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THE INFRASTRUCTURE PLANNING (EXAMINATIONS PROCEDURE) RULES 2010
THE THANET EXTENSION OFFSHORE WIND FARM ORDER

Deadline 7 submission submitted on behalf of the Port of London Authority and Estuary Services Limited

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Response to the Applicant’s Deadline 6 submissions

Appendix 16, Annex C: Shipping Commercial Assessment

Reference	Response summary/extract	PLA/ESL comments
Para 5	<p><i>“As noted in Annex A to Appendix 26 of this Deadline 6 submission it is clear from Deadline 5 submissions that the concerns raised by the Interested Parties (IPs), in particular those raised by ESL and PLA, appear to relate primarily to the potential commercial impacts that displacement may have on pilotage operations. Whilst there is a paucity in the evidence provided in response to ISH8-2 Action Point 17, with no evidence provided to allow an analysis of the potential costs to ports/pilotage, PLA/ESL highlight in their summary of substantive position that they consider weather to be an issue that influences the use of the pilot stations, and refer to the approach to the NRA A HAZID workshop (with reference made to the revised NRA produce by PLA using a modified methodology) but there is no reference to safety at all.”</i></p>	<p>Contrary to the Applicant’s understanding, the PLA and ESL’s continuing concerns do not relate primarily to the commercial implications of displacement on pilotage operations. They are concerned in the round with the impacts of the TEOWF on navigation, safety, and pilotage operations.</p> <p>As set out in their earlier submissions, the PLA and ESL are still not satisfied that the risks of the extension to TOW have been sufficiently mitigated to ALARP.</p>
Para 9	<p><i>“As stated in previous deadline submissions, in the NRA and NRAA, the Applicant has demonstrated that there is sufficient sea room for pilot transfers and that the vast majority of transfers currently undertaken could continue in the same locations.”</i></p>	<p>The PLA and ESL do not believe that the NRA and NRAA demonstrate that sufficient sea-room still exists to safely undertake pilotage operations, in combination with all other activities in the area. This is for the reasons stated in their own previous deadline submissions.</p>
Para 11	<p><i>“It is noted that during ISH8 LPC confirmed under cross examination that they were satisfied with the sea room provided at Elbow buoy and in the area of the NE Spit pilot diamond.”</i></p>	<p>The PLA and ESL understand that the LPC’s comments on sea-room only relate to vessels transiting and not to pilotage transfer operations being undertaken in conjunction with boarding and landing.</p>

Reference	Response summary/extract	PLA/ESL comments
Para 40	<p><i>“It is not clear from IP submissions how many vessels are considered to avoid the inshore area, however using the assumption put forward by PoTLL and DPWLG, if vessels over 250m in length chose to divert around the wind farm and therefore board at Tongue DWD a conservative estimate can be reached. This would equate to approximately 54 vessels that would not transit between Elbow buoy and the SEZ, and 78 vessels between NE Spit Racon buoy and the SEZ per year (vessels over 240m, Table 4, Appendix 27 to Deadline 4 – AIS Analysis Report).”</i></p>	<p>It is not only vessels over 250m that may divert around the wind farm. Smaller vessels may also be affected: size in relation to the vessel’s draft and windage are also factors that would influence the Master’s decision to divert.</p>
Paras 43 and 49	<p><i>“In the highly unlikely event that 132 vessels be served at the tongue DWD this would have potential commercial effects on ESL and the commercial operators.”</i></p>	<p>It is not highly unlikely that 132 would be served at the Tongue. The Applicant’s figures do not take into consideration the PLA’s plans to open up either the North Edinburgh Channel or Fisherman’s Gat, or the potential re-routing of vessels from the inshore route as a consequence of the proposed TEOWF.</p>

Appendix 22: Applicant’s Responses to the Examining Authority’s Third Written Questions – ExQ3

