

Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Annex A to Appendix 2 to Deadline 7 Submission:
Collation of responses to Interested Parties on
submissions relating to the navigational
simulation

Relevant Examination Deadline: 7

Submitted by Vattenfall Wind Power Ltd

Date: June 2019

Revision A

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Date of Approval:	June 2019
Revision:	A

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

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1 Introduction

- 1 This document seeks to provide a collation of the Interested Parties (IPs) Deadline 6 and 6A Submissions to the Thanet Extension Offshore Wind Farm (Thanet Extension) examination, specifically relating to the navigational simulation.
- 2 This document provides a collation of the following responses:
 - IPs submissions on Deadline 5 documents;
 - IPs responses to the Examining Authority's (ExA) Third Written Questions on the navigation simulation; and
 - IPs responses to the EPR Rule 17 questions (ExQ 4.12.1 in particular).
- 3 This document has been structured to address the core themes raised by the IPs in their submissions into the examination on the navigational simulation. These core themes are:
 - The requirement for additional navigational simulation (see Section 2);
 - Objectives and relationship with navigation risk assessment (See Section 3)
 - Parameters of an additional navigational simulation - Areas of agreement and disagreement (see Section 4) including a breakdown by parameters as commented on by IP's including:
 - Simulator Provider
 - Environmental Conditions
 - Vessels
 - Baseline third party traffic and interactions
 - Run numbers and number of pilot transfers
 - Participation, independence and project area familiarity
 - Supervision
 - Grading criteria
 - Emergency scenarios and unforeseen events
 - Timescale
- 4 The Applicant has also sought to provide a point by point response to the Submissions, as outlined in paragraph 2, in a tabular format in Section 5 of this document.

2 The requirement for additional navigational simulation

- 5 The Applicant maintains that additional full mission pilot transfer bridge navigation simulation is not required because the findings of the pilot transfer bridge simulation as already undertaken (PINS Ref APP-090) remain valid and represent a relevant and robust body of evidence in relation to the impact of the proposed development and the studies and conclusions that have been made.
- 6 Notwithstanding this, the Applicant recognises that ExA could consider that further simulation work would assist to inform the decision of the Secretary of State and the Applicant would welcome a provisional view on that approach.
- 7 The Applicant notes the following positions by IP's with regards to the requirement as follows:
- MMO: Defers to the 'expertise of the relevant navigation bodies' which the Applicant considers to be that of the MCA and THLS.
 - MCA: In REP6A-007 (response to 4.12.1 c) the MCA have provided further clarification to their D6 submission making reference to MGN guidance and that simulation is not required as part of this guidance and further state 'there's no need as such for a further simulation' in their consideration that it is not an alternative to the NRA and it would support a validation of part of the NRA (this aligns with the Applicant's view who considers that it will focus on feasibility and confirmation of navigation and pilotage risk controls and does not inherently trigger a requirement for an update to the NRA).
 - TH offer no comment on the requirement, or otherwise, for the simulation.
 - PLA/ESL: This IP considers that further simulation is required and state 'carrying out such a study to support the findings of the NRAA is both necessary and proportionate'.
 - POTLL/DPWLG: This IP considers the simulation would be of value for the SoS as well as the Applicant in order to have the opportunity to demonstrate impacts have been considered. This IP comments, in the context that the Applicant may seek to undertake simulation voluntarily 'it would be wrong for the ExA to make any recommendation about that [simulation]'
 - LPC have not stated a position in this regard at Deadline 4C, Deadline 5 or Deadline 6

- 8 In summary, the Applicant notes that the statutory navigation body MCA does not consider simulation a requirement of guidance and the other statutory navigation body TH offers no comment on this question. It is noted that the Ports (PLA, POTLL and DPWLG) and ESL consider it a requirement and that LPC have not stated a position.

3 Objectives and relationship with navigation risk assessment

- 9 The Applicant has summarised its position with regards to the objectives in REP6-058. In terms of the relationship with any navigation risk assessment update (and as stated at REP6A-002) the Applicant does not consider it certain/or a requirement that, in the event simulation was undertaken, the NRA or NRAA would require any update. The simulation focus on feasibility and confirmation of navigation and pilotage risk controls does not inherently trigger a requirement for an update to the NRA. Notwithstanding this the Applicant recognises that there may be circumstances where the risk controls in the NRA/NRAA need to be amended, in particular if amendments to the scheme are agreed to be necessary to confirm the adequacy of sea room for pilotage operations (notwithstanding the view of the Applicant that it is already valid and robust as proposed).
- 10 Comments have been received from IP's with regards to the Applicant's stated objectives of the simulation and in relation to NRA update. With comments received as below:
- POTLL/DWPLG have stated that in their view the study would be carried out to support the findings of the NRAA and do not indicate therefore that an NRAA update is required in their D6 response but it is noted that in their D6A response they indicate the need for any further simulation to feed into the results of the NRAA (which the Applicant assumes to be a benchmarking exercise). They also consider that objectives should extend beyond pilotage and include the interaction with vessels on transit (which the Applicant clarifies is included through incorporation of baseline third party traffic);
 - The PLA/ESL consider that the objectives should extend beyond validation of risk controls to 'provide an understanding of the impacts of the proposed TEOWF' although the exact nature of this and their perception of relationship with the NRAA is not clear or stated. They provide further commentary primarily relating to their considerations of the limitations of the original simulation. PLA have also commented on the secondary benefits relating to training and familiarisation and the Applicant has (in the tabulated response under Table 3) provided more detail on this.

- The MCA (in REP6A-007 response to 4.12.1 c) have not commented on the overall objective but consider that it is not an alternative to the NRA and it would support a validation of part of the NRA (this aligns with the Applicant's view who considers that it will focus on feasibility and confirmation of navigation and pilotage risk controls and does not inherently trigger a requirement for an update to the NRA).
- TH have not commented on the objectives of simulation or relationship with any NRA.

4 Parameters of an additional navigational simulation - Areas of agreement and disagreement

- 11 This section provides detail of the parameters as set out in the Applicants proposals (of REP6-058) which have been commented on and where agreement and disagreement has been reached with the Applicants considered position based on this input.

