be present, with precautionary buffers added to the basic calculations. The result is that with the introduction of the SEZ 3nm now exists in the area of greatest density of pilotage operations.</p> <p>When reviewed against a 12 month analysis of pilotage operations, and the use of sea room in all conditions, the SEZ results in a reduction in interaction such that in excess of 90% of the area of sea used by pilot vessels over a full 12 month period is now avoided.</p> <p>Appendix 14 therefore clearly demonstrates that the vast majority of area used by pilot vessels in reality will now be avoided as a result</p> |

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| Interested Party  | Key points raised in the Submission   | Applicant's response   |
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| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The current Tongue DW boarding position would be approximately only 0.7nm north of the RLB as presently proposed. The boarding position would therefore have to be moved further NNE to create the safe sea room required for boarding and landing. A relocated Tongue DW boarding area would still be operable. However, as discussed in other PLA/ESL submissions, use of the Tongue other than on the present limited basis would have significant adverse operational and commercial implications.</p> | <p>The Applicant does not consider that the use of the Tongue DW boarding area would need to change as a result of the project, noting its current limited use. The distance between the Tongue pilot diamond and the wind farm has been increased as a result of the SEZ.</p> |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>PLA clarified their role as a VTS authority and the extents of the existing VTS arc.</p>   | <p>Noted</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The PLA is happy to supply the underlying data now requested to the Applicant and to explain to the Applicant the interrelationship between 'Offline' and 'Restricted'. The Applicant will find that to be necessary for a proper understanding of the data. However, information regarding vessel diversions is not logged.</p>   | <p>The Applicant welcomes the provision of this data, following the request made in April 2017 as identified at Appendix 25 of the Applicant's Deadline 1 submission.</p>  |

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| Interested Party  | Key points raised in the Submission  | Applicant's response   |
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|   | <p>The PLA note that the VTS data does not record the reason for why the stations go 'Offline' or 'Restricted'. They also noted the knock-on disruption which can occur.</p>   |  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>The underlying details supporting the table in paragraph 5.18 of the PLA's/ESL's WRs are derived from the raw data mentioned in comment 34(a) above. Understanding the raw data is not a straightforward exercise, so the PLA and ESL will want to see the Applicant to present the data. While there is raw data covering all three, the potential permutations as between the elements that may be affected in related sea areas make it complicated to reduce the raw data to a simple split between NE Spit, NE Goodwin and the Tongue. The PLA will present the raw data to the Applicant. There needs to be a discussion as to how best to deal with the split with the intention of producing an agreed note for the ExA if that would assist.</p> |  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p>                                      | <p>The PLA and ESL did not agree with the Pilotage Study's treatment of possible alternative locations of facilities e.g. an indication of the NE Spit buoy as a new station. They are also unclear as to the</p>  | <p>This is noted by the Applicant and considered to be addressed by the introduction of the SEZ.</p> |

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| <p>Response to PINS Ref REP2-012</p>  | <p>evidence supporting the proposals made. These proposals, which appear to be inconsistent with the NRA conclusion (section 7.2.3) that they are unsuitable. Contrary to the Applicant's statement, an analysis of cost does not in fact appear in the Pilotage Study.</p>   |   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-012</p> | <p>Pilotage Simulation</p> <p>The PLA was essentially the provider of the tool. The Applicant's representatives determined the way in which they wanted to use it. It must be noted that the simulator has been developed specifically for the stated purposes and its output reflects that. In addition, the results of any simulator run are only as good as the information on which the run is based. The PLA's/ESL's comments on the simulation report reflect both factors and the issues raised became apparent to them only following consideration of the report itself and the NRA.</p> <p>PLA and ESL presented the consultation undertaken between the parties and the lack of opportunity to discuss the simulations and NRA prior to the Application being submitted.</p> | <p>The Applicant notes this and would highlight the submissions made at Deadline 1 with regards the setup and washup of the simulation exercise, and the wider consultation. Simulation is noted as a tier 2 evidence base within MGN543 and as such it is reasonable for a simulation to form one facet of a wider NRA.</p> <p>The project has issued two significant changes since the simulation was undertaken (the boundary change pre-application and the SEZ) which have moved turbines approximately 1.5nm from the closest vessel track recorded. The simulation remains a useful benchmark of feasibility of pilot transfers to which significant precaution can be applied as a result of the aforementioned project amendments.</p> |