Question number	Response summary/extract	PLA/ESL comments
3.12.2	Description of Marico Marine’s quality assurance (“QA”) process.	It would appear that the QA process is undertaken entirely in house. All ‘independent’ review appears to be undertaken by people who work for Marico, which is engaged by the Applicant in a non-independent capacity.
3.12.5	<i>“During oral representations and at project specific meetings Capt Roger Barker in particular of THLS has noted the area of sea to be an area of general navigation. The Applicant concurs with this view and does not consider the routes to be formal sea lanes, nor understands there to be any existing proposals in place to designate the area as a sea lane or implement any formal routeing measures.”</i>	In section 3.12.29 of Appendix 22 to their Deadline 6 submission the Applicant maintains that <i>“re-routing is not necessary as adequate searoom remains to allow safe passage through the inshore route. All other approaches to the Thames Estuary are narrower than the inshore route post-installation of the proposed project and as such passage planning will be made that accounts for more limited areas of searoom, and the inshore route will be a comparatively lesser concern”</i> . This would indicate that the Applicant does consider there to be an inshore route here and not only an area of general navigation.
3.12.6	<i>“The Applicant notes that the NRA A conducted with IP involvement demonstrated that all hazards were assessed as ALARP or lower, and that no IP’s have put forward, identified or requested the inclusion of controls identified by the Applicant but not put forward. Specifically, with regards the perceived risks to shipping and navigation being ALARP the Applicant would note that the PLA’s submission of a revised hazard log at D4C concluded the risks to be moderate. Whilst the definitions presented within the PLA’s D4C submission indicated a change in methodology, the Applicant would note that up until around the</i>	b) The PLA and ESL do not agree that the NRAA conducted with IP involvement demonstrated that all hazards were assessed as ALARP or lower. Although the overall methodology is similar to that previously employed by the PLA, there was a significant difference in the way that some hazards, specifically those relating to the risk of collision, were scored. (see PLA 27 / ESL 27 response to ExQ3.12.21(d)) Therefore the PLA and ESL do not accept that the scores reflect the level of risk, or that the risks relating to vessel collisions have been sufficiently mitigated

Question number	Response summary/extract	PLA/ESL comments
	<p><i>19th May 2019, following ISH8 and Deadline 5, there was a worked example NRA publicly available on the PLA’s website which includes clear definitions.”</i></p> <p><i>“The Applicant has therefore sought to use similar methods to those utilised by PLA and has identified the perceived risks to be ALARP.”</i></p>	<p>to bring them to ALARP or lower.</p>
<p>3.12.7</p>	<p><i>“The Applicant notes that with the SEZ in place and a WTG in the final design located at the closest point of the TEOW to the Tongue Deepwater Pilot Diamond, then the proposed project WTG would be 0.7nm closer to the Tongue Deep Water Pilot Diamond (Tongue DWD) compared to the existing TOWWTGs. The Tongue DWD diamond is located 1.9nm from the existing wind farm boundary and 1.2nm from the SEZ boundary. Should the pilot diamond require to be relocated it would therefore appear to be proportionate to relocate by 0.7nm, and not by 2.4nm.”</i></p>	<p>The PLA and ESL do not agree that 0.7NM is far enough to relocate the Tongue Deep Water Diamond from its current position. The applicant has not taken into consideration the increased use of the Tongue for boarding and landing pilots, either from vessels diverting or due to future projects such as the deepening of the Fisherman’s Gat or North Edinburgh Channel. No risk assessment has been undertaken with regard to a re-located position, as it was not considered either in the original NRA or NRAA. Therefore the PLA and ESL are not in a position to comment on the navigation safety of any proposed relocation of the Tongue Deep Water Diamond.</p> <p>In Annex E to Appendix 26 to Deadline 6 Submission. the second graphic demonstrates the two alternative positions of the TDWD. This clearly demonstrates ESL’s proposed relocated position to be to the North of the denser traffic travelling East/West. the PLA and ESL maintain our position that the TDWD boarding area is likely to become busier as a result of larger vessels not being served in the vicinity of the</p>

Question number	Response summary/extract	PLA/ESL comments
		inshore route.
3.12.8	Discussion of potential likelihood of the dredging of the North Edinburgh Channel.	The PLA's previous study, referred to by the Applicant in its response to this question, was undertaken in 2004. Seabed conditions have continued to be monitored since then and a recent feasibility study has been undertaken. The PLA, is now considering the options to dredge either the Fisherman's Gat or North /Edinburgh Channel.
3.12.30	<i>"In terms of a "worst credible hazard" (e.g. collision contact or grounding) being realised, then the impact to stakeholders was considered to relate to all aspects, some of which would be knock effects to 3rd party vessels, such as vessel delays / congestion. Such effects would be temporary in nature and not dissimilar to effects of closure of the port due to adverse weather conditions."</i>	Although the impact to stakeholders, specifically to vessel operators, was considered for the "worst credible hazard", it was not considered in terms of the most likely hazard. A collision between two Class 1 vessels, resulting in 'minor' damage, could still have significant financial consequences. Such vessels would incur delays a result of such an incident, for inspections/repairs and this could easily result in financial consequences to those vessels amounting to more than £100,000.