4.2 Simulator Provider

- 12 No significant comment is given on potential simulator provider other than POTLL/DPWLG who note that MARIN may be a preferred option and that HR Wallingford are a suitable alternative. MCA suggest it is conducted at one of the Maritime Training Providers – noting this appears to be in line with being runs being undertaken by personnel with a pedagogical background. The Applicant considers provider selection should also consider the timescale in which they can be available to ensure that the simulations could be carried out as soon as possible in order to allow adequate time for the SoS to consider the results of the simulation. Further comment is made by the Applicant on timescales in section 4.11 of this document.

4.3 Environmental conditions

- 13 The Applicant has proposed metocean conditions at Para 36 of REP6-058. It considers it is important to ensure representativeness of the exercise and that simulations are not dominated around upper metocean limits but cover a balance of operational and upper end conditions (i.e. identification of threshold met-ocean conditions is not the objective). It is therefore not intended to explore threshold conditions or any boundary thereof, but instead to test scenarios which are undertaken within operational limits that currently exist, and not at or beyond boundary limit states. The Applicant has proposed that where input metocean conditions are contested the simulation team will be directed to review evidence base provided by Applicant and IP's and advise on and undertake, if necessary, a validation run in this condition to determine whether it is feasible in the baseline (TOW present).
- 14 PLA/ESL have stated the requirement for inclusion of wind and fog and have further clarified that a substantial number of runs should be carried out at the higher limits of the operation.

- 15 The Applicant has referenced and included the ESL provided higher limits (REP1-139) as an important basis for metocean conditions and agrees that this is an important aspect to include albeit, as above, the need to maintain a range of operational and upper end states but not explore conditions/vessel combinations which are beyond existing limits.
- 16 The Applicant notes that ESL and LPC have implied, through examination, there are some upper metocean limits on specific vessels on the baseline current day operations (e.g. above 240m LOA and certainly the 333m and potentially LNG vessels). These existing limitations must be evidenced to the simulation team for inclusion to ensure that credible scenarios are being tested. As stated above, and in the event where input metocean conditions are contested or not evidenced, the simulation team will be directed to review and advise and undertake, if necessary, a validation run in this condition to determine a baseline feasibility (i.e. TOW present).
- 17 The Applicant notes that, in general terms, PLA and ESL agree that pre and post extensions runs are useful and thus considers this to be a pragmatic and agreed way forward.

4.4 Vessels

- 18 The Applicant has proposed ship model types to include those below:
- 333m Container Ship
 - 240m Grande Class Vessel
 - 299m LNG Vessel
 - 135m Feeder Container Ship
 - Pilot launch
- 19 These ship types appear to be agreed with PLA/ESL although it is noted that POTL/DPWLG have suggested inclusion of vessels in excess of this length at 366m and 400m LOA albeit the Applicant does not accept that this is a project obligation. The Applicant considers that in the absence of a revised regional (regulator) NRA and revised pilotage instructions to allow for such vessels it is not reasonable to request the Applicant undertake such an assessment for vessels which are not currently permitted in the inshore area.

4.5 Baseline third party traffic and interactions

- 20 PLA/ESL have requested third party baseline traffic to be included which is consistent with the Applicants proposal to include this (based on AIS/MGN543 traffic survey data). This embeds consideration of vessels operation in accordance with (or violating) COLREG rules and ‘human factors’.
- 21 This will include tug and tows and Ro-Ro and pilotage exempt vessels (PEC) as per the underlying data.

4.6 Run numbers and number of pilot transfers

- 22 Most IP’s have commented on the aspect of multiple transfers and the Applicant agrees that multiple ship transfers from one pilot launch sortie will be undertaken in the proposed simulation scenarios (noting for clarification purposes these are consecutive rather than concurrent/simultaneous due to the separation in time and space that naturally arises from the one launch service).
- 23 PLA/ESL have increased the number of transfers to be proposed to 5 or 6 (from 4 as previously stated and simulated). Further dialogue is provided in the below table identifying that this is not evidenced or therefore agreed by the Applicant but will be discussed further in set-up.
- 24 PLA/ESL have stated their requirement for more runs and noting the importance of ensuring adequate time for debrief. The Applicant agrees with allowing time (to ensure that runs are planned not artificially so), executed and debriefed sufficiently but considers it is important to maintain flexibility (with the independent bridge team) to update and modify the runs in line with the arising conclusions.

4.7 Participation, Independence and project area familiarity

- 25 Whilst there is an agreed premise between the Applicant and IP’s on the benefit of independence in the simulator provider and facilitating and participating team there is difference of opinion on incorporating regular practitioners both in terms of set-up and in the actual runs.

- 26 The Applicant has proposed the use of ships masters who do not have local expertise. The Applicant has further proposed (and welcomes) IP's to observe and participate on setup day to ensure that the representativeness of the simulator and setup is agreed and ensure that local area practices, to the extent that aid the simulation, are understood. IP's would then be able to attend the simulations themselves in an observer capacity but it is intended for them not to participate to ensure the objectiveness of the study (to which the Applicant welcomes regulator attendance to ensure that the simulation is undertaken to appropriate standards).
- 27 The IP's have all sought to utilise independent ship masters (as agreed) although there are varying views on the participation of IP's in the simulation. PLA/ESL indicate the use of local operators with varying expertise should be sought and offer conflicted inputs on the inclusion of personnel who are familiar with the area/practices and the need for ESL/PLA to be involved. POTLL and DPWLG consider the input of the Applicant and IPs will be necessary to an extent, noting that ultimately the management of the simulations and reporting should be as independent as possible.
- 28 The MCA have stated "There ought to be clear separation, in more ways than one, between the operators of the exercise(s) and the undertakers – with the exception of the normal and nominal introductory briefing(s), it is expected that the suspense and unknown's of the exercise(s), quintessential with marine navigation, will be maintained to aid to the realism of such ventures" indicating they consider a requirement to separate the simulator participants from the operators. The MCA have further confirmed that participation in terms of setup and configuration of IP's is agreed.
- 29 The Applicant does not consider it appropriate to utilise IP personnel in the simulation bridge teams (and particularly those who have been engaged in the examination to date) in the interests of objective simulation. The Applicant has sought to utilise the benefit of the IP's in setup and consider that this is agreed with the IP submissions, in order to ensure that practices and procedures are representative but defers to the simulation team themselves to ensure that the balance of independence is achieved.

