

# **Vattenfall Wind Power Ltd**

## **Thanet Extension Offshore Wind Farm**

Annex C to Appendix 16 to Deadline Submission:  
Shipping Commercial Assessment

Relevant Examination Deadline: 6

Submitted by Vattenfall Wind Power Ltd

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# 1 Introduction

## 1.1 Purpose of this assessment

- 1 Action point 17 arising from ISH8 (PINS Ref EV-046) was for interested parties (IPs) to identify their concerns regarding the potential commercial and economic effect of Thanet Extension on shipping. At Deadline 5 a number of IPs submitted a response on this matter.
- 2 This document seeks to analyse those submissions and to consider the wider evidence provided during the examination regarding commercial impacts on operators and ports.

## 1.2 Applicant's position

- 3 The Applicant has made it clear throughout the examination that it does not consider that there will be a need for maritime operations, whether pilotage or vessel transits, to significantly alter from the current baseline.
- 4 For pilotage particularly, there would inevitably be some activities that have historically occurred within the proposed wind farm which would not physically be able to be carried out in the same location. However, given the limited number of transfers in this area and the remaining sea room, the Applicant's position is that this would not materially affect the overall pilot service in the area of the NE Spit.

## 1.3 Commercial or safety effects

- 5 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 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 produced by PLA using a modified methodology) but there is no reference to safety at all.

## 1.4 Summary of IP submissions

- 6 At Deadline 5 the following IPs submitted responses to ISH8 action point 17 which are summarised as follows.

## **PLA / ESL**

- 7 Comments relating to transfers at Elbow buoy and the reliance of the pilot boarding during restricted service.

## **Port of Tilbury / DP World London Gateway**

- 8 Comments relating to larger vessels choosing to deviate around the wind farm rather than utilising the inshore route, and a change in pilot boarding for those larger vessels.

## 2 Commercial effects on pilotage

### 2.1 Applicant's position

- 9 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. In the extreme minority of cases where a transfer has occurred within the proposed turbine array or sufficiently proximal to it, there would be displacements, however sufficient sea room exists to the west of the wind farm to accommodate these changes.

### 2.2 IP position relating to commercial effects on pilotage

#### PLA

- 10 At Deadline 5 the PLA and ESL provided a response to the commercial impacts of the project and specifically referred to potential changes to pilot transfers in the vicinity of Elbow buoy and suggested likely increase in pilot boarding at Tongue DWD as a result of vessels transits around the wind farm.

#### LPC

- 11 LPC do not specifically address Action Point 17 from ISH8, however the Deadline 5 response focuses on constraints in the area between NE Spit Racon and the SEZ. 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.

#### PoTLL / DPWLG

- 12 PoTLL / DPWLG at Deadline 5 refer to concerns relating to 'pilotage operations and transits 'co-existing in the same constrained space' but do not specify the areas of particular concern. The response goes on to refer to the pilot simulation study noting that only vessels up to 240m were considered and assumed, on that basis, that vessels larger than 240m are unable to be boarded (or that it cannot be concluded that they can be boarded).

### 2.3 Assessment

- 13 Whilst the Applicant does not agree with the submissions made by IPs on this matter at Deadline 5, the commercial impacts that have been suggested have been considered further.

- 14 The Applicant has provided the requested 2nm + 1nm area in the vicinity of the pilot diamond which was proposed by multiple IPs as the area required for the continuation of unrestricted pilot transfers. Reviewing the submissions made by IPs it is clear that their residual concerns relate to the ability to operate in the area around Elbow Buoy (PLA/ESL), NE Spit Racon (LPC) and the effect of serving a greater number of vessels at a relocated Tongue DWD (PLA/ESL). The Applicant also notes continued concerns regarding the extent of the 2nm+1nm area around the pilot diamond from PLA / ESL, however the effect on pilotage in this area as result of these concerns has not been elaborated on in their deadline 5 submission