Appendix 22, Annex B: PLA published risk assessment

This worked example of a risk assessment was on the PLA website until May 2019. It has been removed from the website because the PLA has relatively recently – independently of the TEOWF DCO application – reviewed the way it undertakes risk assessments; the test of whether or not a risk is ALARP is based on more than just a score. The PLA is therefore in the process of replacing the HAZMAN software supplied by Marico, as well as the risk assessment template developed with Marico, in favour of a more qualitative approach that accurately reflects real-life scenarios. The worked example, based on the old process, is out of date and so is no longer available on the website.

Appendix 22, Annex C

Reference	Response summary/extract	PLA/ESL comments
Paras 3-8	Discussion of analysis of hazards at HAZID workshop.	During the hazard workshop for the NRAA, participants were told to consider the hazard scoring for 'average' conditions. It was pointed out that pilotage boarding and landing takes place in adverse weather and therefore this needed to be taken into consideration, but 'limit state' conditions were not fully assessed in terms of the 'most likely' scores. Scores were not considered in combination, as, even when assessing the risk of a collision between two vessels, only the consequence of the collision to one of the vessels was scored for each hazard.

Appendix 26: Response to Deadline 5 Submission by Interested Parties – Shipping and Navigation

Reference	Response summary/extract	PLA/ESL comments
p.36-37	Discussion of risk assessment methodology.	<p>The PLA has accepted risk assessments based on Marico's Hazman methodology. However, for projects on the Thames such as Silvertown and Tilbury2 the PLA has been a consultee and fully engaged in the risk assessment process. In order to establish whether risks of any particular project is ALARP the PLA does not rely merely on a scored risk assessment. The NRA process involves various stages and the level of information required to inform it will vary depending on the size, type and location of the project. ALARP is more than just a number on a score sheet. If the PLA was not satisfied that risks had been sufficiently mitigated to as low as reasonably practicable it would not accept a scored assessment that demonstrates that they are. In the case of TEOW the PLA and ESL do not agree that the risks have been sufficiently mitigated to bring them to ALARP and therefore do not agree that the scored assessment reflects the actual situation.</p>
p.61	Discussion of risk controls.	<p>The PLA and ESL have recently engaged with the Applicant regarding additional risk controls. The PLA and ESL welcome the Applicant's willingness to provide a Met Sensor (Recommendation 5) on a WTG located at the NW extremity of the TEOW, and provide meteorological data to the PLA and ESL, and acknowledge that this may provide a small reduction in the baseline risk. However, they do not agree that the establishment of defined boarding areas would necessarily reduce the risk. The idea of defined boarding areas was not taken forward following the 2015 risk assessment, but has been kept under consideration. Whilst</p>

Reference	Response summary/extract	PLA/ESL comments
		the PLA and ESL would welcome further consideration of this in the future, the potential effectiveness would need to be re-assessed in light of the revised scheme. So far this has not been done and therefore no weight be attributed to this potential risk control at this time.

Appendix 26, Annex A: Summary response to Deadline 5 S&N Submissions

Reference	Response summary/extract	PLA/ESL comments
Para 9	<i>“The Applicant has demonstrated through quantitative collision risk modelling that accompanies this Deadline 6 submission (Appendix 42), that the searoom is adequate at all locations with an acceptable and tolerable increase in risk that reflects the hazard likelihood scoring and conclusion of ALARP, as defined by both the Applicant’s NRAA and in the Applicant’s understanding PLA’s draft D4C hazard log.”</i>	The quantitative collision risk modelling that accompanies the Applicant’s deadline 6 submission did not take account of adverse MetOcean conditions or the consequences of any emergency scenarios, such as engine or steering failures.
Para 11	<i>“The re-scoring of the Applicant’s hazard log in the PLA’s D4C submission identifies the highest inherent risk as ‘moderate’ in the risk matrix. As stated above, the Applicant considers the PLA’s standard guidance risk assessment matrix to be the most appropriate reference for the PLA’s approach to hazard scoring, having previously been utilised on both Tilbury 2 and Silvertown Tunnel DCOs. The net result of which is that the PLA’s hazard log provides an inherent (pre-risk control) score for Thanet Extension to be ‘Moderate’, and therefore defined as – “Efforts should be made to reduce risk to ‘As low as reasonably</i>	The hazard log in the PLA’s D4C submission re-scored the hazards to demonstrate where the PLA and ESL did not agree with the scores from the workshop. It identified the highest inherent risk as ‘moderate’ in the risk matrix, but was scored using the same methodology that was used in the hazard workshop so that the scores could be directly compared. The PLA does not agree that these scores demonstrate that the risks are ALARP, as the scoring was not undertaken in the same way as was done for the NRA, or for PLA risk assessments. The hazards for collisions