4.8 Supervision

- 30 The Applicant has proposed a suitable independent observer to be provided by the MCA and POTLL/DPWLG have agreed this. It is noted that no comment has been provided by MCA although their attendance would be welcomed by the Applicant to ensure that it is considered that simulation is undertaken to the appropriate methodology.

4.9 Grading criteria

- 31 The Applicant has proposed grading criteria and to utilise the same criteria basis (structured around hazards) as per the original simulation.
- 32 PLA/ESL have offered opinion on this and, whilst not proposing specific criteria beyond querying the 1nm proximity distance between a vessel and the wind farm (which the Applicant notes the input on proximity in the original assessment was provided by PLA and ESL) they raise an additional point regarding the importance of capturing, qualitatively, the workload environment factor on ESL, Pilots and the bridge teams.
- 33 This is agreed by the Applicant as an important factor and the Applicant agrees this is challenging to quantify per se but important to record. The simulation run debriefs should allow for this to be captured (and notes with respect to Section 6 and the run debrief of the original simulation – that this was undertaken in the original simulation). The Applicant recognises and welcomes the importance of facilitating qualitative feedback on the runs and ensures that this is part of the debrief structure and the report and assessment allows for this to be communicated.

4.10 Emergency scenarios and unforeseen events

- 34 PLA/ESL have provided comment on inclusion of emergency scenarios and unforeseen circumstances. POTLL and DPWLG contends that simulation exercises should also consider unanticipated circumstances such as a loss of engine power (whilst noting that this is captured in Fail Criteria 6 in Annex B of the Document as a qualitative aspect during debrief).
- 35 Whilst the Applicant notes that emergency scenarios may have relevance to general consideration, it is important to ensure that runs are not focussed around this as it is a potentially expansive range of scenarios which are speculative in nature, magnitude and occurrence and not relevant to the objectives of the simulation objectives about definition of sea room.
- 36 The Applicant therefore intends, as per the proposed structure, to maintain grading criteria and ensuring around qualitative discussion on each run in the context of emergency scenarios as is a common approach taken by simulator providers. It also intends to allow for inclusion/consideration, at the discretion of the simulation team (as per the original simulation), some operationally challenging scenarios such as ladder rigging issues and incorrect lees requiring repositioning of a transfer.

4.11 Timescale

- 37 The Applicant notes that comment has been made on timescales by ESL/PLA in light of the request by this IP to be engaged in setup. POTLL and DPWLG consider the timescale to be feasible.
- 38 It is the Applicant's position that the proposed timescale, as also detailed in Deadline 6A is appropriate and achievable. The position is underpinned by the consultation and representations received regarding the navigation simulation 'brief' which is considered to have been requested for the purpose of agreeing the scope and parameters at this stage, rather than requiring significant lead in and development time.

5 Detailed responses to IP Submissions

5.1 Responses to the Applicant's Deadline 6 Submission (PINS Ref REP6-058)

- 39 The Applicant provided their response to the first bullet (“...precise brief for such a body of work might be”) of Action Point 20 (Updated simulation report) as Appendix 38 of the Applicant's Deadline 6 Submission (PINS Ref REP6-058).
- 40 Table 1 is the Applicant's response to the second bullet of the Action Point (“respond to submitted comment by others on this point”).
- 41 The Applicant's commentary on responses to all shipping and navigational Deadline 5 Submissions matters not relating to the navigational simulation are provided in Appendix 2 of the Applicant's Deadline 7 Submission.

Table 1: Applicant’s comments on IP’s responses to ISH8 Action Point 20

IP	IP response submitted at Deadline 6	Applicant’s comments on response
MCA	No response received on this action point.	Not applicable
TH	No response received on this action point.	Not applicable
POTLL and LGPL	<p>The Ports note that the ISH8 hearing action points which were published by the Examining Authority on 18 April 2019 require at point 20 that by Deadline 6, “IPs comment on what the precise brief for an updated simulation study would be”. The Ports set out a number of key criticisms of the Pilot Transfer Bridge Simulation Report in Appendix A to their Deadline 1 submissions [REP1-148]. Further criticisms were also outlined in the HRW Report [REP4C-016] and it is suggested that an updated simulation study should address these criticisms. The criticisms included:</p> <ul style="list-style-type: none"> • the lack of consideration for the range of potential weather and sea state conditions that may reasonably be assumed to occur i.e. the simulations did not consider winds above 25 knots and boarding operations can take place in winds of up to 75 knots; • the inadequate 1 to 2 minutes allowed in the simulations for the pilot to board the ship. The boarding process, which involves positioning of the pilot vessel, boarding, transfer of the pilot to the 	<p>The Applicant has provided fuller responses addressing criticisms raised at earlier stages throughout examination which are not repeated here although notes the following (in direct response):</p> <ul style="list-style-type: none"> • Weather and sea states were agreed with participants. With respect to limit state conditions the Applicant notes that 75kts is a hurricane force wind state. This is not considered reasonable or appropriate in the context of the evidence ESL have provided of periods of downtime across all stations and that restrictions are in place at considerably lower wind speeds (as low as 30kts for the inner boarding ground on N to WNW directions) as per REP1-139).

