

IMMINGHAM EASTERN RO-RO TERMINAL



Applicant's Issue Specific Hearing 3 Action Points for Deadline 5 – Appendix 1 – Proposed details of additional stakeholder demonstrations correspondence with CLdN, Stena, Humber Harbour Master, IOT and DFDS
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To IERRT Stakeholder Demonstrations Simulations attendees

By Email Only

Dear IERRT Stakeholder Demonstration Attendee,

Issue Specific Hearing 3 Action Point 17 – Stakeholder Demonstrations

I write in respect of the IERRT development proposal at the Port of Immingham. As part of the Development Consent Order Examination Process, the Examining Authority requested the parties consider further stakeholder demonstrations of navigational simulations. The action as published is below;

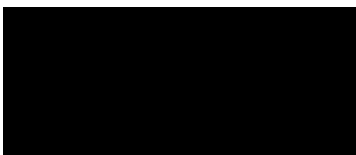
Applicant to engage with DFDS and CLdN and IOT Operators to agree parameters for the undertaking of additional simulations to address DFDS' concerns with respect to the Proposed Development's proximity to the Eastern Jetty, including the effects of current direction on the approach to the proposed berths 2 and 3.

ABP has developed the following proposal. Two days of simulations are proposed on the **7th and 8th November 2023**. These dates have been proposed taking into account simulator availability and the requirement for simulations to occur prior to ISH5 on 21st November. This also takes into account time for the reports of the demonstrations to be produced and reviewed.

The demonstrations are to take place at HR Wallingford (Howbery Park, Wallingford, Oxfordshire OX10 8BA) which is consistent with previous demonstrations. It is proposed that attendees arrive at 09.00 for a 09.30 start, with an anticipated finish at 16.30 each day.

The details of the simulation and the agenda can be found in Annex A. Please can I request that you confirm availability for these simulations no later than 27/10/23. We also suggest a 60 minute call on 31st October 2023 to engage and ensure understanding of intent prior to the demonstrations themselves.

Kind Regards



Josh Bush

ABP Immingham Eastern Ro-Ro Terminal Project Development Manager

cc' Brian Greenwood (Clyde & Co)



Annex A - Proposed stakeholder simulations

Introduction

HR Wallingford has been engaged by ABP to support the proposed Immingham Eastern Ro-Ro Terminal, facilitating real time navigation simulations and flow analysis since November 2021.

During Development Consent Order hearings, stakeholders have requested that a short stakeholder demonstration would help them understand several issues:

- The proximity of the Eastern Jetty in relation to the IEERT terminal, in particular during manoeuvres at berth 3
- The effects of the current direction at berths 2 and 3
- The effect of the anecdotal variation observed with the flow speed and direction in the main river area compared to HR Wallingford flow models for the same area.

HR Wallingford, ABP and Stena have developed a short programme of simulations which are considered appropriate to support a better understanding of the situation by stakeholders.

The programme was developed based on the following areas of expertise:

- HR Wallingford – advice on ship simulation and flow modelling
- ABP HES – advice on proposed initial operating procedures at IERRT and general procedures at the Humber
- Stena - advice on aspects of the design vessel intended for initial operations, including manoeuvring characteristics and performance.

Environmental conditions

During previous studies, the manoeuvres have been focussed on understanding the viability of the manoeuvring space and the orientation of the berths in extreme conditions, and it is proposed that some manoeuvres are conducted in more routine conditions to demonstrate the significant difference in levels of power required for day to day operations.

Additionally, runs that consider the extreme cases have been included to demonstrate the full viability of the proposed operating parameters and procedures.

Wind conditions

Berthing manoeuvres at IERRT are most affected by crosswinds; it is proposed that, as for previous studies, the winds will be adjusted in simulation to be either from the northeast or southwest so that on and off berth winds can be considered.

Routine conditions will be considered as 15 to 20 knots (10m above mean sea level), equated to a Beaufort force 5, which is by no means a moderate wind.

Extreme wind conditions will be set at 25 to 30 knots (10m AMSL), equating to a Beaufort Force 7.



Gusts can be added by the simulation team if considered appropriate.