Reference	Response summary/extract	PLA/ESL comments
	<i>practicable' (ALARP), but activity may be undertaken" as provided in Annex B."</i>	between two vessels were only scored in the NRAA for the consequence to one of the vessels. The usual method for scoring such hazards is to consider the total consequence of the event, and not just one part of that event. Scoring the hazards in such a way results in lower consequence scores.
Para 12	<i>"Further the Applicant has illustrated through provision of multiple real time animations of existing activities under a range of vessel density and metocean limit states (Appendix 41) that on the busiest days there are a limited number of simultaneous operations and the searoom is adequate for this to be continued, and that on marginal days at the limit state of pilotage operations very limited numbers of operations would need to alter, with the remaining searoom adequate to accommodate this."</i>	The animations do not represent the busiest days for ESL's operations or marginal conditions at the limit state of pilotage operations. See PLA/ELS comments below on Appendix 41 for further detail.

Appendix 38: Shipping and Navigation: ISH8L ExQ Action Point 20: Pilot Transfer Bridge Simulation Study Specification

Reference	Response summary/extract	PLA/ESL comments
Para 10	Summary of proposed objectives.	<p>The PLA and ESL note that in Appendix 38 the Applicant does not make any reference to emergency scenarios being considered within the scope. The PLA and ESL agree with the MCA that the results of any further bridge simulation should feed back into the NRA and it is important to consider 'limit state' conditions and emergency situations.</p> <p>The simulation should not focus only on pilotage, but on boarding and landing in combination with vessels in transit and other marine activities in the area.</p>
Section 3	Discussion of simulator providers.	<p>Rather than relying on the PLA simulator, it would be more appropriate and provide a more realistic simulation to use a full mission simulator with the capability to operate more than one vessel at a time, such as the HR Wallingford sim.</p>

Appendix 41: AIS Animations Note

Reference	Response summary/extract	PLA/ESL comments
Para 2	<p><i>“30th November: Adverse metocean conditions and restricted pilotage operations by Estuary Services Limited.”</i></p>	<p>Although ESL operations were restricted on 30 November 2017, it was only the Tongue Deep water diamond that was not available. On this occasion the Sunk Pilot station was still in operation, which is very rare when ESL services are restricted. The weather was not at ‘limit state’ so this day is not fully representative of likely conditions when ESL is operating a restricted service.</p>
Para 7	<p><i>“The SeaPlanner tracks dataset was interrogated in Esri’s ArcMap software to identify the busiest days (the days with the greatest number of tracks) of 2017. The data identified that the busiest day for all vessels was 1st August, whilst the busiest day for vessels over 90m only was 13th June.”</i></p>	<p>On the 12 hour, day watch (0730 to 1930) of the two busiest days identified by the Applicant, ESL served 10 vessels on the 13th June and 8 vessels on the 1st August. These are not busy days for boarding and landing by ESL, 12 vessels or more could be regarded as a busy watch. Since this examination process begun in November 2018 up to the 31st May 2019, ESL has served 12 vessels or more in a single ‘watch’ of 12 hours, on 93 occasions. Some of those watches serving 16, 18, and 20 vessels. In the 24-hour periods referenced by the Applicant, ESL served 19 vessels on the 13th June and 15 vessels on the 1st August. To put this into context, ESL served 31 vessels in the 24-hour period of the 24th January 2019, 20 of which were served in the 12-hour day watch period. For this reason, the days in this report cannot be accepted as busiest days and the PLA and ESL would question the Applicant’s overall interpretation of ‘busiest’ periods.</p>