IP	IP response submitted at Deadline 6	Applicant's comments on response
	<p>bridge, orientation and master/pilot briefing, would be likely to take a minimum of 15 minutes in practice;</p> <ul style="list-style-type: none"> the study's use of a tug, instead of a pilot boat, in the simulation runs; the failure to consider the presence of other craft (including fishing and leisure craft making way or at anchor); and, importantly the lack of consideration of vessels in excess of 240m in length. This is clearly not long enough, given that ships of over 330m transit through the inshore route and it is clear that such larger ships will require more space to accommodate their greater swept paths. 	<ul style="list-style-type: none"> This is a potentially misleading statement in that the 1-2 minutes refers to the time for the pilot to transfer from vessel to vessel and not the wider overall operation which it is agreed (and was simulated accordingly) involves positioning of the pilot vessel, boarding, transfer of the pilot to the bridge, orientation and master/pilot briefing. The criteria assessed a basis of allowance of 5 minutes for the vessel on a constant course/heading for the vessel to vessel transfer. Tug/pilot boat: No further comment albeit this IP's own expert stated this issue was purely 'presentational' in the HRW report No further comment No further comment
<p>POTLL and LGPL</p>	<p>The HRW Report outlined some parameters for the updated study and set out that the key point which this study is required to consider is whether or not there will be sufficient space for a ship to manoeuvre safely to transfer a pilot(s). The objectives of the study should be to:</p> <ul style="list-style-type: none"> demonstrate likely transit tracks through the inshore route and around the NE Spit cardinal mark for a range of agreed ships and agreed environmental conditions, with and without the wind farm extension in place; and 	<p>The Applicant notes:</p> <ul style="list-style-type: none"> This will be inherent in the simulation as proposed in that vessels will enter/depart the north east spit pilot boarding area through this area. It is agreed that baseline situations should be simulated – particularly where aspects (such as environmental conditions) are thought to be at/near threshold submitted by IP's

IP	IP response submitted at Deadline 6	Applicant's comments on response
	<ul style="list-style-type: none"> undertake a pilot transfer study using agreed ships with and without the windfarm extension in place, in agreed environmental conditions. At least two pilot transfers should be carried out simultaneously. It is considered that the Pilot Transfer Simulation Study should be repeated using mutually agreed ships. 	<ul style="list-style-type: none"> It is agreed that multiple ship transfers from one pilot launch will be undertaken in the proposed simulation scenarios (noting for clarification purposes these are consecutive rather than concurrent/simultaneous transfer due to the separation in time and space that naturally arises from the one launch service) Agreed vessels will be utilised albeit the Applicant does not accept the basis for vessels in excess of 333m LOA.
<p>POTLL and LGPL</p>	<p>The Ports consider that given their involvement in maritime safety and crucially pilotage operations, input from the PLA, ESL, Trinity House, the MCA and the LPC will be particularly important in shaping the parameters of the updated study in addition to the Ports' own representations.</p>	<p>The Applicant notes that POTLL and LGPL request involvement 'given their involvement in maritime safety and crucially pilotage operations' although notes that previously they have deferred to PLA and the statutory bodies for matters of maritime safety and considered their remit to be economic focussed.</p> <p>Whilst the Applicant would welcome involvement in principle it this would require confirmation and detail from the IP on what the ToR of this IP would be and in context with the other IP's it names in this response.</p>
<p>POTLL and LGPL</p>	<p>The Ports reiterate that they consider that until such updated simulation study is provided, the Applicant's assessment of the impacts on shipping and navigation caused by the proposed extension to the offshore wind farm remains materially incomplete. Given the already noted deficiencies of the original Pilotage Simulation Study and in particular its failure to consider the correct</p>	<p>Notwithstanding the IP's stated position on the requirement to undertake further navigation simulation the IP's view that it would be undertaken to 'support the findings of the NRAA'.</p>

IP	IP response submitted at Deadline 6	Applicant's comments on response
	<p>size and mix of vessels, carrying out such a study to support the findings of the NRAA is both necessary and proportionate.</p>	
<p>PLA/ESL</p>	<p>There are further parts to this Action Point to which the PLA and ESL have been requested to respond at D7 once the Applicant has commented at Deadline 6.</p> <p>The PLA and ESL do not consider that the purpose of any future simulation study should be merely to validate risk controls suggested by the Applicant (Appendix 2 to Deadline 4C: Shipping & Navigation – Statement of Evidence/Post Consent Monitoring/para 111).</p> <p>In order to properly assess feasibility of pilot boarding and landing at the North East Spit Pilot Station (with the SEZ in place), a full bridge simulation study would need to be carried out to inform the NRA/NRAA process, on the basis of the following:</p> <ul style="list-style-type: none"> - 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, 'nonpilotage' 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 	<p>Noted and see below table in this response for breakdown response to this IP's contributions.</p>

IP	IP response submitted at Deadline 6	Applicant's comments on response
	<p>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.</p> <ul style="list-style-type: none"> - Ship models should be operated by Ships' Masters who 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 	

IP	IP response submitted at Deadline 6	Applicant's comments on response
	<p>passage and approach) should be drawn into simulations. This should also include the use of a relocated Tongue DWD position.</p> <p>- 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.</p>	
LPC	No response received on this action point.	Not Applicable
CoS	No response received on this action point.	Not Applicable

5.2 Commentary on the Responses to ExQ3 by IPs

- 42 Table 2 provides the Applicant's commentary on the responses provided to the ExQ3 in relation to the navigational simulation. The Applicant's commentary on responses to shipping and navigational matters not relating to the navigational simulation are provided in Appendix 2 of the Applicant's Deadline 7 Submission.

5.3 Commentary on the Responses to Rule 17 by IPs

- 43 Table 2 provides the Applicant's commentary on the responses provided to the requests for further information, under EPR Rule 17, in relation to the navigational simulation. The Applicant's commentary on the responses to shipping and navigational matters (Question 4.12) not relating to the navigational simulation are provided in Appendix 28 of the Applicant's Deadline 7 Submission.