### **Elbow buoy**

- 15 According to data provided by ESL on pilot transfers across the inshore route, the area in proximity to Elbow buoy accounts for 2.4% (total no.) and 3.6% (total no.) of pilot transfers in 2017 and 2018 respectively.
- 16 PLA / ESL suggest (although do not provide evidence) that ‘one third of the boarding’s and landings took place during or adjacent to periods when ESL was operating a restricted service’ and ‘operations which took place when the SUNK pilot station was off-station or restricted almost certainly took place in the vicinity of the Elbow’. One third of transfers at Elbow that are presumed to occur during periods of restricted service therefore equates to 0.8% (2017) and 1.2% (2018) of total ESL transfers.
- 17 It is noted in the Applicant’s response to Deadline 5 submissions that the rate of vessel transfers in the area of Elbow (if one third of the transfers in this area are assumed to occur during restricted periods) would be usually high and therefore this figure is probably an overestimation (Appendix 26 at Deadline 6).
- 18 The IPs response then states that transfers in the vicinity of Elbow would be undertaken but would ‘be [more commonly] restricted or inhibited’ with associated knock-on effects.’ if TEOW were constructed. The Applicant has considered the evidence for these statements further in response to Deadline 5 submissions (Appendix 26 at Deadline 6).
- 19 At face value, it appears from PLA / ESL response that their particular concern relates to transfers that occur during restricted service when the ability to undertake transfers elsewhere is limited.
- 20 Reviewing the ESL service record for 2016 to 2018 (provide at Annex D to Appendix 22), it identifies only a limited number of occasions where pilotage was limited to Elbow specifically (i.e. when there was little or no flexibility in location). The majority of restrictions relate only to Tongue DWD being unavailable and even then they account for a very short period of the year as can be seen in Table 1.



**Table 1: ESL service record 2016-2018**

Year	Restricted service (all)		Restricted service limited to Elbow <sup>1</sup>		Off service		Total restricted / off	
	Hours	% of year	Hours	% of year	Hours	% of year	Hours	% of year
2016	114.0	1.3%	29.5	0.34%	41.7	0.5%	155.7	1.8%
2017	63.3	0.7%	19.0	0.22%	48.5	0.6%	111.8	1.3%
2018	186.5	2.1%	68.0	0.78%	166.32	1.9%	352.8	4.0%

- 21 Additionally, during these times there will generally be a draught restriction in place, suggesting that it is highly improbable that during the periods when Elbow is the only remaining area available for pilot boarding that the larger vessels that are usually served at SUNK would be able to be served in this location.
- 22 Further, the pilot boarding diamonds have been positioned to provide appropriate locations for pilot boarding based on vessel size and it appears counter intuitive to bring large vessels, not ordinarily services in these areas, closer to the shore during periods of adverse weather.
- 23 The percentage of time where a restricted service specifically limited vessels to Elbow or Elbow and one other location (and therefore, on a precautionary basis it would be assumed that if this was unavailable, pilotage would also be unavailable) is 30% of the restricted service hours in 2017, and 36.4% in 2018. On this basis it is possible to estimate the number of the transfers undertaken during restricted service that would be delayed due Elbow buoy being off station, following the construction of TEOW.

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<sup>1</sup> Taken as being specific mention that operations were limited to Elbow (and other locations), as opposed to just a restriction at Tongue DWD.