Reference	Response summary/extract	PLA/ESL comments
Para 9	<p><i>“Figure 1 provides reference to wave height data recorded by a buoy at Goodwin Sands managed by the Channel Coastal Observatory (CCO, 2019)*. The data recorded at this location correlates well with the service restrictions experienced by ESL, with storm alert threshold limits exceeded on three separate occasions (a storm alert defined as the level exceed, on average, four times per year).”</i></p>	<p>These conditions are not at the limits of ESL’s operating parameters. The only restriction imposed was ‘no Tongue Deep Water Diamond’ and ESL’s service was only restricted for 11 hours on the day in question.</p>
Para 10	<p><i>“Available historic wind data from website rp5.co.uk (Raspisaniye Pogodi Ltd, 2019) for Manston Airport (approximately 3 miles southwest of Margate) gives an indication of wind strength (average 8.6m/s or 16.7 kts) and direction (from the northwest) in the area on the 30th November.”</i></p>	<p>Even though ESL were operating a restricted service on the 30th November 2017, an average windspeed of 8.6m/s (16.7knts) from the NW is not considered to be in the upper limits of ‘poor MetOcean conditions’. According to figure 2 in the applicant’s submission, there were two recordings of 11m/s (21knts) on the day, again these are not at the higher end of ESL’s parameters.</p> <p>The reason ESL introduced a service restriction of no TDWD operation on that date, was in order to reduce the distance of runs to maintain the boat schedule in conditions that would impact on launch speed. It should be noted that, during the restricted period the crew did not impose a draft and rubbing band restriction. Therefore, indicating ESL were not operating in the upper limits of adverse weather.</p>
15	<p><i>“High-Water (HW) label is included in the animations which runs at the same time steps being visualised by the vessel points to give the status of HW at any period during playback. HW times, taken for Ramsgate, were obtained from Admiralty Total Tide and are given in Table 1.”</i></p>	<p>Table 1 Demonstrates that High Water at Ramsgate was at 0813 and 2052 on 30 November 2017. These tides are regarded as just after ‘Neap’ tides and therefore will not create the worse wave conditions in the above-mentioned recorded weather.</p>

Reference	Response summary/extract	PLA/ESL comments
		<p>Note: The human factor comes into play with the instigation of a 'restricted service'. In the circumstances mentioned in this report, one coxswain may go restricted and another may not.</p>
<p>Section 3.2</p>	<p>0809 Enforcer</p> <p><i>“An outbound 120 to 180m vessel passes close to the East Margate and proceeds over the NE Spit bank near low water. The vessel then transits the inshore route passing close to the Elbow buoy and well clear of the SEZ. This is a standard transit passage for a vessel of this size.”</i></p>	<p>The ship 'Enforcer' is seen to clear the East Margate buoy at a distance so to enable a turn and safely navigate over the deeper point of the NE Spit bank at low water. This vessel has a typical draft of 7.2m and would of passed over the bank whilst ensuring safe UKC (under keel clearance).</p>
	<p>1000 Thames Highway</p> <p><i>“An inbound 120 to 180m vessel approaches from the NE and passes on the boundary of the SEZ in the NW corner. The vessel boards a Pilot at 1033 to the NE of the pilot diamond and then proceeds NW to the west of the NE Spit buoy. This is a standard “dipping down” operation common in this area.”</i></p>	<p>The ship is observed transiting over the proposed SEZ, this is approximately 0.9nm from the nearest turbine therefore maintaining a safe distance from the current TOW. With the extension in place and probable placement of turbines 'up to' the boundary of the SEZ this ship would have had to negotiate the narrow corridor between the SEZ and NE Spit racon buoy and approached with a North South track maintaining that safe distance from any turbine.</p>
	<p>1506 Asian Breeze</p> <p><i>“An outbound 120 to 180m vessel passes close to the East Margate buoy and proceeds over the NE Spit bank 2 hours after HW. The vessel lands her pilot at 1521 at the vessel continues to transit south through the inshore route. The vessel passes close</i></p>	<p>ESL and the PLA agree that this is a standard transit passage for a vessel of this size. Vessels typically of this type will make passage route through the Elbow area maintaining a safe distance from the shallow water to the West and from the windfarm to the East. This is also</p>

Reference	Response summary/extract	PLA/ESL comments
	<p><i>to the SW corner of the SEZ and astern of a 91 to 120m vessel which is inward bound for the Port of Ramsgate. This is a standard transit passage for a vessel of this size."</i></p>	<p>demonstrated in further examples in this Appendix 41.</p>
<p>Section 3.3</p>	<p>0203 Transfighter</p> <p><i>"A 120 to 180m inbound vessel approaches from the NE and passes just inside the NW corner of the SEZ. The vessel boards her pilot in the vicinity of the pilotage diamond and then proceeds NW to the west of the NE Spit buoy and across the NE Spit back 3 hours before HW. This is a standard "dipping down" operation for a vessel of this size."</i></p> <p>0515 Henneke Rambow</p> <p><i>"An outbound 120 to 180m vessel passes over the NE Spit bank to the west of the NE Spit buoy 1 hour before HW. The vessel lands her pilot at the pilotage diamond and then continues her passage to the east passing between the NE Spit buoy and the SEZ."</i></p>	<p>These two graphics demonstrate different approaches from the two vessels. The 'Transfighter' appears confident enough to pass closer to the existing TOW at approximately 0.9NM to the nearest turbine. The 'Henneke Rambow' takes a more cautious approach and passes the nearest turbine at approximately 1.5NM.</p>
	<p>1112 WEC Modriaan and Sea Cruiser 1</p> <p><i>"Two outbound vessels pass close to the East Margate buoy. The smaller vessel of 91 to 120m is overtaking a larger vessel of 120 to 180m. Both vessels pass over the NE Spit bank 5 hours after HW. The smaller vessel transits east through the SW sector of the SEZ. The larger vessel lands her pilot to the north of the pilotage diamond and then continues on passage to the east passing close to the NW corner of the SEZ. A third vessel of less than 50m also overtakes the larger vessel at 1121 in the vicinity</i></p>	<p>It should be noted here how the two vessels proceeded east after landing their pilots. The 'Sea Cruiser 1' would have tracked directly East prior to the construction of the current TOW. Its route is affected by the windfarm and would be affected further with the extension in place.</p>