If requested, HR Wallingford can include a sheltering effect if required on some runs. However, their advice is that most manoeuvres are conducted assuming the full wind strength, as available space is the critical issue, and the advantage provided by sheltering may affect the overall understanding of that issue.

Flow conditions

HR Wallingford will provide the Humber peak spring flow model used in previous studies to support the simulations.

The ebb flow will be scaled by 1.2 to account for the known variance in speed experienced in peak flows during the strongest ebb flows.

HR Wallingford will create a vector correction, in line with the observations of DFDS, to the flows in the main part of the river so that the flows 200m northeast of 1 A will be as follows:

- Flood 315 3.5knots
- Ebb 135 3.5 knots

HR Wallingford will return the flows to the modelled speeds and directions once the master of the manoeuvring vessel is steady in a controlled situation southwest of an imaginary line along the line of IOT 1,2 and 3.

Wave Conditions

The prevailing waves do not affect large vessel manoeuvring or tug operations at IERRT. A 0.5m wind wave will be included in the simulation associated with 30 knot winds, and the wave height will be reduced for lower wind strengths.

Design Vessels

Manoeuvres will be undertaken in a Stena T Class RoRo vessel, the initial vessel intended to operate at the IERRT. The same vessel was used for stakeholder demonstrations in November 2022.

Manoeuvres will be assisted where required by a 50t ASD tug.

2 full mission bridges will be available for qualified masters/PECs to control the Tug and the RO-RO.

Manoeuvring policy and procedures

ABP HES will present the initial advice and proposed policy and procedures for operations at IERRT, and these will be used to form the basis of manoeuvres.

It is good practice that safety documents, policies and procedures are constantly reviewed. Further simulations and the experience of initial operations may result in modification of this advice in due course.



The role of the simulation team

The simulation team will be formed of all personnel attending the sessions.

HR Wallingford facilitating staff will manage the session's general flow.

The Humber Harbour Master will advise the procedures for navigation

The manoeuvres will be executed by STENA PEC holders experienced with the class of vessel and operations on the Humber.

The Tug master will be provided by one of the towage companies operating on the Humber.

The simulation team will be able to review the manoeuvres during debriefing, including checking that any assumptions regarding tug power and wash used in the simulation are realistic compared with everyday experience.

Proposed Run Matrix

30 minutes will be allowed for each run. The simulation team will be able to curtail runs once the benefit of the manoeuvre and confidence in the ability of the vessel to operate in the conditions is agreed upon.

Run ID	Manoeuvre	Wind	Flow
1	Approach to No3 berth in normal conditions	SW 15-20 knots	Peak ebb
2	Departure from No 3 berth in normal conditions	SW 15 – 20 knots	Peak ebb
3	Approach to No3 berth in normal conditions	NE 15-20 knots	Peak ebb
4	Departure from No 3 berth in normal conditions	NE 15 – 20 knots	Peak ebb
5	Approach to No3 berth in normal conditions	NE 15-20 knots	Peak flood
6	Departure from No 3 berth in normal conditions	NE 15 – 20 knots	Peak flood
7	Approach to No3 berth in normal conditions	SW 15-20 knots	Peak flood
8	Departure from No 3 berth in normal conditions	SW 15 – 20 knots	Peak flood
9	Approach to No3 berth in extreme conditions	NE 25-30 knots	Peak ebb
10	Departure from No 3 berth in extreme conditions	NE 25-30 knots	Peak ebb
11	Approach to No 3 berth in extreme conditions	NE 25-30 knots	Peak flood
12	Departure from No 3 berth in extreme conditions	NE 25-30 knots	Peak flood
13	Approach to No3 berth in extreme conditions	SW 25-30 knots	Peak ebb
14	Departure from No 3 berth in extreme conditions	SW 25-30 knots	Peak ebb
15	Approach to No3 berth in extreme conditions	SW 25-30 knots	Peak flood
16	Departure from No 3 berth in extreme conditions	SW 25-30 knots	Peak flood
17	Option for gusting conditions (1)	TBC	TBC
19	Option for sheltering conditions (1)	TBC	TBC