**Table 2: Vessels potentially affected as a result of greater restrictions at Elbow**

Ref	Figure	2017	2018	Notes
1	Total ESL transfers	6579	6514	From ESL Working Areas plan
2	Total at Elbow	157	238	From ESL Working Areas plan
3	% of total transfers at Elbow	2.39%	3.65%	
4	% of total transfers undertaken at Elbow during periods of restricted service	0.80%	1.22%	Stated as 1/3 of Elbow transfers in PLA / ESL submission
5	% restricted service is limited to Elbow	30.0%	36.4%	This % is therefore assumed to be 'off station' with TEOW, according to the PLA / ESL Deadline 5 submission
6	% total transfers with additional delays due TEOW due to restrictions at Elbow	0.24%	0.44%	The percentage of total transfers at Elbow during restricted periods (4) multiplied by the % of time service is limited to Elbow (5)

- 24 Taking these figures of when restricted service periods were limited to only Elbow only, this would suggest that between 0.24% (2017) and 0.44% (2018) of transfers may be delayed in this area as a result of the wind farm, according to the submissions made by PLA / ESL.
- 25 The IPs refer to 'significant disruption' to vessels including container ships for Port of Tilbury and London Gateway. Notwithstanding the very small number of transfers that may be affected, it has been demonstrated through submissions by DPWLG that vessels headed to London Gateway that either transit through this area and / or take a pilot at NE Spit are very limited, principally due to the size of vessels. It is therefore considered extremely unlikely that during a restricted service limited to Elbow that any vessels bound for that port would be served in this location irrespective of the wind farm.

- 26 This assessment is, by the fact that limited data has been provided by the IPs, high-level and precautionary. However, it seeks to provide context to the IPs concerns relating to the use of Elbow and the potential knock-on impacts of this area becoming more restricted (unavailable) during periods of adverse sea conditions. Whilst there is uncertainty over the figures provided by ESL, for reasons set out in the response to the Deadline 5 submission (Appendix 26), even when taking these at face value it is clear that over 99.5% of transfers would not be affected by any increases in the time that Elbow is off station. With less than 0.5% transfers affected, this is well within the yearly variation of transfers in Elbow area between 2017 and 2018 and would likely be imperceptible within the wider variation of metocean conditions experienced from year to year.

### **NE Spit pilot diamond area**

- 27 At Deadline 5, ESL maintain the position that as a result of the project there will be an increase in vessels detouring around the wind farm which would indicate that these vessels would be reluctant to come to the inner boarding position. The effect of this being that these vessels would be served at Tongue Deep Water Diamond. The commercial effects on this are considered below at paragraph 37 *et seq.*
- 28 This position is echoed by PoTLL / DPWLG in their submission, where it is posited that vessels above 250m in length may choose to reroute.
- 29 The acceptance of the inshore route as being adequate for transiting vessels has been confirmed by multiple IPs and the Applicant considers that the precautionary approach, in accordance with the MSP guidance, that has been taken to defining the sea room for passing vessels concludes that there should be no valid reason why vessels of any size would not choose to transit the inshore route.
- 30 The sea room in the NE Spit pilot diamond area provides for the 2nm + 1nm buffer requested by IPs and as such there is no reason to conclude that vessels which do enter this area would not be able to be served in the same manner as they are today.

### **NE Spit racon**

- 31 In their Deadline 5 response LPC focus on the sea room between the NE Spit Racon buoy and the SEZ, consistent with their submissions at hearing that they were satisfied with the sea room in the vicinity of the NE Spit pilot diamond and Elbow buoy. Whilst this response was not directly in response to the Action point 17 on commercial effects, it is relevant to consider as the most detailed review of the suggested residual impact on pilot operations in this area.