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| Interested Party | Key points raised in the Submission  | Applicant's response |
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|                  | <p>The parameters used for the simulator runs were (with the exception of the use of a tug rather than a launch) appropriate for the feasibility study for which the Applicant confirms the simulation was intended. However, for the simulation to support robust conclusions on sea room and collision risk, additional parameters would have to have been provided for, such as further dates introduced and night vision.</p> <p>PLA and ESI highlight how the two different vessels (tug and pilot cutter) handle differently. Inter ship handling characteristics would have been an issue had the metocean conditions been more representative of real life conditions. Importantly, a launch is smaller and much lighter than a tug – up to 25 tonnes/ 15-17m loa and a draft of 1.5m for a launch as against 35m loa, typically 350 tonnes and a draft of 3.2m for the simulator tug. Because of this size, difference a launch is more affected by swell. This can be a critical factor, but neither the simulation report nor para 47 mentions it as an issue or any adjustment for it that might have been made.</p> |                      |

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| Interested Party | Key points raised in the Submission  | Applicant's response   |
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|                  | <p>The main issue is not the number of runs used for a feasibility study but the need for additional runs to support a simulation study for wider purposes. During the simulation itself no overall conclusions, such as those stated in the final simulator report, were discussed. Individual runs were evaluated at the time on the basis of the simulation being for a feasibility study. ESL did no more than advocate adhering to this, and no runs above or beyond the inception report were conducted. With the conclusions as formulated in the pilotage study and their application in the NRA ESL could only comment at that later stage and after discussions with all coxswains. Had the Applicant shared its draft NRA with the PLA and ESL any further issues arising out of the NRA could have been addressed, but neither the PLA nor ESL had sight of a draft.</p> |  |
|                  | <p>Annex I presents the ESL Sea Room Plan.</p>   | <p>The Applicant notes this and can confirm that this information, with regards searoom calculations has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised.</p> |

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| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-016, paragraph 8</p>  | <p>The PLA and ESL do not take issue with the methodology employed by the Applicant. Their concern is with the data used, the level of consultation, particularly on the draft NRA, and the conclusions that resulted from these failings.</p>   | <p>The Applicant would highlight the submissions made at Deadline 1 with regards the setup and washup of the simulation exercise, and the wider consultation. Simulation is noted as a tier 2 evidence base within MGN543 and as such it is reasonable for a simulation to form one facet of a wider NRA.</p> |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-016, paragraph 14</p> | <p>If the PLA and ESL had had sight of the draft NRA any specific concerns could have been raised in advance of its being finalised. In the period since its publication the Applicants have sought further discussion on it only in the context of the draft SoCG.</p> <p>As the Applicant is aware from the SoCG discussions with ESL, does not agree with the hazard scores or vessel categories as stated. Reflecting discussions with the Applicant to date, a detailed note of specific issues is in course of preparation. Once it can be passed to the Applicant ESL would welcome the opportunity to discuss the issue further so as to reach a resolution if possible.</p> | <p>Noting the disagreement on hazard scores, the Applicant is undertaking a HAZID workshop with all IPs such that these scores, following the introduction of the SEZ, can be considered and agreed upon.</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p>  | <p>PLA and ESL were not consulted on the hazard scores.</p>  | <p>The Applicant notes that the approach adopted within the NRA, and the methodology of scoring hazards is based on methodologies adopted by the PLA. The Applicant submitted the NRA to PLA and ESL in advance of the formal application</p>   |



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| <p>Response to PINS Ref REP2-016, paragraph 16</p>  |   | <p>being accepted and welcomed dialogue and representations made by PLA and ESL at all stages in the development of the NRA from scoping through to PEIR and formal application. In a continuation of the consultation undertaken by the Applicant, the Applicant has committed to further consultation with the PLA and ESL during the HAZID workshop that will inform the addendum to the NRA.</p>   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-016, paragraph 17</p> | <p>The summer survey is not representative because it was taken during a known quiet month. It therefore fails to reflect the August peak.</p> <p>Unusually for this type of report, the Applicant has not published details of its survey vessel’s tracks. The PLA and ESL believe the survey vessel did not fully survey east of the TEOWF. This means the assessment does not take account of non-AIS vessels in this area. This is a significant deficiency especially given the density of shipping there.</p> | <p>The Applicant does not accept but recognises these concerns, and has provided some further data validation at Appendix 14 of this Deadline 4 submission. A thorough analysis of an additional 12 month of AIS data (from Feb 2017 to March 2018 indicates that the NRA is an appropriate characterisation of the operations being undertaken in the area. This is further underlined by submissions made by LG/PoT which confirms that in period up to November 2018 the vessel movements are in line with the predictions made in the NRA. The use of July/August data would therefore make no material change to the characterisation of the receiving environment and would not alter the findings of the NRA.</p> |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p>  | <ul style="list-style-type: none"> <li>• The PLA is the public authority responsible for and operator of pilotage operations directly affecting the waters being assessed.</li> <li>• Within those waters, the MCA is the statutory authority, but the PLA manages</li> </ul>   | <p>The Applicant notes these responses and has no further comment to make beyond clarification that the workshop has since been held and a HAZID workshop has been arranged with relevant parties.</p>   |