Reference	Response summary/extract	PLA/ESL comments
	<p><i>of the East Margate buoy. All transit passages are standard for the vessels in question.”</i></p> <p>1827 The Valentine</p> <p><i>“An inbound 120 to 180m vessel approaches from the NE and passes close inside the SEZ in the NW corner. She boards her pilot at the pilotage diamond before proceeding NW over the NE Spit bank and between the NE Spit and East Margate buoys. This is a standard “dipping down” operation for a vessel of this size.”</i></p>	<p>The ‘Valentine’ is a twin screw (two propellers) Ro-Ro vessel. Making a 120 degree turn is not difficult for such a vessel in normal conditions. Many vessels served by ESL are single screw, considerably heavier and are not so manoeuvrable and require more sea room.</p>
Section 3.4	<p>0215 Makassar Highway</p> <p><i>“A 120-180m vessel “dips down” passing south of the NE Spit Buoy and embarks her pilot close to the diamond and then retraces her route back to the NW once again passing south of the NE Spit Buoy –Given the unusual approach to NE Spit, this vessel may have diverted from the SUNK.”</i></p> <p>1000 Elbe Highway</p> <p><i>“An inbound 120 to 180m vessel approaches from the NE (passing close to the boundary of the SEZ, but outwith the proposed area in which above sea structures may be placed) passes to the east of the NE Spit buoy and boards her pilot almost exactly on top of the diamond. She then heads inbound</i></p>	<p>This track is unexplainable, the ‘Makassar Highway’ appears to have come from within port limits to board a pilot and then proceed back into port limits. The vessel would not have been diverted from the Sunk as she is/was a regular vessel served at the NE Spit pilot station by ESL.</p> <p>This vessel did pass close to the SEZ boundary but this approach would have been considerably different with structures in place and a rolling 500m buffer zone during construction and decommissioning. The approach would have been from a more northerly track.</p>

Reference	Response summary/extract	PLA/ESL comments
	<i>south of the NE Spit Buoy.</i>	
Section 4.2	<i>“The vast majority of vessels elected to transit between the East Margate and NE Spit buoys passing over the NE Spit bank regardless of the height of tide.”</i>	<p>ESL and the PLA consider that it is obvious that the majority of vessels, during the 3 days of this new study, were capable of navigating over the NE Spit bank. It should not be concluded that this is routine for all vessels as there are 362 other days in a year.</p> <p>It should also be noted that some of the vessels in this study carefully negotiated the 3 cable (0.3NM) gap between the bank and the NE Spit racon buoy or over a deeper part of the bank. This would have been carried out under pilotage, more than likely by a class 1 or 2 pilot.</p>
	<i>“There were very few simultaneous pilotage operations despite the higher density of traffic on 13 June and 1 August.”</i>	As set out above, it is clear that neither of these two study days were anywhere near the upper end of what ESL would consider busy. A busy run constitutes 4 or more vessels served simultaneously, which did not occur during this study.
	<i>“Despite these animations representing some of the busiest days there were no multiple ship encounters in this area and therefore any allowance for doing so inherently allows for rare occurrences and/or increases in future traffic density.”</i>	As previously stated, suggesting that busy runs/periods are a rare occurrence is incorrect. It highlights the inadequacies of short study periods and their inability to accurately capture the overall picture.
	<i>“No vessels over 240m passed through the inshore route in the</i>	Again, the PLA and ESL would suggest that this highlights