- 32 The Applicant has considered LPC's submission in detail in response to Deadline 5 submissions, however in summary the premise on which LPC consider an increase in deep draught vessels into this area (that of dredging a new deep draught Edinburgh channel) is not viewed to be a valid proposal at this time.
- 33 Nonetheless, LPC specifically refer to the difficulty of boarding large (deep draught class 1) and UCLS class vessels in this area, referring to 'drafts up to 13.5 meters having boarded or landed a pilot at the NESP'. It is assumed that LPC are stating that vessels of this size that would otherwise have boarded in this area would no longer be able to and would be served elsewhere, presumably at Tongue DWD. As such, the consideration of the commercial effect on the pilot operation focuses on the displacement of certain types of vessels to a location further north, with the associated impacts on cost, time and availability.
- 34 ESL's data on pilot transfers for 2017 and 2018 identify that 3.4% and 2.2% of transfers occurred in the 'NES buoy' location. It is noted that on the ESL working area plan, NES buoy covers a significant area north of the water between the Racon buoy and the SEZ. It is not possible to split out this percentage by vessel size (as also confirmed by PoTLL / DPWLG analysis of POLARIS data) however by reviewing gate analysis over vessels coming into this area from east and the south it is possible to understand the likely apportionment of vessel sizes.
- 35 As presented by the Applicant in the gates analysis submitted as Appendix 25, Annex H and Deadline 1 (Ref: REP1-076), there are no records of ULCS vessels (those over 366m) and vessels over 12.5m are vanishingly rare. The occurrence of deep draught large and ULCS vessels in this area is virtually non-existent. It is reasonable to assume that on this basis of the current baseline (noting LPC's submission that their proposal represents future traffic profiles which the Applicant does not agree with), there would appear to be virtually no effect on pilot transfers involving these deep draught, large vessels in the area between NE spit racon and the SEZ, and therefore no consequential adverse commercial or economic effect.
- 36 Even assuming that the very limited number of larger vessels (such as the single 333m vessel that occurred once in the 21 composite AIS month dataset provided by the Applicant and IPs) recorded in the area were served in the 'NES buoy' rather than in the designated deep water draught pilotage area any residual effect would relate to a tiny fraction of an already very low percentage of transfers occurring in this location.

## Tongue DWD

- 37 ESL predict two effects on the Tongue DWD as a result of Thanet Extension. The first being increased use of the area due to vessels choosing to route to the east and north of the wind farm rather than through the inshore route.

- 38 The second is that the Tongue DWD would be required to be moved 2.4nm north or north-east of its current position. The Applicant has considered this proposal further in response ExQ3.12.7 and in summary does not agree that there would be a need to move the pilot diamond 2.4nm, given that the encroachment of TEOW toward the existing diamond is only 0.7nm.
- 39 One other factor that must be considered is the increase in downtime of the Tongue DWD in comparison with NE Spit pilot diamond area.

#### **Increase in vessels using Tongue DWD**

- 40 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). Whilst this is likely to include a reasonable degree of double counting, it provides a highly precautionary (and in the Applicant's view not valid) figure of 132 vessels, or 2% of the vessels served in 2018, not choosing to board at NE Spit pilot diamond due to their size, per year.
- 41 It is recognised that PoTLL / DPWLG suggest a different number of vessels would seek alternative boarding arrangements (17 vessels PoTLL, 113 vessel to DPWLG). However, this has been based on a pro-rata apportionment of vessel sizes based on all vessels visiting the port, not taking into consideration the inherent limitation on the length and draught of vessels being served at NE Spit. The Applicant has responded to these calculations in comment on Deadline 5 submissions (Appendix 26)
- 42 The 54 vessels that would have entered the NE Spit pilot diamond area from the south would, under the PoTLL / DWPLG scenario, subsequently travel to the east of the wind farm. In this instance there would be no impediment to these vessels being served at NE Goodwin, as a number of vessels already do, and if these are vessels coming along an inshore route and then deviating round, this is likely to be the most efficient location (for the vessel perspective). From Ramsgate harbour (the location of ESL), NE Spit pilot diamond and NE Goodwin are approximately equidistant. Therefore on purely functional basis (not taking into account resilience or wider pilot operations) there would appear to be little difference for either commercial operators or ESL in serving an individual vessel at NE Goodwin compared with NE Spit.