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| Interested Party   | Key points raised in the Submission  | Applicant's response  |
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| <p>Response to PINS Ref REP2-016, paragraph 20</p>                               | <p>VTS operations in this area under powers designated by the MCA.</p> <ul style="list-style-type: none"> <li>• The PLA is also the competent harbour authority for the Thames and undertakes pilotage operations directly affecting the waters being assessed.</li> <li>• Given the disconnect between its in-principle concerns and the developing NRA, the PLA should have been consulted about the applying of in-principle problems to specific assessment. This would be achieved by involvement in the workshop which, it is noted, has not taken place.</li> <li>• The Applicant's review of the NRA is therefore all the more welcome. Both the PLA and ESL are looking forward to involvement in the review process when they will be able to assist the Applicant with detail of matters that they believe should be included.</li> </ul> |   |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> | <p>The Applicant is saying it has now taken account of consultation comments but that it was unable to apply in-principle concerns to the practical assessment. The PLA and ESL are unsure of the difficulty here and would be happy to assist the Applicant to reflect the</p>  | <p>The Applicant welcomes PLA's ongoing engagement and considers these comments to be superseded by the Applicants invitation to take part in meetings to discuss the SEZ, and subsequent HAZID workshop.</p> |

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| Interested Party  | Key points raised in the Submission   | Applicant’s response   |
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| <p>Response to PINS Ref REP2-016, paragraph 21 and 22</p>   | <p>issues of principle with which they are concerned in the Applicant’s own specific assessment exercise. Whatever the problem with this, the treatment of in-principle issues must mean that the NRA does not in fact take account of such stakeholder concerns. It follows that a workshop as originally proposed would have a real value. Now that a revised RLB and ‘refreshed NRA’ are in development the PLA hopes the Applicant can confirm that the disconnect will be addressed when considering the risk assessment. The PLA would also be grateful for confirmation that both the PLA and ESL – alongside the MCA - will be involved in that exercise. A workshop may be the best way of achieving this.</p> |  |
| <p>Port of London Authority and Estuary Services Limited (PINS Ref REP3-069)</p> <p>Response to PINS Ref REP2-016</p> | <p>The PLA and ESL note that the mitigation must be re-visited following completion of the review of the NRA.</p>   | <p>The Applicant notes this and whilst it considers the mitigation proposed to be appropriate, it welcomes further discussions with PLA and ESL on this matter.</p>              |
| <p>Port of Tilbury London Limited and London</p>  | <p>From the AIS data supplied by the PLA year ending 30/11/18:</p>  | <p>The Applicant notes and welcomes the data provided by Tilbury. The Applicant also notes the Marine Spatial Planning guidance which provides interpretation of the general</p> |

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| <p>Gateway Port Limited<br/>(PINS Ref REP3-030)</p>   | <ul style="list-style-type: none"> <li>• 534 vessels used the inshore route inbound for POTL and it would be reasonable to estimate that a similar number of vessels used the inshore route outbound.</li> <li>• 79 vessels used the inshore route inbound for DPWLG. It is not clear that the same number of vessels used the inshore route outbound.</li> <li>• A total of 4,114 vessel passages (inbound and outbound) was recorded in the AIS data using the inshore route.</li> </ul> | <p>provisions for ship routeing guidance. The guidance notes that 4114 vessels comprises one of the lower categories of vessel density, requiring sea room for 2 vessels to pass one another. The Applicant has incorporated this into the rationale for the Structures Exclusion Zone (SEZ) and applied further precaution to ensure that future traffic movements are also allowed for.</p> <p>The Applicant notes DPWLGs submission that 79 inbound vessels utilised the inshore route over a 12 month period, or one vessel every 4.6 days. Vessels inbound for POTL are notably higher at approximately 1.4 vessels per day. Whilst the Applicant does not consider there to be any hindrance to passage of the inshore route, and the introduction of the SEZ notably allows for 4 large (333m) vessels to transit concurrently, this level of interaction would be considered of a very low significance.</p> |
| <p>Port of Tilbury London Limited and London Gateway Port Limited<br/>(PINS Ref REP3-070)</p> | <p>For POTL vessels (inbound and outbound) there were a total of 3,127 recorded piloted trips. Of the inbound trips 754 included picking up a pilot at the NE Spit. The POLARIS data base does not enable us to determine how many outbound piloted trips included dropping off a pilot at the NE Spit. Approximately 50% of the inbound piloted vessels to POTL pick up a pilot at the NE Spit.</p>   | <p>The Applicant notes this and can confirm that this information, with regards searoom calculations has been incorporated within Appendix 14 of this D4 submission which provides the detailed rationale behind the SEZ which is considered to address the concerns raised.</p>   |