Reference	Response summary/extract	PLA/ESL comments
	<i>48 hours observed.</i>	the inadequacies of the short study period; although it is not frequent, in their experience vessels over 240m do pass through the inshore route.
	<i>“The animations show that the remaining sea room with the SEZ in place is adequate for the size and number of vessels which use the inshore area to the west of the windfarm.”</i>	As stated above, the PLA and ESL do not consider that these short study periods can represent the larger picture of busy periods and multiple ship runs.
Section 4.3	<i>“Traffic density appeared to be low during the 24 hours studied, and congestion did not occur.”</i>	Again, the Applicant has stated this is the busiest period of the year, yet both of their marine experts have identified that this study was low in traffic density and no congestion. As set out above, the PLA and ESL do not consider this to be representative of a busy period.
	<i>“Pilot transfer operations in the ‘limit state’ of heavy weather operations seemed to concentrate more in the vicinity of the NE Spit pilotage diamond than in benign conditions. This can be explained by the natural tendency to want to minimise the time in heavy weather in a small pilot cutter and thus the desire to bring the vessels closer inshore and by consequence, further away from the wind farm.”</i>	In the adverse weather category the study records that the wind was from the NW with an average speed of 8.6m/s (16.7knts). The ESL launch crew will endeavour to work closer to the NE Spit diamond in such conditions for the reasons Paul Brown has identified. If the wind had been from the NE, short boat runs would be preferred, but the crew would work away from the land and closer to the Elbow and windfarm. Hence the reason for as flexible a working area as possible.

Reference	Response summary/extract	PLA/ESL comments
Sections 4.2 and 4.4	Overall analysis of Captain Simon Moore and Commander Paul Brown.	From the animations, Captain Simon Moore and Commander Paul Brown conclude that the remaining sea room with the SEZ in place is adequate for the size and number of vessels which use the inshore area to the west of the windfarm. However, the animations did not represent 'limit state' conditions. Also, on the days in question, there were no occurrences of emergency situations, pilot ladder deficiencies, or other incidents, which may have resulted in the need for more sea room. Therefore, the PLA and ESL cannot agree with this conclusion.

Appendix 42: Thanet Offshore Wind Farm Collision Assessment of Proposed Extension

Reference	Response summary/extract	PLA/ESL comments
General		<p>Given the high level of detail in the Anatec collision assessment we have tried to highlight our observations and concerns as clearly as possible however, the PLA and ESL would have preferred to have more time in order to compile a full response. Their observations on Appendix 42 to Deadline 6 Submission (Thanet Offshore Wind Farm Collision Assessment of Proposed Extension) are as follows;</p> <p>The PLA and ESL’s primary observation regarding the new collision assessment is that a direct comparison cannot be made between the Marico CRM and the Anatec CRM, even at baseline level, as they have been based on different sized study areas and historical data periods. The NRA uses a 10nm study area in combination with 18 years of historical MAIB data (NRA/Section 7.3), this is increased to 20 years for the NRAA but the study area is decreased to 5nm (NRAA/Section 2.6). The Anatec study uses 10 years of MAIB incident data and a 7nm study area(Appendix 42 to Deadline 6/Collision Assessment/Sections 2.1 and 3.2). This inconsistency makes it difficult to understand baseline collision risk figures.</p>
4.1.1	Discussion of pre-extension assessment	Anatec’s Pre Extension assessment finds that a majority of traffic passing the existing wind farm are <i>‘majority weighted in excess of 1nm’</i> . In a later section of this study (section 4.1.2.1) it is noted that through the TOEWF examination

Reference	Response summary/extract	PLA/ESL comments
		<p>process 0.5nm has been established as a suitable distance for the prudent mariner. With vessels tracks '<i>majority weighted</i>', according to Anatec's research, passing in excess of 1nm from the wind farm we would suggest 0.5nm is in fact not the appropriate passing distance for the prudent mariner.</p>
4.1.2.1	Commercial (Regular Routed) Deviations.	<p>The PLA and ESL do not agree that recreational traffic passing within 1nm of the Option A site (the SEZ) should not be deviated.</p>
4.1.2.2	Pilot Vessel Deviations	<p>If pilot vessel tracks are to be deviated, because of their proximity to the wind farm, to the point where they 'misalign' with the commercial vessels they are attending, it is not clear how this reflects the predicted profile of future traffic behaviour. y.</p> <p>It is not clear when deviating a vessel, what factors are taken into account, specifically whether a vessel's draft is factored in. It may be that a deep drafted vessel is deviated into an area shallower than its previous track but again, this is not clear.</p>
4.2	CollRisk Overview	<p>It would be helpful, for context, to know what 'rates of likelihood of an encounter becoming a collision' actually are. For example, how long would 2 Tankers have to occupy the same 250m area of the grid system (referenced in section</p>