- 43 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. In terms of the vessels, it is probable that this would be a net benefit against 'dipping down' to be served at the NE Spit diamond area. This act of 'dipping down' leads to approximately an additional 4nm of steaming distance and time which would not be required if being served north of the wind farm.
- 44 For ESL, this would require additional steaming time out to the Tongue DWD, whilst noting that this is an area already served, albeit to a lesser extent. In order to undertake approximately 2% of their transfers at Tongue DWD as opposed to in the vicinity of the NE Spit pilot diamond this would require an additional steaming time (assuming a speed of 15 knots for 4 nautical miles) of 16 minutes assuming individual trips were made. This translates to 35 hours per year to service 132 vessels. This is a highly precautionary approach given that ESL routinely coordinate and manage transfers in the area for efficiency of the pilot launch, and pilot cutters regularly steam at 25 knots which would equate to 9 ½ minutes additional time per transit.

### Loss of resilience

- 45 One of the key claims made by IPs during the examination has been that where pilot transfers are required to be undertaken outside of the inshore route into less sheltered areas, this would lead to a greater number of transfers being delayed.
- 46 This is in addition to the concerns regarding the use of the Elbow buoy area as the 'station of last resort', the assessment of which is provided Section 2.3.
- 47 The evidential basis for this is very limited and whilst ESL have provided wind speeds and directions for when locations may be considered off or restricted, there is no data as to what number, size or type of vessels are served at which time, and therefore it is impossible to know the baseline pilot transfers for these 'limit state' periods.
- 48 The service records from ESL (Annex D Appendix 22) are also limited but do provide some basis with which to consider the time off-station for the various boarding locations in the general area of NE Spit.
- 49 Judging by the service records, 'restricted service' at NE Spit is associated with no pilot transfers at Tongue DWD as a minimum, with occasional additional restrictions as discussed in assessing the impact at Elbow buoy in Section 2.3. The transfers at Tongue DWD were 93 in 2017 and 86 in 2018; it is therefore assumed that this provides a reasonable baseline for an acceptable usage of this location (noting that there is no 'threshold' proposed beyond which there would be unacceptable commercial impacts).

- 50 It is noted that PLA and ESL propose that the Tongue DWD would need to be relocated, however the Applicant does not agree that this is necessarily required and even to the extent it was considered appropriate, the movement would only need to commensurate with the reduction in distance from the nearest wind turbine (~0.7nm). This is detailed further in the Applicant's response to ExQ3.12.7. As such it is reasonable to assume that the periods where this area is off station will not be materially different post-construction.
- 51 Should vessels over 240m avoid the inshore, as proposed by IPs they would, as a worst case, all board at Tongue DWD (noting that NE Goodwin offers a viable alternative location for these vessels). This would equate to 132 additional vessels seeking pilot boarding at Tongue DWD as opposed to the inner diamond, or 2% of ESL's total transfers in 2018. As shown in Table 1: ESL service record 2016-2018, the periods of off and restricted service vary between 1.3% and 4% of the year. Taking the worst case from 2018 of 4% of time lost at Tongue DWD, and assuming an even spread of these 2% of transfers throughout the year, this would lead to an additional 0.08% of ESL's total transfers being delayed as a result of having to board at a more exposed location.
- 52 When adding the worst case of vessel delays due to additional off-station time at Elbow (0.44% of total transfers in 2018) this concludes that approximately 0.5% of 2018 vessel transfers would, according to IP submissions, suffer 'additional' delays as a result of TEOW. This should be considered in the context of significant inter-year variation in off station and restricted service periods. The overall NE Spit pilot area covering all locations from NE Goodwin to Tongue DWD was off station or restricted for 1.3% of 2017, this leapt to 4% in 2018. In this context, 0.5% is well within the natural variation experienced in this area and is therefore highly unlikely to lead to any material commercial effects on operators or any of the consequential impacts put forward by IPs.
- 53 Annex A to this Deadline 26 submission considers a further method of analysis, which is to consider total pilotage days for both the 3 pilot diamond areas, or the 9 pilotage areas identified by ESL. This document does not seek to repeat those numbers but it is of note that whether total transfers as considered here, or total pilotage days as considered in Annex A are considered, the overall impact on pilotage operations is less than 1% of operations may be subject to some form of impact under a worst case scenario.