Table 2: Applicant’s comments on IP’s responses to question 4.12.1

PINS Question number:	Question is addressed to:	Question:	Applicant’s Response:	Interested Parties Response:	Applicant’s commentary:
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	<p>Pilotage simulation</p> <p>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.</p> <p>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.</p> <p>There is a possible mechanism for the Applicant to submit such additional evidence</p>	<p>a) Whilst the Applicant notes this question relates to a potential future simulation (and is directed at the IPs and OPs), it would wish to state that it considers the findings of the simulation remain valid and represent a relevant and robust body of evidence in relation to the impact of the proposed development on pilot transfer operations, general navigation in the relevant sea area and on the economic sustainability of the relevant operators.</p> <p>However, in the event that the ExA is not satisfied that the NRA and NRAA (as informed by the existing simulation) are sufficient to justify a positive recommendation to the SoS, the Applicant recognises that the ExA could recommend to the SoS that further simulation work be carried out before any consent is granted.</p> <p>b) The Applicant has no further comment at this stage and will provide further comment at Deadline 7 and 8 on receipt of IP comments.</p> <p>c) The Applicant does not consider it certain/or a requirement that, in the event simulation was undertaken, the NRA or NRAA would require any update. The simulation focus on feasibility and confirmation of navigation and pilotage risk controls does not inherently trigger a requirement for an update to the NRA. Notwithstanding this the Applicant recognises that there may be circumstances where the risk controls in the NRA/NRAA need to be amended, in particular if amendments to the scheme are agreed to be necessary to confirm the adequacy of sea room for pilotage operations (notwithstanding the view of the Applicant that it is already valid and robust as proposed).</p> <p>d) The Applicant can confirm that should the navigation simulation be deemed necessary to validate feasibility of pilotage operations and to refine risk controls this would be achievable in the ExA’s recommendation period. The following is the Applicant’s understanding and proposed approach (and should be seen as a complement to the programme presented with the Applicant’s D6 submission on navigation simulation (REP6-058):</p> <ol style="list-style-type: none"> i. The simulation and reporting will take 6 weeks. ii. The consultation on the simulation exercise report should comprise 2 primary questions – does the 	<p>MMO Response:</p> <p>With respect to the potential practical benefits and value of such a study to the SoS’ decision, the MMO defers to the expertise of the relevant navigation bodies.</p> <p>PLA/ ESL Response:</p> <p>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.</p> <p>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:</p> <p>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).</p>	<p>Noted</p> <p>a) The PLA/ESL’s position is noted.</p> <p>With respect to the statement ‘ESL would consider a reasonably busy run to consist of a minimum of 5 vessels to be served’ the Applicant notes this is in excess of the number as put forward by them in the original simulation (four) and there is little evidence provided to suggest that this is as common occurrence. Notwithstanding this – Applicant notes these are ‘consecutive’ transfers from one launch and therefore naturally provides spatial and temporal separation between all vessels as ESL manage and co-ordinate the transfers.</p> <p>The Applicant does seek for more than one vessel to be navigated at one time (albeit not necessarily all from full bridge simulators - this is a typical approach).</p> <p>The Applicant seeks to incorporate baseline third party traffic.</p> <p>The Applicant has proposed ship model types as below and considers that this meets the criteria proposed by this IP:</p> <ul style="list-style-type: none"> • 333m Container Ship • 240m Grande Class Vessel

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		<p>directly to the SoS during the decision-making period.</p> <p>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 and associated consultation responses.</p> <p>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</p>	<p>report accurately reflect the work undertaken on the day and the results from the exercises, and does the revised navigation simulation address the concerns raised by IPs.</p> <p>iii. Given the proposed participation by IPs in an observation capacity the Applicant considers that an adequate consultation period is 14 calendar days.</p> <p>iv. The Applicant will consider representations made and publish a consultation report within seven calendar days of the close of the consultation period. In the unlikely event that the findings identify that certain pilotage operations are no longer deemed feasible, and as such there is a required change to risk controls and/or other application material the report will identify these, and any changes will be submitted alongside the consultation report.</p> <p>The above provides for a 6 week exercise, plus 14 day consultation period and 1 week to prepare the report. The Applicant therefore considers that there would be sufficient time for the Secretary of State to carry out any further consultation as is necessary, during the three month decision period.</p>	<p>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.</p> <p>-Ship models should be operated by Ships' Masters who are not familiar with the area to reflect real-world conditions.</p> <p>The simulations should cover the range of MetOcean conditions in which the pilot boat currently operates, including strong winds from different directions and fog.</p> <p>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.</p> <p>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.</p> <p>Human factors should be incorporated into runs, including non-</p>	<ul style="list-style-type: none"> • 299m LNG Vessel • 135m Feeder Container Ship • Pilot launch <p>The Applicant agrees with the provision of an independent team noting that personnel will be appropriately qualified and experienced in using simulators.</p> <p>The Applicant has proposed metocean conditions which it considers the requests for wind and fog are included. It notes that the Applicant does not intend to explore threshold conditions (and test scenarios which are undertaken within operational limits that currently exist and not at boundary limit states) and where input metocean conditions are contested the simulation team will be directed to review and advise and undertake, if necessary, a validation run in this condition to determine whether it is feasible in the baseline (TOW present).</p> <p>The Applicant has proposed an increase in number of runs in the provisional run matrix of in the region of 40 - 50 (noting these may contain multiple transfers and therefore 'test' more than 1 transfer per run – as per the original simulation) albeit clearly this needs to be a representative sample of the 3500 annual runs stated by ESL. Therefore it is important that the simulation team retain some flexibility over the provided runs matrix to ensure that areas of concern or threshold are interrogated in a structured manner and that runs of low concern or beyond failure limits are not unnecessarily undertaken.</p> <p>Emergency/failure conditions will be addressed by the simulation team noting this will require judgement by the team.</p>

