INFRASTRUCTURE PLANNING

THE INFRASTRUCTURE PLANNING (EXAMINATIONS PROCEDURE) RULES 2010

THE THANET EXTENSION OFFSHORE WIND FARM ORDER

Response to ExA's final written questions submitted on behalf of the Port of London Authority and Estuary Services Limited

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R17Qs	Question to	Question	PLA and ESL response
4.12	**Navigation: Maritime and Air**		
4.12.1	Marine Management Organisation, The Applicant, Port of London Authority / Estuary Services Ltd, London Pilots Council, Port of Tilbury London Ltd, London Gateway Port Ltd, Port of Sheerness Ltd, Maritime and Coastguard Agency, Trinity House Lighthouse Service	**Pilotage simulation** In their letter covering the Deadline 6 submission the Applicant refers to its proposed approach to a further "pilotage simulation", which is detailed in Appendix 38. The ExA notes that, if such a simulation were to be undertaken and concluded after Deadline 8, on the basis that the ExA cannot consider any document submitted after closure of the Examination, it could not be taken into account in the ExA's recommendations. Further, unless it were to be concluded by Deadline 7, there would be no adequate mechanism for the ExA to take account of IPs and OPs responses to it. These timelines do not appear to be immediately deliverable. There is a possible mechanism for the Applicant to submit such additional evidence directly to the SoS during the decision-making period. The Applicant points out that if an additional pilotage simulation were to be prepared and submitted at that time, it would then be necessary for it – "and the results of it that may or may not necessitate changes to application documentation" – to be properly consulted on, and for the SoS to have time to consider and take into account those changes	**a)** In the PLA and ESL's view, a further, more detailed simulation study is necessary to provide an understanding of the impacts of the proposed TEOWF on pilot boarding and landing and the impacts on navigation. The PLA and ESL agree with the MCA's position that the purpose of a Pilot Transfer Bride Simulation ("PTBS") study should not simply be as a validation exercise for risk control measures adopted by the Applicant; to provide an understanding of the impacts of the proposed TEOWF a further PTBS is required to address the deficiencies of the previous study, by addressing the following points: - The use of a full mission simulator, with the function to allow more than one vessel to be navigated at a time and an increased number of runs with multiple ships (ESL would consider a reasonably busy run to consist of a minimum of 5 vessels to be served, 'non-pilotage' traffic would be in addition to this). - Ship models should be representative of a wide range of different types and sizes (in terms of length, draft, deadweight, windage) that might be expected to navigate in the vicinity of the North East Spit. This would need to include, but not be limited to, passenger ships, the largest size container vessel agreed by the applicant for sea room calculations (333m loa) and a pilot launch. - Ship models should be operated by Ships' Masters who

		and associated consultation responses. The Applicant also suggests that "...should the Examining Authority be of the view that a pilotage simulation could still be necessary to inform the SoS' decision ... a procedural decision is made before close of Examination recommending that the Applicant undertakes such a simulation voluntarily and in particular that all associated parties and stakeholders continue to engage with the Applicant in order to facilitate and discuss any pilotage simulation and its results." The ExA has considered this request with care but indicates that it cannot make a procedural decision that binds the Applicant, IPs and OPs after the closure of the Examination. Rule 2 of the National Infrastructure (Examination Procedure) Rules 2010 (EPR) defines the term "procedural decision", in relation to an application and under those rules as meaning 'a decision about how the application is to be examined...'. It follows from this that the ExA's procedural decisions cannot regulate the conduct of the Applicant, IPs or OPs once the Examination is complete and closed. The ExA may recommend that the Applicant take such a course of action and that IPs and OPs assist in its delivery but that is a far is it can go within its powers and, once the Examination is closed, it cannot advise on, review, question or even see any related documents. The MCA has maintained in its D6 submission that if such a simulation is done, it should feed into a Navigation Risk Assessment and should not simply be a validation exercise applied ex post facto to a Navigation Risk Assessment that has already been	are not familiar with the area to reflect real-world conditions. - The simulations should cover the range of MetOcean conditions in which the pilot boat currently operates, including strong winds from different directions and fog. - Increase in the number of runs carried out; this would need to be a significantly higher number than 14. Runs assessed for projects of a similar scale would usually be in the hundreds; for context ESL carry over 3500 runs per year. - The simulations should cover a range of emergency scenarios that may be encountered, including steering gear failure, engine failure, complete back-out and pilot ladder deficiencies/failures. - Human factors should be incorporated into runs, including non-compliance with the COLREGs and communication issues, particularly with small high-risk vessels (such as recreational craft or fishermen) in mind. - A larger area of study; the use of areas around Elbow and NE Spit buoy for boarding and landing (not just passage and approach) should be drawn into simulations. This should also include the use of a relocated Tongue DWD position. - If a new study is to reflect real-world conditions it should include local operators as participants, and so a broader spectrum of experience should be incorporated i.e. newly qualified coxswains and pilots as well as experienced ones.