### 3 Commercial effects on vessel transit

#### 3.1 Applicant's position

- 54 The Applicant's position is that sufficient sea room is available for all sizes of vessels to transit the inshore route. This is an agreed position with both MCA and Trinity House (Appendix 12, and 21 respectively), noting that both parties defer to PLA with regards pilotage operations. In assessing the sea room requirements the Applicant considered 4 concurrent passages of the largest vessel to be recorded in the area (333m in length) and as such a very precautionary approach has been taken on the basis of the size and the very low likelihood of concurrent transits of vessels of this size.
- 55 If any vessel chose to deviate around the wind farm and not use the inshore route as a result of TEOW (which the Applicant does not consider necessary) it is the Applicant's position that this would lead to an 11nm diversion.

#### 3.2 IP position relating to vessel deviation

##### PLA / ESL

- 56 ESL maintain the position at Deadline 5 that vessels will choose to detour around the wind farm and will consequently not want to come to the inner boarding position, although do not consider the sizes or numbers of vessels electing to avoiding the inshore route.

##### PoTLL / DPWLG

- 57 The IPs provide an assumption that vessels over 250m would not transit the inshore route, although note that further pilot simulation is required to determine viability. Notwithstanding that point, the IPs go on to consider the effect of all vessels over 240m in length diverting around the wind farm noting *'it is reasonable to assume that vessels over 240m in length would seek alternative boarding locations'*.

#### 3.3 Assessment

- 58 Taking the highly precautionary approach of assuming that no vessel over 250m would transit the inshore route (as assumed by PoTLL / DWPLG), this would equate to 54 vessels (vessels over 240m passing between Elbow buoy and the SEZ, Table 4, Appendix 27 to Deadline 4 – AIS Analysis Report).
- 59 At Deadline 1, PoTLL / DPWLG provided average hourly costs of a ship under steam for vessels of various sizes. The IPs also state that, in their view, the deviation around the wind farm would be 14nm and lead to an additional steaming time of 1 hour.



- 60 The impact on commercial vessels must take into account the relative additional time and the cost of this deviation in relation the Port of London total vessel arrivals. The need to compare with total vessel arrivals is to address the concerns raised by a number of IPs relating to loss of competitiveness and an overall economic impact on the port businesses and the knock-on effects on investment and employment. Given the wide ranging consequential effects suggested by the IPs, the cost of the deviation would need to be seen in light of the total capacity of the ports in order to understand whether it would be lead to the perceived wider or 'societal' economic impacts
- 61 Table 3 considers the number of vessels above 240m recorded going between Elbow buoy and the SEZ. As this is the total number of vessels through the inshore route, it has been assumed that all vessels are bound for London ports generally.

**Table 3: Cost of vessels over 240m deviating from the inshore route**

Vessel length	Between Elbow buoy and SEZ		Cost per hour	Total additional cost for all vessels calling at Port of London per year
	No.	% of total	\$ <sup>2</sup>	£ <sup>3</sup>
240-299	44	1%	\$2,200	£76,472
299-333	10	0%	\$2,800	£22,120
333+	0	-	\$4,000	-
Total				£98,592
Total per vessel calling at Port of London <sup>4</sup>				£4.54

- 62 As shown in Table 3, even when considering that all vessels registered as passing between Elbow buoy and the SEZ and a worst case 1 hour additional steaming time, the commercial effect is very small when considering the overall traffic transiting to and from the Port of London.
- 63 This should also be seen in terms of the total distance these vessels travel and the variability that will occur in any vessel passage that would lead to addition time and cost well in excess of this additional steaming time.

<sup>2</sup> Figures provided in the PoTLL / DPWLG Written Representation (REP 1-148) for vessels up to 300m and up to 350m

<sup>3</sup> Based on exchange rate of \$0.79/£ correct as of 17 May 2019.