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		<p>pilotage simulation and its results."</p> <p>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 as far as it can go within its powers and, once the Examination is closed, it cannot advise on, review, question or even</p>		<p>compliance with the COLREGs and communication issues, particularly with small high-risk vessels (such as recreational craft or fishermen) in mind.</p> <p>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.</p> <p>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.</p> <p>b) the PLA and ESL's initial observations regarding the applicant's PTBS specification document (Appendix 38 to Deadline 6) are as follows:</p> <p><i>Section 2.2 Aims and Objectives of PTBS arising NRAA IP Submissions during Examination:</i></p> <p><i>Para 5:</i></p> <p>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</p>	<p>Human factors are inherently included.</p> <p>The Applicant has structured the objectives around these stated locations in the area of study.</p> <p>The Applicant has proposed to utilise independent participants and does not propose the use of IP's in the simulations beyond in an observer capacity.</p> <p>Section 2.2: The Applicant agrees that the primary objectives of simulation are in relation to the proposed development. With regards to training the Applicant agrees this is not a primary objective but notes they had identified likely additional benefit to identifying training/familiarisation aspects from this simulation (as was identified in the original simulation) and thus if these IP's attend in an observer basis this will maximise the understanding of where further training/familiarisation (relevant to TEOW or general operations) would be of benefit. Additionally the Applicant noted that where software/hardware interface allows (this will be dependent on provider) the outputs of the simulator would be provided to PLA for incorporating in the exiting</p>

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		<p>see any related documents.</p> <p>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 completed.</p> <p>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:</p> <p>a) the potential of a simulation study to provide further valuable information for the SoS</p>		<p>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.</p> <p><i>Section 2.3 Summary of Proposed Objectives: Para 10:</i></p> <p>The PLA and ESL do not understand how a PTBS study can be expected to validate/refine the Shipping & Navigation Group.</p> <p><i>Section 4.3 Aims/Objectives:</i></p> <p>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.</p> <p><i>Section 4.4 Task 0: Project Management:</i></p> <p>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</p>	<p>simulator to facilitate and improve further training.</p> <p>Sect 2.3: The Applicant considers that the above aspects of training/familiarisation and software/hardware upgrade can all be available to the group for use and to the benefit of the group.</p> <p>Section 4.3: The Applicant confirms that wider traffic (baseline third party traffic as referred) is included in the SOW and thus considers that this is agreed.</p> <p>Section 4.4: The Applicant notes this comment.</p> <p>Section 4.6: Grading criteria. The Applicant notes this comment and is prepared to review criteria based on appropriate metrics but notes that the criteria relating to the metric of distance from wind farm (1nm stated by this IP) was determined in agreement with PLA/ESL at the workshop. The input of the bridge simulation team to determining suitable criteria aspects should also be sought at setup and reviewed through the assessment. The workload environment factor on ESL, Pilots and the bridge teams is agreed by the Applicant as important factor and the Applicant agrees this is challenging to quantify per se but is important to record. The simulation run debriefs should allow for this to be captured. The Applicant would note (as per Section 6 of the original simulation and each run debrief) that these inputs were welcomed, sought and recorded in the original simulation.</p> <p>Section 4.8. Noted and the Applicant firstly recognises the requirement to provide flexibility in the overall timetable to ensure run durations and number per day is appropriate and ensure that adequate time is provided so as to allow for debrief, planning and typical rest. For these reasons</p>

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		<p>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; and</p> <p>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; and</p> <p>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</p> <p>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.</p>		<p>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.</p> <p><i>Section 4.6 Operation, Evaluation and Assessment Criteria: Para 27:</i></p> <p>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.</p> <p>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</p>	<p>the number and structure of runs provided are indicative to allow the simulation team to manage this as they proceed.</p> <p>Section 4.8 Task 3: Simulation Workshop: Para 34: The use of reference runs for familiarity with simulator equipment is, as the PLA/ESL note, is common. Whilst the Applicant notes the concern being raised on familiarity it is important, and also common, to ensure that relevant members of the independent simulation team are operating in accordance with the procedures and practices that take place otherwise this will seek to undermine the validity of the simulation.</p> <p>Section 4.8 Task 3: Simulation Workshop: Para 35: Whilst the Applicant notes that the PLA/ESL consider this should be discussed it is surprised to see that the number of transfers being increased from 4 to potentially 6 as this is an increase from that simulated in agreement with them at the original simulations. Notwithstanding this – the Applicants notes the example provided is also likely to be highly infrequent (the example is 15 months ago). The Applicant would require reasonable evidence from baseline data to evidence the regularity of this and in any case would likely consider it to be a non routine operation.</p> <p>Section 4.8 Task 3: Simulation Workshop: Para 36: The Applicant notes this comment and is seeking to ensure representativeness that simulations are not dominated around upper limits but cover a balance of operational and upper end conditions (identification of threshold met-ocean conditions is not the objective). The Applicant has referenced the ESL provided limit (REP1-139) as an important basis for</p>

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				<p>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.</p> <p><i>Section 4.8 Task 3: Simulation Workshop:Para 33:</i></p> <p>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.</p> <p><i>Section 4.8 Task 3: Simulation Workshop:Para 34:</i></p> <p>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.</p>	<p>metocean conditions but notes that ESL and LPC have implied there are some upper limits on some vessels on the baseline current day operations (e.g. above 240m LOA and certainly the 333m). These limitations must be evidenced to the simulation team. In the event where input metocean conditions are contested the simulation team will be directed to review and advise and undertake, if necessary, a validation run in this condition to determine whether it is feasible in the baseline (TOW present).</p> <p>Section 4.8 Task 3: Simulation Workshop:Para 38: This is noted and the Applicant has scoped this in.</p> <p>Section 4.8 Task 3: Simulation Workshop:Para 44: This is noted and the Applicant has scoped this in together with third party vessels derived from AIS which will include Ro-Ro vessels and PEC vessels.</p> <p>The Applicant intends to include review of emergency scenarios and inclusion of other unforeseen complications at the discretion of the simulator provider.</p> <p>The Applicant notes agreement in terms of Pre and Post extension simulations – particularly in order to establish a baseline where upper limits cannot be agreed.</p>

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				<p><i>Section 4.8 Task 3: Simulation Workshop:Para 35:</i></p> <p>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.</p> <p><i>Section 4.8 Task 3: Simulation Workshop:Para 36:</i></p> <p>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.</p> <p><i>Section 4.8 Task 3: Simulation Workshop:Para 38:</i></p> <p>ESL and the PLA consider that the 'Bridge Team' should be independent masters with non-pilotage experience.</p>	