		completed. To help the ExA form a view whether this is indeed a matter for a recommendation to the Applicant, IPs and OPs before closure of the Examination, would the IPs and OPs please provide their views "in the round" about the potential practical benefits and value of such a pilotage study to the SoS' decision, if it were to be undertaken voluntarily by the Applicant, commenting particularly on the following considerations: a) the potential of a simulation study to provide further valuable information for the SoS on the overall impact of the proposed development to pilot transfer operations, to general navigation in the relevant sea area and to economic sustainability of the operation of the ports of London and Sheerness	
		b) participation, configuration and other details of a simulation, with reference to the scope and detail set out in the Applicant's D6 Appendix 38;	**b)** the PLA and ESL's initial observations regarding the applicant's PTBS specification document (Appendix 38 to Deadline 6) are as follows: **Section 2.2 Aims and Objectives of PTBS arising NRAA IP Submissions during Examination:** **Para 5:** The aim(s) of any further PTBS study should not be focused on risk control validation. A further study is needed to inform the SoS of the impacts of the development, in particular with regards to safety and commercial effects. Figure 1 in paragraph 5 (of Appendix 38 to D6) references paragraph

			171 from the NRAA. This suggests a further simulation study would aid in training for IPs participating, in particular for ESL and PLA pilots; however, paragraph 38 of appendix 38 recommends the use of independent pilots/coxswains so there would be little scope for aiding PLA and ESL training. The PTBS should focus on the impact of the proposed development and not the training of the local operators in how to deal with the consequences of it. **Section 2.3 Summary of Proposed Objectives:** **Para 10:** The PLA and ESL do not understand how a PTBS study can be expected to validate/refine the Shipping & Navigation Group. **Section 4.3 Aims/Objectives:** There is a dedicated focus on pilot transfers; however, there needs to be recognition of the wider traffic impact, more specifically how boarding and landing practices will interact with other sea users in the reduced sea room. **Section 4.4 Task 0: Project Management:** Whilst the PLA and ESL recognise and agree that there should be an extended timetable for the study this would need to be flexible if there is to be agreement between the Applicant and IPs. Setup and validation time periods are in their experience likely to be longer than the suggested 2 week period. Although the PLA and ESL recognise the Applicant's position that time constraints should not affect the quality of the study, in practice the compressed/additional deadlines during the course of the Examination have resulted in processes, submissions, and

			workshops that were less thorough than the PLA has experienced with similar applications. A 6 week window for the entire study seems too short; a more realistic timetable would be 8 to 10 weeks. **Section 4.6 Operation, Evaluation and Assessment Criteria:** **Para 27:** The PLA and ESL would prefer the run grading to be reviewed rather than lifted from the original PTBS study. For example, ESL have stated throughout the Examination its view, supported by its submissions, that vessels coming within 1nm of the windfarm as a result of boarding/landing procedures is not acceptable; this should be added to the fail criteria. One of the reservations of the PLA and ESL regarding the original simulator study was the impact of the TEOWF and the corresponding changes in working practices and conditions on the cutter crew, i.e. stress levels; this was spoken about during the original study but needs to be given more consideration. Whilst ESL and the PLA appreciate the Applicant's position that the focus of any further study would be to assess sea room and validate mitigation, the creation of a stressful working environment for personnel would be an important operational consideration for ESL and the PLA. Whilst difficult to quantify and place within a pass/marginal/fail analysis, this factor should be considered as part of the study. **Section 4.8 Task 3: Simulation Workshop:** **Para 33:**