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| Interested Party  | Key points raised in the Submission  | Applicant’s response   |
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| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>For DPWLG vessels (inbound and outbound) there were a total of 2,134 recorded piloted trips. Of the inbound trips 160 included picking up a pilot at the NE Spit. The POLARIS data base does not enable us to determine how many outbound piloted trips included dropping off a pilot at the NE Spit. Approximately 15% of the inbound piloted vessels to DPWLG pick up a pilot at the NE Spit.</p>   | <p>The Applicant notes that this considers approximately 1066 inbound vessels to take a pilot at the NE Spit. The Applicant can confirm that the inward transit to the NE Spit benefits from the introduction of the SEZ and inbound transit routes provide for 4 of the largest vessels known to transit the area (333m). It is also noted that one of these vessels has transited the area in the data reviewed by the Applicant (Dec 16 – Mar 18) and the LG/PoT (Nov 17 – Nov 18) and therefore providing for 4 concurrently is considered to provide for a robust future scenario, and allow for a range of metocean and qualitative concerns.</p>  |
| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>The survey data carried out on behalf of the Applicant and supplemented by AIS data is not representative of the current and future baseline against which the proposals should prudently be assessed.</p> <p>LGPL secured commitment from THE Alliance, this resulted in an increase in annualised contained throughput at DPWLG of approximately 310,000 TEU (a 40% uplift on 2016 volumes).</p> <p>Further committed development (including DPWLG berths 4 to 6 and 'Tilbury2') will</p> | <p>The Applicant recognises these concerns, and has provided some further data validation at Appendix 14 of this Deadline 4 submission. A thorough analysis of an additional 12 month of AIS data indicates that the survey undertaken for the NRA is an appropriate characterisation of the operations being undertaken in the area.</p> <p>The review of the data, as presented in Appendix 27 to this Deadline 4 submission confirm through analysis of empirical data that the use of July/August data, or a longer term survey would therefore make no material change to the characterisation of the receiving environment and would not alter the findings of the NRA.</p> <p>For the reasons identified above the SEZ also allows for sufficient expansion of operations or challenging metocean conditions through providing for 4 of the largest vessels</p> |

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|   | <p>result in significant additional growth over the reasonable planning horizon.</p> <p>Analysis has focused on routing and pilot boarding characteristics of vessels visiting POTL and DPWLG and identifies at least seven vessels in excess of 299m LOA utilising the inshore channel and NE Spit boarding station, with the largest vessel being of 333m LOA and 11.3m draught. It is likely that significantly larger ships would be able to use the inshore route at an appropriate draught in the future.</p> | <p>known to transit the area (of which one transited once in 21 months) travelling concurrently. By virtue of the Applicant taking this highly precautionary approach to providing sea room this also provides for two 400m vessels to pass concurrently.</p>   |
| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>The Applicant’s predicted 10% increase in commercial vessel activity (see Applicant’s Response to ExA’s First Written Questions – EXQ 1.12.1 (Document Reference REP1-051) Section 9, Paragraph 49) to be unrepresentative of likely growth in the reasonable planning horizon. We consider that the NRA needs to be carried out again to place IPs, the Applicant and the ExA in a position to accurately assess the impact of the proposed development.</p>  | <p>For the reasons identified above the SEZ also allows for sufficient expansion of operations or challenging metocean conditions through providing for 4 of the largest vessels known to transit the area (of which one transited once in 21 months) travelling concurrently. By virtue of the Applicant taking this highly precautionary approach to providing sea room this also provides for two 400m vessels to pass concurrently.</p> <p>Notwithstanding this an addendum to the NRA is to be drafted, on the basis of a HAZID workshop to be held on the 29<sup>th</sup> March, and submitted for review as part of the Deadline 4a submissions and wider examination.</p> |