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				<p><i>Section 4.8 Task 3: Simulation Workshop:Para 44:</i></p> <p>Vessel types should include tugs engaged in towing. 3rd party traffic should include ro-ro vessels (under pilotage exemptions) in transit.</p> <p><i>Additional Comments</i></p> <p>Any further simulation study should include emergency scenarios, such as vessel engine and machinery failures.</p> <p>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.</p> <p>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.</p>	
				<p>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</p>	<p>Addressed within Appendix 28 - commentary on R17Qs.</p>

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				<p>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.</p>	
				<p>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.</p>	<p>This is addressed above</p>
				<p>LPC response: No response received.</p>	<p>No comment</p>
				<p>PoTLL and LGPL response: Before responding to the ExA's questions, the Ports would like to comment that they agree with the ExA's conclusion that it would not have the power to make a procedural decision that has any effect beyond the end of the Examination. But given the nature of the Examination and the closure that the end of the Examination represents, the Ports also question whether the ExA would be able even to recommend that the Applicant undertakes such a simulation</p>	<p>The Applicant notes this position and considers that the ExA is able to give a provisional view on whether further simulation could assist to confirming for the Secretary of State whether the proposal was acceptable in shipping and navigation terms, even if it did not consider that it could make a formal procedural decision on this issue. With regard to each bullet point:</p> <ul style="list-style-type: none"> • The Applicant notes the comment on objectives on pilotage and notes that the consideration of interaction/coexistence with vessels on transit is included through incorporation of third party

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				<p>voluntarily and that all associated parties and stakeholders continue to engage with the Applicant in order to facilitate and discuss any pilotage simulation and its results.</p> <p>As the ExA says, once the Examination is closed it cannot advise on, review, question or even see any related documents. For the same reason it is not appropriate for the ExA to seek to influence what might happen after the end of the Examination, which such a recommendation would undoubtedly do.</p> <p>The ExA must report on the application, and make its recommendations to the Secretary of State, based on the evidence and submissions before the ExA. If, in the light of those recommendations, the Secretary of State considers that more information is needed during the decision period then, in the normal way that further information can be requested of the Applicant and of IPs and OPs. That could include a request that a further simulation study is carried out.</p> <p>In the meantime there is nothing to prevent the Applicant from undertaking such a study in the anticipation that it might be requested by the Secretary of State but we consider that it would be wrong for the ExA to make any recommendation about that.</p>	<p>baseline traffic. Notwithstanding that the vessel itself will be simulated on transit prior to and post any act of pilot transfer.</p> <ul style="list-style-type: none"> • The Applicant notes POTLL/DPWLG observation that MARIN may be a preferred option and that HR Wallingford are a suitable alternative. (noting the declaration of interest which has been made by Vincent Crocket of HR Wallingford who has represented the Ports during the course of this Examination). • The Applicant notes and agrees that Applicant/IP participation will be necessary to an extent but that ultimately the management of the simulations and reporting should be as independent as possible. • The Applicant notes that POTL/DPWLG consider the timescale to be suitable • The Applicant notes the agreement on vessels up to 333m LOA, but contends inclusion of vessels of 366m and 400m on the basis of previously made submissions. • The Applicant considers that the statement 'Ports contend that simulation exercises should also consider unanticipated circumstances such as a loss of engine power (the Ports note that to some degree this is covered off by Fail Criteria 6 in Annex B of the Document)' means that POTLL and DPWLG do not consider emergency situations should be covered other than through the qualitative debrief. The agreement for an independent observer to be provided by the MCA is noted <p>(c) The Applicant notes the statement re: feeding into the NRA. The Applicant does not consider it certain/or a requirement</p>

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				<p>(a) As set out in the previous representations of the Ports (including within the HR Wallingford Report [Appendix 1 to REP4C-016]), it is considered that the study should be repeated for the reasons previously given.</p> <p>The Ports consider that such a further pilotage simulation study would certainly be "of great value for the Secretary of State in evaluating the overall impact of the proposed development". Without such a further study, the Ports contend that it will not be possible for the Secretary of State to make a reasoned assessment of the navigation risks and economic impacts of the project.</p> <p>As set out in the Ports' Deadline 4C Reps [REP4C-016]: "whilst the NRAA gives more comfort than the NRA with regard to the transit of ships via the inshore route, LGPL and POTLL remain unconvinced by the NRAA with regard to pilot boarding operations. In this regard a full bridge simulation study is considered necessary".</p> <p>Given that the absence of the further simulation study means, in the Ports' opinion, that the impacts of the project cannot be examined fully by the ExA, it will not be in a position to assess the effects of the application in accordance with what the National Policy Statement EN-3 requires. Without further information, the Secretary of State will therefore be unable to determine the application</p>	<p>that, in the event simulation was undertaken, the NRA or NRAA would require any update. The simulation focus on feasibility and confirmation of navigation and pilotage risk controls does not inherently trigger a requirement for an update to the NRA.</p> <p>(d) No comment</p>

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				<p>based on a full environmental impact assessment and will not be able to make an Order granting development consent which is in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. As such, the Ports consider that not only would a further simulation study be of great use for the Secretary of State but it would also be beneficial for the Applicant as it would afford it the opportunity to demonstrate to the Secretary of State that the environmental impacts of the application had been fully considered.</p> <p>(b) The Ports have undertaken an initial review of the Applicant's 'Appendix 38 document' which became available on 30 May 2019, albeit there has been insufficient time since the document first became available to discuss its content with the Ports' respective harbour masters and technical advisers in time to meet Deadline 6A.</p> <p>The provision of the 'Appendix 38 document' (the Document) by the Applicant is welcomed and is a helpful step in reaching agreement with IPs regarding the scope of any future Pilot Bridge Simulation Study (PTBS). The Ports contend that such a PTBS is a critical tool offering the benefit of:</p> <p>(i) allowing the acceptability of the available sea room for pilotage acts and vessel transits, occurring concurrently in the same area of sea, to be assessed; and</p>	