			The PLA and ESL would again have reservations regarding this timetable. 8 – 12 simulations per day over 4-5 days is, they would suggest, highly intensive for all participants, particularly given the late stage of the Examination process at which the further study would be undertaken. There needs to be timetable flexibility to prevent simulation and post simulation discussions becoming limited by time. **Para 34:** The use of reference runs for familiarity with simulator equipment is not uncommon but familiarising ships captains who don't have knowledge of the area with the 'area and procedures' may undermine one of the concerns raised by the PLA and ESL. Ships masters used for the simulations should not just be unfamiliar with the TEOW but the existing TOWF site as well. **Para 35:** The PLA and ESL appreciate this could be open for discussion but 'up to 4 vessels' to be served from one pilot launch is not enough to test the upper limits of boarding and landing: for example, ESL served 6 vessels, of which 5 were inward with no pilot on board, and 1 outward with pilot on board on the 14/01/2018. 4 vessels on a single run does not represent the upper limits of the operation and the simulator study should consider the 'what if' scenarios where possible. **Para 36:** The PLA and ESL are unsure of the definition of "some runs of greater wind strengths" in terms of volume but we would suggest a substantial number of runs should be carried out at the higher limits of the operation. The referenced 25/30 knots would not generally have a significant impact on ESL's

			operations, when this wind strength does cause operational difficulties it will normally be associated with a more complex, wider set of MetOcean conditions e.g. how long the wind has been blowing at this strength, from which direction and for how long the wind had been at a particular strength prior to this. **Para 38:** ESL and the PLA consider that the 'Bridge Team' should be independent masters with non-pilotage experience. **Section 5 Annex A: Parameters** **Para 44:** Vessel types should include tugs engaged in towing. 3rd party traffic should include ro-ro vessels (under pilotage exemptions) in transit. **Additional Comments:** - Any further simulation study should include emergency scenarios, such as vessel engine and machinery failures. - Any further simulation study would have to recognise rule violations and 'human factors' outside of boarding and landing e.g. COLREGS violation and communication (or lack of) issues. It is unclear if the Applicant intends to do this. - Pre and Post extension simulations would be helpful. Runs carried out at the 'upper limits' of the current operation, be that met ocean or traffic volume, without the extension in place may serve as a helpful baseline for comparison.

		c) the need for a further simulation to be followed by further consultation with IPs on Hazard scoring and further addendum or revision to the NRA; and	**c)** To ensure the robustness of the Hazard scoring and any further addendum or revision to the NRA, the IPs should be consulted on these. The lack of independent scrutiny of the HazID Workshop and the deficiencies in the NRA and NRAA (and the inconsistencies in assessments between the latter two) give the PLA and ESL cause for concern; without further consultation on the results of any further PTBS study and a mechanism by which those results would be taken into account, the PLA and ESL would have no comfort that the navigational risks posed by the TEOWF have been adequately assessed and addressed.
		d) the likely timeline for carrying out, documenting and delivering consultation on responses to the simulation results and consequent amendments to the application, if any, to the Secretary of State in time for appropriate consideration before the due decision date.	**d)** As stated in the ESL and PLA response to part *b)* of this question, they consider that the timeline for assessment needs to be given further consideration; 6 weeks would be a short timetable even if only a limited amount of additional work was required, and given the importance of consistent engagement between the Applicant and IPs the PLA and ESL think there should be sufficient flexibility for this to be extended. Two weeks for the simulation itself seems realistic but more time may be required for setup/verification and reporting.
4.12.3	The Applicant, Marine Management Organisation, Port of London Authority / Estuary Services Ltd, London Pilots Council, Port of Tilbury London Ltd, London Gateway Port Ltd, Port of	**D6 Appendix 22 Annex C: Supplementary Note to ExAQ3.12.34** In para 31 of D6 Appendix 22 Annex C the Applicant states: "[w]ith regards to the consequence assessment, then it is not possible to identify whether any consequence scores are close to a category threshold as theses [sic] scores are generated based on discussions with IPs at the hazard work shop, based on a review of available	N/A