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| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>In respect of inputs for such further assessment, at this stage POTLL and LGPL would broadly characterise the current agreement between the Applicant and the two ports as:</p> <ul style="list-style-type: none"> <li>• Matters agreed – Ship sizes (length/draught/beam).</li> <li>• Matters still to be agreed – Required sea room (for passage or pilot boarding), metocean conditions, interaction of other vessels (overtaking and passing scenarios), unforeseen circumstances.</li> </ul> | <p>These are noted and welcomed by the Applicant.</p>  |
| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>POTLL and LGPL are hopeful that agreement can be reached however until specific project amendments have been presented and properly assessed, it is not possible to comment on whether an adjudicated position will be required going forward. The two ports hope to be in a position to comment further at Deadlines 4 and 4A following analysis of the Applicant's Deadline 3 submissions and potential further discussions between the parties.</p>  | <p>The Applicant welcomes and shares the hope that agreement can be reached and has submitted the SEZ to address the key concerns raised by Pot/LG.</p>  |
| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>Available AIS data clearly confirms the importance of the inshore route as a time saving route for ships bound for the Thames Estuary, in addition to other locations.</p>  | <p>The Applicant notes this and can confirm that this information, with regards vessel densities and the required searoom calculations to preclude the need to deviate, has been incorporated within Appendix 14 of this D4 submission</p> |

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|   | <p>If for any reason, the inshore route becomes more restricted and ships are no longer able to transit at present then as set out in PoTLL and LGPL's Written Representation submitted at Deadline 1 [REP1-148] at Annex 3 to Appendix A, the extra distance incurred in not using the inshore route is estimated at 14.4nm.</p> | <p>which provides the detailed rationale behind the SEZ which is considered to address the concerns raised.</p>  |
| <p>Port of Tilbury London Limited and London Gateway Port Limited (PINS Ref REP3-070)</p> | <p>The note of key outcomes, which was circulated by the Applicant, is broadly endorsed by POTLL and LGPL.</p>  | <p>This is noted and welcomed by the Applicant.</p>  |
| <p>Trinity House (PINS Ref REP3-071)</p>  | <p>Stated that in TH opinion additional buoyage as risk mitigation between the proposed development and the Kent coast would be ineffective as it would further constrict the marine traffic flow.</p>  | <p>This is noted by the Applicant. The Applicant also notes that to address concerns a Structures Exclusion Zone (SEZ) has been applied to the proposed project design in order to address concerns with regards sea room. Subject to Trinity House review this measure minimises the need for additional buoyage beyond standard lighting and marking of the proposed structures.</p> |
| <p>Trinity House (PINS Ref REP3-071)</p>  | <p>Trinity House remain happy to discuss any proposed revisions to the current red line boundary and any other identified risk mitigation measures</p>  | <p>The Applicant welcomes this and looks forward to continued engagement reviewing the revised project design.</p>   |
| <p>Trinity House (PINS Ref REP3-072)</p>  | <p>Action Point 2<br/>Trinity House are of the opinion that the area between the proposed development and Kent coast is used by all types of marine</p>   | <p>This is recognised by the Applicant. The Applicant has sought to incorporate this within the rationale behind the proposed introduction of the SEZ.</p>   |



Shipping and Navigation

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|                                   | vessels for navigation and will defer to the MCNDfT on the legal definitions required.  |   |
| Trinity House (PINS Ref REP3-072) | <p>Action Point 5</p> <p>As per our oral submissions at ISH3 and ISH5 Trinity House consider the NRA to have an over reliance on quantitative data over qualitative data.</p> <p>We remain in discussion with the applicant over risk mitigation measures which could be used to reduce the perceived risks to an acceptable level.</p> | <p>This is recognised by the Applicant. The Applicant has sought to incorporate this qualitative evidence, alongside the quantitative, within the rationale behind the proposed introduction of the SEZ. The qualitative has been drawn from the information provided at recent workshops (27<sup>th</sup> February) and through review of submissions made as part of the examination.</p> |
| Trinity House (PINS Ref REP3-072) | <p>Action Point 7</p> <p>Trinity House were in attendance and participated in the technical workshop. We were content to hear from the applicant that they are considering a change to the proposed development area and are engaging with stakeholders on concerns raised.</p>   | <p>The Applicant notes this and can confirm that the SEZ update to the project design represents the change discussed.</p>  |