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				<p>(ii) informing the assessment of scoring of risks in a Navigation Risk Assessment (NRA) (or verifying, or otherwise, the scoring of risks in an existing NRA).</p> <p>Whilst the Ports defer largely to the parties responsible for maritime safety and for undertaking pilotage acts to comment on the details and scope of assessment put forward in the Document, the Ports offer the following comments:</p> <ul style="list-style-type: none"> • The Ports do not agree that the PTBS should be “focused on pilotage, rather than passage/transit” (Para. 10) and contend that it should consider the interaction/coexistence of both activities in the same area of sea such that the influence of vessel transits on pilotage acts and vice versa are considered. This approach will allow a full picture of the impacts of the proposed offshore wind farm extension to be considered. • The Ports are of the view that MARIN is the preferred simulator provider based on the discussion of the various providers set out in Section 3 of the Document. HR Wallingford may provide a suitable alternative (noting the declaration of interest which has been made by Vincent Crocket of HR Wallingford who has represented the Ports during the course of this Examination). • Whilst the input of the Applicant and IPs will be necessary to an extent, ultimately the management of the simulations and reporting 	

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				<p>should be as independent as possible.</p> <ul style="list-style-type: none"> • The timescales set out in Table 3 of the Document appear reasonable. The Ports agree with the Applicant that "it would not be prudent for time constraints to affect the quality of any study findings". • Consideration of vessels up to 333m LOA is welcomed, however the Ports contend that vessels of 366m and 400m should also be included to consider possible future use of the inshore route/NE Spit by such vessels. This is consistent with the position put forward by Vince Crockett of HR Wallingford (on behalf of the Ports) at the workshop held on 27 February 2019. • The Ports contend that simulation exercises should also consider unanticipated circumstances such as a loss of engine power (the Ports note that to some degree this is covered off by Fail Criteria 6 in Annex B of the Document).The Ports welcome and agree with the proposal at para. 41 of the Document for an independent observer to be provided by the MCA. <p>(c) The Ports consider that the results of the simulation study will necessarily need to feed in to the Applicant's revised NRAA in order to assess the results of the study. Engagement with Shipping and Navigation IPs and OPs, including the Ports, in this regard will be welcomed.</p>	

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				<p>(d) No comment, except to note re mention of 'the due decision date' that the Secretary of State is of course able to extend the deadline for determination of the application.</p>	
				<p>Port of Sheerness response: No response received.</p>	<p>Not Applicable</p>
				<p>MCA Response:</p> <p>a) In order that the simulation study can provide further, or, indeed, any, valuable information – it needs to be structured, evidence-based and objective-led.</p> <p>The setup would need to be an accredited 'marine navigation full-mission simulator'. Further, the scenarios, exercises and conduct thereof need to be well thought out with schemes of the simulator dry runs undertaken by experienced personnel, experienced with not just marine simulation but also with pedagogical background. There ought to be clear separation, in more ways than one, between the operators of the exercise(s) and the undertakers – with the exception of the normal and nominal introductory briefing(s), it is expected that the suspense and unknown's of the exercise(s), quintessential with marine navigation, will be maintained to aid to the realism of such ventures.</p> <p>Suitable and considerable time for the actual exercise(s), as well as their pre and post briefs needs to be also invested. A single session or more of few hours wouldn't provide the essence of any valuable information.</p>	<p>a) The Applicant notes and agrees with the comments that the simulation should be structured, evidence based and objective led. The Applicant does not understand the pedagogical aspect as indicated and seeks clarification around this point whilst noting that any teaching aspect is outwith the scope and objectives of the proposed simulator. The Applicant notes the comments on independent participants which appear to be agreed.</p> <p>The Applicant notes the comments on time for the exercise together with planning and briefings and considers that this is provided for.</p> <p>b) the Applicant notes that participation in terms of setup and configuration of IP's is agreed.</p> <p>c) This is noted and the Applicant agrees that the need for simulation is not a requirement of guidance (MGN543) and should be focussed and relative to the issues and concerns raised by IP's (which the Applicant considers it did in the original simulation). The Applicant agrees it is not an alternative to NRA and that it may provide supportive benefit (in a validatory sense as proposed)</p>

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:	Interested Parties Response:	Applicant's commentary:
				<p>Just to lend some perspective analogous with an ECDIS course (STCW, short course), some 70-80% of the course of about 40 hrs is undertaken through purely simulation exercises. That's just one bit of a small part of learning outcome towards the navigational watchkeeping modules of the professional marine certificate of competency for a ship mate.</p> <p>b) The participation, configuration and other details would need to be agreed by PLA, ESL and other local IPs to ensure it is representative of a real marine environment.</p> <p>c) The MCA does not require a simulation study as part of its guidance as per MGN 543. However, the need for additional assessments should be relative and undertaken in order to address the concerns raised by IPs. We would maintain that there's no need as such for a 'further simulation' for it cannot be an alternative to the whole of the NRA and would just support comparatively minor part of it being validated, howsoever professionally that may be undertaken.</p> <p>We will look to the directly affected IP's views on the Hazard scoring – whether as an addition to the Applicant's original initiative or a whole new process.</p> <p>d) Underscoring our points, as above, with the real value and efficacy of simulation study(ies), it's difficult to</p>	

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				<p>point to a timeline – if it's rushed then it really doesn't aid the decision-making or add value, if its too time-consuming then it may not be feasible for decision-making either.</p>	
				<p>TH response:</p> <p>As stated at ISH8, TH are of the opinion that if a new pilotage simulation were to be held we would still have concerns over the personnel used and scenarios tested.</p> <p>We have always stated that the outcome from an incident in the area of the proposed development could have severe consequences, and within a simulation study it would still be possible to miss this one scenario.</p>	<p>The Applicant notes that the proposed scope includes use of independent personnel (without high level of project/location familiarity) and a series of scenarios is proposed to incorporate the breadth of submissions from IP's and, where these cannot be agreed, the simulator provider shall undertake validity runs for the baseline.</p> <p>Whilst the Applicant notes the comment on consequence (as responded to in the Appendix 2 response) it does not consider the scope of the simulation to test/identify the worst credible scenario.</p>

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