	Sheerness Ltd, Maritime and Coastguard Agency, Trinity House Lighthouse Service and any other IPs / OPs with an interest in these matters	data." a) Would the Applicant please help the ExA to understand why it is not possible for the Applicant's expert to identify examples in the top 4 NRAA hazard scores where the consequence assessments are close to the threshold between categories (e.g C2 to C3) and in addition please provide clarification of where the consequence scores for the Hazards 5-14 (scored by the Applicant's expert) lie close to that threshold C2 to C3.	
		b) If close to category threshold assessments cannot be made, what implications (if any) does this have for the sensitivity and confidence level that might be ascribed to categorisations?	**b)** The PLA and ESL understand this to be a question for the Applicant, but would share the concern that it has not been made clear how sensitivity is incorporated into the consequence scoring. For example in the *Revised NRA Addendum Hazard Logs (*Annex F/Appendix 28 to Deadline 5) the most likely hazard scoring for a WFSV and Pilot vessel are the same. It is noted by the applicant that this is due to the similarity between these vessel types. Wind farm vessels typically carry more personnel than pilot launches at any one time; ESL have an average of 4 personnel on board. Windfarm vessels, due to the nature of their work, 'load' the vessel with up to 12 passengers plus launch crew then head to the site, once works are complete they 'reload' the vessel to return to port. Therefore it is highly likely that the 'same' collision for a WFSV and Pilot boat will involve more people for the WFSV. We have two similar vessels (according to the Applicant), having two

			similar types of collision (according to the Applicant) but one vessel is, the PLA and ESL would argue, typically carrying a much larger number of personnel. Under the Applicant's assessment, both vessels result in the same most likely outcome. Following the HazID workshop the PLA and ESL suggested to the Applicant that the recent collision between the World Bora (WFSV) and the cargo vessel Raba (81m loa) should be considered when increasing the most likely consequence score for WFSVs. This accident resulted in all of the 15 passengers on the WFSV requiring medical attention, several being 'seriously injured' and two having to be airlifted; this was according to the DGzRS (German rescue service). The PLA and ESL would suggest this would be at least C3 for people in the most likely consequence scoring (closer to C4 than C2). The Applicant disagreed due to the similarities it drew between a pilot launch and WFSV and its view that a pilot launch should have a lower people consequence score of C2 (for most likely). The PLA and ESL would suggest this is an example of where a category lies close to a threshold. A prudent assessment would use a higher category for the most likely 'people' consequence, but in this case the lower category was adopted.
4.12.4	The Applicant, Port of London Authority / Estuary Services Ltd, London Pilots Council, Maritime and Coastguard Agency, Trinity House	**Possible commercial agreement with Pilot Services** In D6 Appendix 22 item 3.12.7 the Applicant states in relation to pilot services effects: "[s]hould appropriate relocation incur additional cost the Applicant would be willing to arrange a commercial agreement or other security to the extent that it	If a commercial agreement was to be secured within the DCO the relocation of TDWD would be one factor that needs to be taken into consideration. From an ESL perspective the assumption of a relocated position of 0.7nm from the northern boundary is not sufficient. The position of the PLA and ESL on this relocation is unchanged from their response at deadline 5 (PLA 19 / ESL 19 - ISH8

	Lighthouse Service	covers the additional steaming time. Whilst the Applicant has not been able to discuss such an arrangement with the IPs, it would be reasonable to assume an evidence-based displacement payment would be most suitable, taking into account the historic use of the diamond through pilot records to set appropriate benchmarks and agreeing a per-transfer cost for transfers to a relocated diamond that were demonstrated through data provided by the IPs. This could be secured through a condition requiring approval from the SoS for the approach to determining the displacement payment and the quantum." This matter is not currently secured, either through the DCO or another means. To the extent that appropriate relocation might become a necessary precondition of the construction and/or operation and/or decommissioning of the TEOWF, should this be secured and if so, how?	responses/Action point 17). The wider impact on the pilotage service being able to react to a reduction in sea room needs to be considered within a commercial agreement. Given the Applicant's response to ExAQ3.12.7 and its position throughout the examination process, it does not appear to the PLA and ESL that the Applicant is able to offer a satisfactory commercial agreement at this point in time. The Applicant states that it would be reasonable to assume an evidence-based displacement payment would be most suitable, taking into account the historic use of the diamond through pilot records to set appropriate benchmarks and agreeing a per-transfer cost for transfers to a relocated diamond that were demonstrated through data provided by the IPs. However, the additional time to undertake transfers at a relocated position is likely to impact on ESL's ability to continue to provide a full pilotage service with one boat and may require increased resources in terms of additional boat and crews, in additional to the increased steaming times and transfer distances. In ESL and the PLA's view, the Applicant should be required to compensate them for the increased costs to the businesses arising from the TEOWF and for these to be addressed by a commercial agreement between the parties.
4.12.5	Marine Management Organisation, The Applicant, Port of London Authority / Estuary Services Ltd, London Pilots Council, Port of Tilbury London	**Ports, Shipping and Navigation Policy Context: UK Marine Policy Statement** Please identify any policy from the UK Marine Policy Statement that you consider to be relevant to a decision by the SoS on the application. The Applicant is asked to respond to identified policies at	Paragraph 2.3.2.2 of the UK Marine Policy Statement (MPS) states that decisions should "be conducted in a manner that takes account of other relevant projects, programmes, plans and national policies and guidance". In deciding whether not to grant consent, the decision-maker should therefore take into account the NPS on Renewable Energy (EN-3).