Reference	Response summary/extract	PLA/ESL comments
		<p>4.3) to result in a collision?</p> <p>The PLA and ESL understand that Anatec’s database of MAIB data is used to inform a localised assessment but are unclear how this translates to a likelihood figure specifically.</p> <p>The model makes a 3% allowance for the increase in collision risk (based on this being accepted for other offshore renewable NRAs). There is no indication that vessel deviations have a ‘poor’ visibility factor, 1km is very poor visibility for an area such as the inshore route, given the wide variety of user type and activity, we would expect vessels to adapt to this by adjusting their passage. It is not clear if the vessel deviations made by the model account for poor visibility.</p>
4.3	<p>Durations</p> <p><i>‘Speed of simulated tracks have been based on average speeds of input tracks’</i></p>	<p>Although this may be appropriate for an area where the dominant activity is vessels on passage it is unclear what impact averaging out a vessel’s speed would have in an area that is intensively used for boarding and landing. Vessels will have to reduce speed to 6 knots to board/land a pilot and it is not uncommon for that vessel to wait ‘on station’ for their pilot. With such a small study area in consideration the impact of a vessel reducing speed significantly for several minutes has not been adequately identified.</p>
5.2	Post Extension	<p>Figure 5.3 demonstrates the highest/lowest areas of collision risk. The overall indication is that the highest collision risk increases are between Elbow and SEZ and NE Spit Buoy and SEZ, two of the key areas we have raised</p>

Reference	Response summary/extract	PLA/ESL comments
		<p>concerns about. We also note the apparent reduction in collision risk at the inner pilot boarding area. It is not clear whether this is a result of a 'more defined' route, but if so it seems to imply that boarding and landing is not considered here. It is unclear how a more defined and intensive 'route' can also accommodate boarding and landing.</p>
5.3	Future Case Traffic Growth	<p>The PLA and ESL do not think 10% future traffic growth is suitable for this area. The PLA and ESL addressed future traffic growth in their response to ExQ3 3.12.15 (see PLA27/ESL27).</p>
5.4	Other wind farms	<p>ESL and the PLA do not agree that this study is directly comparable to the other wind farm projects referenced in table 5.2, primarily because the study areas for the other windfarms were considerably bigger. They note that Anatec also state that the results are not directly comparable.</p>

Appendix 24: Applicant’s comments on the ExA’s preferred dDCO or dDCO commentary
Appendix 44: Applicant’s response to community of dDCO from Interested Parties

Part of DCO (and ExA comment number)	PLA and/or ESL Comment
Art 16 (Comment No. 13)	The PLA supports Trinity House’s D5A submissions [REP5A-006] to the effect that it is not necessary or desirable to include a general power to extinguish public rights of navigation in the dDCO. The Applicant has given no compelling reason for the extinguishment of these public rights over an area which is a highly-used area by commercial, fishing and leisure traffic and which comprises key navigational routes into and from the Thames Estuary.
Art 16(2) (Comment No. 14)	The PLA notes that the Applicant has agreed to add “the Port of London Authority” as a party to be notified under Article 16(2) and welcomes its inclusion.
Art 16 (Comment No. 15)	<p>At Deadline 6, the ExA requested that the Applicant provide proposed relevant changes or an explanation as to why a change in drafting was not warranted in relation to navigation safety measures for temporary construction works. The Applicant’s Appendix 24 to Deadline 6 Submission: Applicant’s comments on the ExA’s preferred dDCO or dDCO commentary does not appear to include a response to this comment from the Applicant.</p> <p>The PLA and ESL are, therefore, unable to provide a response on this point.</p>
Sch 1 Parts 1 and 3 (Comment No. 30)	The PLA and ESL refer to their previous submissions on the dDCO. The Applicant states (Appendix 44 to Deadline 6 Submission: Applicant’s response to commentary of dDCO from Interested Parties, p14) that the requirement to produce a construction programme and monitoring plan, as well as the requirement to submit a construction method statement to the Marine Management Organisation is more than sufficient to ensure complete clarity about the nature of the works and where they will be placed within the SEZ. There is, however, no clarity on the positioning of those works at this stage, and no party has had an opportunity to comment on the precise location of those works during the DCO process as the Applicant has not made that information available. There will be very limited oversight or approval of the nature of those works and where they will be, and the PLA and ESL will have no involvement in that

	<p>process.</p> <p>The Applicant should be required to show the limits of the cabling works precisely on the works plans (through the DCO) – rather than the excessively large area covering the whole of the SEZ – in order to give Interested Parties and others certainty about the extent and location of those works.</p>
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On behalf of the Port of London Authority and Estuary Services Limited
6 June 2019