<sup>4</sup> PLA 2018 Annual Report, 10,866 chargeable vessel arrivals (multiplied by 2 for inbound and outbound journeys), a total of 21,732 chargeable vessel transits

- 64 Furthermore, should these vessels choose to route around the wind farm to the east, this would not be a sudden decision on arriving to the south of the wind farm. It would be factored in passage planning from the outset and the total steaming time considered in the round. Even for shorter vessel transits it is considered highly unlikely that vessels would choose alternative ports on the basis of an additional 1 hour steaming time.
- 65 It is important to note however that the route would be factored in to any passage plan and as such a slight deviation on a route from, for example, Philadelphia or Cape Town when servicing THE Alliance Transatlantic services for London Gateway would represent 0.19% of the ~7209nm route between Cape Town and London Gateway. The IPs position is that this 14nm delay may take 1 hour. Again, considering the 7209nm trip, at a speed of 15 knots, this would be a fraction of the 20day steaming time that would be readily factored in to any passage plan.

## 4 In-combination effects

### 4.1 Applicant's position

66 This report has considered the potential commercial effects of Thanet Extension as put forward by Interest Parties through submission made at various deadlines, and in particular those made in response to Action point [] from ISH8.

67 The potential alleged effects can be summarised as:

- Additional pilotage costs due to increased travel time
- Loss of resilience of pilot boarding locations leading to delays in pilot boarding
- Costs of deviating around the wind farm

68 As demonstrated in the sections above, even when considering the positions put forward by IPs the impact in terms of percentage of vessels effected is extremely low.

69 The in-combination effect suggested by IPs is that as a result of imposition of the wind farm, vessels will ultimately choose another port, thereby reducing port arrivals and ultimately economic loss and reduced employment (which could be considered wider societal effects).

70 For these wider concerns to be understood, the effect of the wind farm on navigation has to be seen in context of the Port of London more generally, and whether the imposition of the wind farm would materially affect overall operation of the port. The PLA 2018 Annual Report identifies that the PLA undertook 13,372 pilot transfers and had 10,866 chargeable vessel arrivals in 2018.

71 Pilot transfers at NE Spit in general therefore equate to less than 50% of total pilot operations for the port. The main purported effect on the pilot service which has the potential to impact the wider port 'offer' and its attractiveness to commercial operators is the loss of resilience of boarding locations, where transfers would be undertaken in less sheltered areas and therefore be delayed due to bad weather more often.

72 As demonstrated through this report, even based on the IPs submissions which the Applicant does not agree with, approximately 0.5% of ESL transfers might be expected to be affected in this way, or less than 0.25% of the total Port of London transfers.

73 This is then considered in addition to the costs per vessel transit in or out of the port of larger vessels electing to travel to the east of the wind farm of approximately £4.5 per vessel per transit.

- 74 In combination the effect of TEOW on the total operability and attractiveness of the Port of London is considered to be immaterial and highly unlikely to influence the decision of vessel operators over considerations such as available berths, port fees and proximity to the end customer.

## 5 Conclusion

- 75 The Applicant has considered the responses made by IPs in response to Action Point 17 from ISH8 which requested IPs to set out the commercial impacts that might result from the construction and operation of TEOW.
- 76 The data provided on commercial operations, particularly pilotage, is porous at best and has made any quantitative assessment difficult. Nonetheless, the Applicant has sought to take the worst case figures presented by IPs and, using the data available, undertake a considered analysis of the likely commercial impacts.
- 77 Whilst the Applicant does not concede that any of these effects is likely to occur, what is clear is that even when taking the submissions from IPs at face value, the level of commercial impacts are not significant either in terms of the inshore route, ESL operations or the wider Port of London. The impact of TEOW on wider port operations is highly likely to be immaterial to general commercial traffic.