	Ltd, London Gateway Port Ltd, Port of Sheerness Ltd, Maritime and Coastguard Agency, Trinity House Lighthouse Service	Deadline 8.	Paragraph 2.6.162 of NPS EN-3 states that "the IPC should be satisfied that the site selection has been made with a view to avoiding or minimising disruption or economic loss to the shipping and navigation industries with particular regard to approaches to ports and to strategic routes essential to regional, national and international trade, lifeline ferries and recreational users of the sea." As extensively stated in their earlier submissions, ESL and the PLA have set out the anticipated disruption arising from the construction of the TEOWF, and the economic loss that is likely to be incurred by both of these parties. The same paragraph of NPS EN3 also states that "Where a proposed development is likely to affect major commercial navigation routes, for instance by causing appreciably longer transit times, the IPC should give these adverse effects substantial weight in its decision making." The proposed TEOWF will result in increased transfer and shipping distances, and increased transit times for pilotage operations, and the ExA should therefore be giving these adverse effects substantial weight in considering the application for the proposed extension of the wind farm. Paragraph 2.6.165 of the NPS EN-3 states that "The IPC should not consent applications which pose unacceptable risks to navigational safety after all possible mitigation measures have been considered." As set out in their Deadline 1 submissions, the PLA and ESL have explained in detail that the narrowing of the inner channel, together with the level, variety and complexity of traffic and manoeuvring within that channel, will pose an unacceptable risk to navigational safety. The SEZ proposed by the Applicant does not, for the reasons set out in the PLA's and ESL's Deadline 5 submissions, provide a sufficient limitation on the use of the inner route during construction and operation or beyond; the Applicant will still be able to use the SEZ during construction, maintenance, operation and

			decommissioning. The NRA and the NRAA conducted by the Applicant are not robust enough to enable the PLA and ESL to be satisfied that the risks have been adequately categorised. Even if they were, the mitigation proposed by the Applicant (such as training for already highly-skilled ESL pilots) is, for the reasons the PLA and ESL have previously given, not sufficient to mitigate these risks to navigational safety.
4.12.7	The Applicant, Port of London Authority / Estuary Services Ltd, London Pilots Council, Port of Tilbury London Ltd, London Gateway Port Ltd, Port of Sheerness Ltd, Maritime and Coastguard Agency, Trinity House Lighthouse Service	**Responses to Applicant's new evidence and concluding remarks at D6** The Applicant has submitted a new body of evidence relevant to shipping and navigation at Deadline 6. Please review this evidence and provide all concluding remarks in relation to it at Deadline 7. The Applicant may make closing submissions on responses to this question at Deadline 8. In responding to this request and without excluding a general capacity to comment on other matters, IPs and OPs are asked to provide observations on whether the following have addressed previously expressed concerns: a) Appendix 22 responds to ExA questions on hazard scoring by HAZMAN2 software, provides additional information on expert credentials and Marico QA/QM procedures. b) Appendix 26 Annex C provides Applicant analysis of commercial impact to pilot services. It is not evident that IPs / OPs have been consulted. c) Appendix 38 sets out the specification and	The PLA and ESL will provide a response to these points at Deadline 7 as requested by the ExA.

		potential providers for a Simulation Study. d) Appendix 41 provides new animations of selected vessel tracks with commentary by the Applicant's experts e) Appendix 42 provides new Collision Risk Modelling (CRM) post SEZ by a new consultancy. How does this compare with the Collision Risk Modelling within the Application produced by Marico? In this last respect, the Applicant is asked to provide a tabulated comparison between the Marico CRM and the new CRM.	

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On behalf of the Port of London Authority and Estuary Services Limited
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