

ISH 5 Hearing Action Points

London Pilots Council (LPC) Submission

5th March 2019

1. Policy Considerations

From the ISH5 action points issued by the Planning Inspectorate, the London Pilots Council (LPC) consider the following items to be the important and relevant policy considerations to this case.

- 1.1. The remaining searoom at the NESP which the proposed red line boundary imposes for the general navigation of all vessel types transiting the sea area and for vessels engaged in Pilot boarding and landing operations remains the LPC's greatest concern
- 1.2. The exclusion zone or safety buffer. The minimum safe distance from the proposed red line boundary that general navigation and Pilot Transfers can safely operate. The Applicants 500m Safety zone is unacceptable.
- 1.3. A lack of appreciation by the Applicant that vessel draft, vessel length, state of tide, weather conditions and traffic situation combine for every Pilot Boarding and landing operation are the overriding factors when the vessels intended track through the NESP is agreed between, Master, Pilot and Coxwain.
- 1.4. The manoeuvring characteristics of a vessel are unique to each individual vessel and requires a dynamic risk assessment by the Pilot when boarding the vessel. The vessels length and draft alone does not determine the amount of safe sea room to complete the manoeuvre. As explained at the hearing, other factors such as squat, increase of draft due to heel when turning, rate of turn and radius of turn, traffic density and the proximity of navigational hazards all require a provision for additional sea room.
- 1.5. Large vessels at the Deep Water Diamond. The loss of the Deep Water diamond to the East of the NESP Racon will have both safety and an economic impact on large vessel operations.
The proposed red line boundary will require the Deep Water Diamond, the deep water Pilot boarding position to the East of the NESP Buoy, to be repositioned. Moving the DW diamond to a safe position 2 miles to the North of the boundary will put vessels engaged in Pilot operations in direct conflict with the busiest traffic route to the North of the proposed extension. An extremely hazardous proposition. Ultra Large Container Ships (ULCS), vessels such as the Cap San Class 333m length when operating at 9.5 to 10m draft have been risk assessed for transiting the

Princes Channel with Pilot Operations at the NESP. Two such transits have already been completed with Pilot operations taking place between the NESP Racon and the DW diamond. Using the NESP for ULCS vessels is to provide shorter transit times for vessels inbound or outbound from the Western Approaches and to aid an overall quicker port call and turnaround at the London Gateway as the ULCS business continues to grow.

- 1.6. The NRA. The accuracy of the data, the provision of data obtained using the most favourable times and states of tide and the assumptions made upon risk to Pilot operations and general navigation continue to be extremely contentious.
- 1.7. The Port of London simulator. The use of the PLA simulator to obtain the trial data can at best, in the opinion of the LPC, is deeply flawed. The PLA simulator is used as a training tool for Pilots to look at ship handling techniques, berth approaches, tug work and some emergency scenarios. All Pilots have experienced the superior facilities offered by either Wallingford or Marin in the Netherlands which can offer the required superior multi vessel navigation situations, weather effect, reduced visibility and manoeuvring conditions of different vessel types required for a credible NRA. In our opinion the PLA simulator was not fit for purpose for such a project as the Thanet Windfarm Extension NRA where data and a requirement for detailed and accurate simulations are critical to the decision making process.

6. Vessel Deviation Distance

6.1 The LPC confirm that the deviation distance for a vessel transiting around the proposed Windfarm red line boundary when arriving at the SE VTS reporting arc, transiting to the East and North of the Windfarm and then 'dipping down' for a Pilot at the NESP boarding diamond then outwards to the Princes Channel would incur an additional 14.4 nautical miles.

7. Technical Workshop

7.1 The table previously submitted by the LPC showing the suggested turning data typical for individual class of vessel can not be taken as the total required sea room at the NESP

Following the workshop meeting there was opportunity to explain how considerations such as weather, tide effect, squat, heel and radius of turn and other vessel traffic increased the requirement for sea room for safe manoeuvring of vessels.

Variations of these factors for different vessel types can be seen in Fig.1

7.2 Variations in Vessel size and vessel type were discussed in detail at the workshop. In addition to the tables provided by the LPC for turning a vessel the requirement for adequate sea room in the event of incidents such as vessel blackout where all propulsion and steerage is lost and a vessel turning

in the event of a 'round turn' when used as anti collision measures were discussed. A definitive number in terms of sea miles for the optimum sea room was difficult to ascertain as was the extent of a safety buffer or exclusion zone however, the following serves as an indication of the sea room required in such situations for vessels transiting through the area at 10 knots.

Fig.1 Vessel Manoeuvring Characteristics taken from Vessel Manoeuvring Data

Vessel Name	Balao	Viking Adventure	Grande Lagos	Cap San Artemissio
Type of Vessel	Cl. 1 Container	Car Carrier	RoRo Container	ULCS
LOA x Bm x D	209 x 30 x 9.5	199 x 35 x 9.5	236 x 36 x 9.2	333 x 48 x 10.2
DWT	34,144 T	62,106 T	31,340 T	124,426 T
Half Ahead	9.4 Knts	11.0 knts	10.8 knts	10.4 (Slow Ahd)
Turning 180 deg.	0.6 miles	0.46 miles	1.1 miles	1.45 miles
Stopping Dist 10kt	0.86 miles	0.8 miles	0.96 miles	1.53 miles
Block Coefficient	0.646	0.575	0.620	0.726
Fwd Blind Sector	306 meters	320 meters	380 meters	496 meters
Squat @ Slow Ahd	0.59 meters	0.53 meters	0.69 meters	1.21 meters
Turn @ 2 Deg Heel	0.51 meters	0.6 meters	0.63 meters	0.84 meters

7.3. From the table in Fig.1 we can make the following observations for vessels in excess of 200m LOA transiting the NESP sea area at 10 knots

7.3.1. Stopping distances from 10 knots to vessel stopped in the water for large vessels are in excess of 0.8 miles for emergency contingency measures.

7.3.2. Turning distances at 10 knots are between 0.5 and 1.5 miles should a vessel require to take avoiding action during transit. (COLREGS Rule 8. Action to avoid collision)

7.3.3. Blind sectors on vessels from right ahead to the water surface are between 300m and the IMO maximum of 500m. This is of particular note where mitigation measures using buoyage along a 500m safety buffer zone have been proposed.

7.3.4. The track of vessels across the NESP bank has been discussed at length. The table in Fig.1 clearly shows that as large vessels begin even a shallow turn or radius of turn at 10 knots then the available depth of water decreases by 0.6m to 0.84m with a 2 degree heel when turning.

7.3.5. Vessel squat in Fig.1 is between 0.6 and 1.1m. Squat is the amount of decrease in under keel clearance as the vessel displaces water when making way through the water. Squat effect increases as the UKC decreases (shallow water effect)

7.3.6. The cumulative effect of height of tide, squat and an allowance for heel determine a safe under keel clearance (UKC) for a safe transit through the NESP Sea area. A vessel track is then determined optimising safe UKC, traffic density and the proximity of navigation hazards, such as the Windfarm.

1. 7.3.7 It is the opinion of the LPC as experienced Master Mariners that considering all of the above factors then a large vessel having selected a track to safely transit the NESP sea area which allows for adequate UKC and manoeuvring room for general navigation, would opt to be in the middle of the available sea room. Given that turning a large vessel at 10 knots requires 1 mile of sea room then an unrestricted sea room of at least 2 nautical miles eastwards from the NESP Racon Buoy and eastwards from the NESP boarding diamond and eastwards from the Elbow Buoy, to a yet to be determined exclusion zone, is required for general navigation and Pilot operations.

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