

Immingham Eastern Ro-Ro Terminal

## **Deadline 6 Appendix**

**Associated Petroleum Terminals (Immingham) Limited and  
Humber Oil Terminals Trustee Limited**

Planning Inspectorate Ref: TR030007

13 November 2023

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Immingham Eastern Ro-Ro Terminal

## **Deadline 6 Appendix 1**

**IOT Operators, Letter to ABP - 'RE: *Immingham Eastern Ro-Ro Terminal Development***



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Date: 13 November 2023

Ref: APT

For the attention of **immroro@abports.co.uk**

Dear Associated British Ports,

**IMMINGHAM EASTERN RO-RO TERMINAL DEVELOPMENT**

**RESPONSE TO CONSULTATION ON PROPOSED CHANGES TO THE APPLICATION**

**Background**

- 1.1 We write with reference to Associated British Ports' ("**ABP**") application for the proposed Immingham Eastern Ro-Ro Terminal Development ("**IERRT**") and to the ongoing DCO Examination. Where relevant we have referred to document references from the IERRT DCO Examination Library.
- 1.2 As you will be aware, Associated Petroleum Terminals (Immingham) Limited and Humber Oil Terminals Trustee Limited (together the "**IOT Operators**") have significant concerns regarding the potential navigation and shipping effects of the IERRT on the Immingham Oil Terminal ("**IOT**"). These have been set out in various consultation responses and correspondence to ABP [**REP2-063**] and in the Written Representation [**REP1-062**] and shadow Navigation Risk Assessment ("**sNRA**") [**REP1-064**] submitted to the Examination on behalf of the IOT Operators. These concerns primarily relate to the Navigation Risk Assessment ("**NRA**") submitted by ABP [**APP-089**] and the risk control measures proposed as part of the IERRT application.
- 1.3 Recent discussions between the IOT Operators and ABP led to a letter being submitted to the Examining Authority on 28 September 2023 [**AS-020**]. This set out that ABP intended to make a request to amend the DCO application in order to enable the delivery of mitigation measures required by the IOT Operators. The letter also stated that ABP would ensure that protective provisions substantially similar to the IOT Operators' amended protective provisions [**REP1-039**] would be included in the DCO. In light of the letter

being submitted, the IOT Operators agreed not to engage in detail with navigation and shipping matters and NRA issues during Issue Specific Hearing 3 (“**ISH3**”) on 27 and 28 September 2023 and these discussions were accordingly curtailed by the Examining Authority (“**ExA**”).

- 1.4 Since ISH3, the IOT Operators and ABP have been in ongoing discussions regarding the risk control measures which are required by the IOT Operators.

**Change Request**

- 1.5 The IOT Operators note that the Applicant has commenced consultation on 20 October on proposed changes to its DCO application. Those include:

**Change 1:** The Realignment of the Approach Jetty and Related Works – within the submitted limits of deviation but further away from the IOT Trunkway – with an increase in the number and repositions of the locations of piles required to support marine infrastructure, together with ancillary works to the pier infrastructure;

**Change 2:** A realignment of the Internal Link Bridge and Consequential Works – between the Northern and Central Storage Areas resulting in an improvement of land holding for the Applicant’s tenant and sub-tenants as well as a rationalisation and consequent increase in space within the Central Storage Area, albeit leading to a consequential amendment to the originally defined Limits of Deviation;

**Change 3:** The Rearrangement of the UKBF Facilities - to meet UKBF’s requirements – within the original Limits of Deviation;

**Change 4:** Enhanced Management Controls and Options for the Potential Provision of Additional Impact Protection Measures – in conjunction with and subject to enhanced navigational management controls for vessels entering or departing from the IERRT.

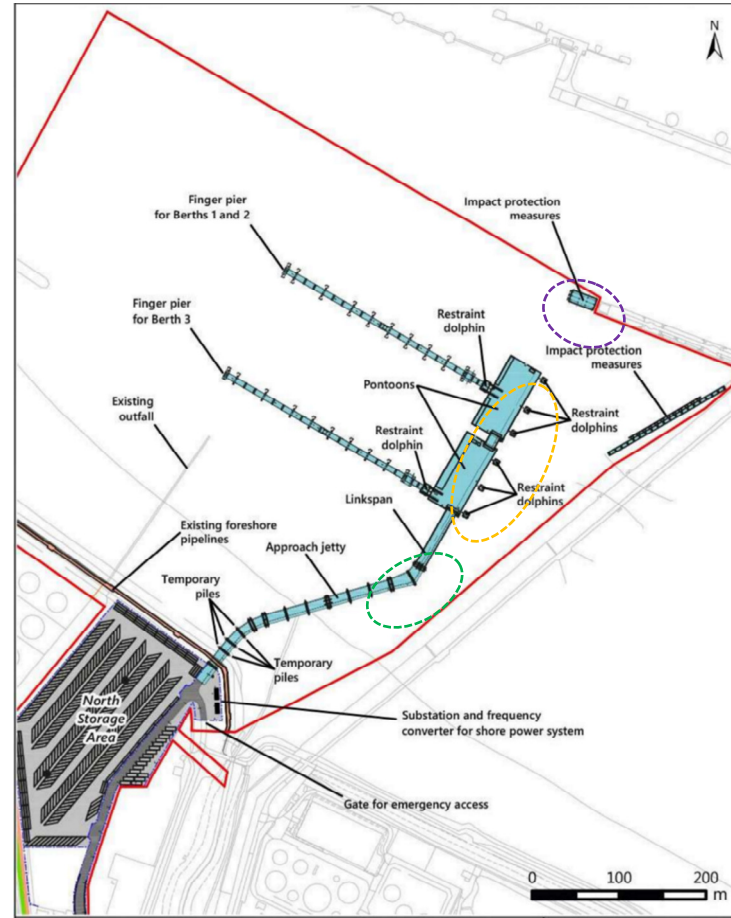
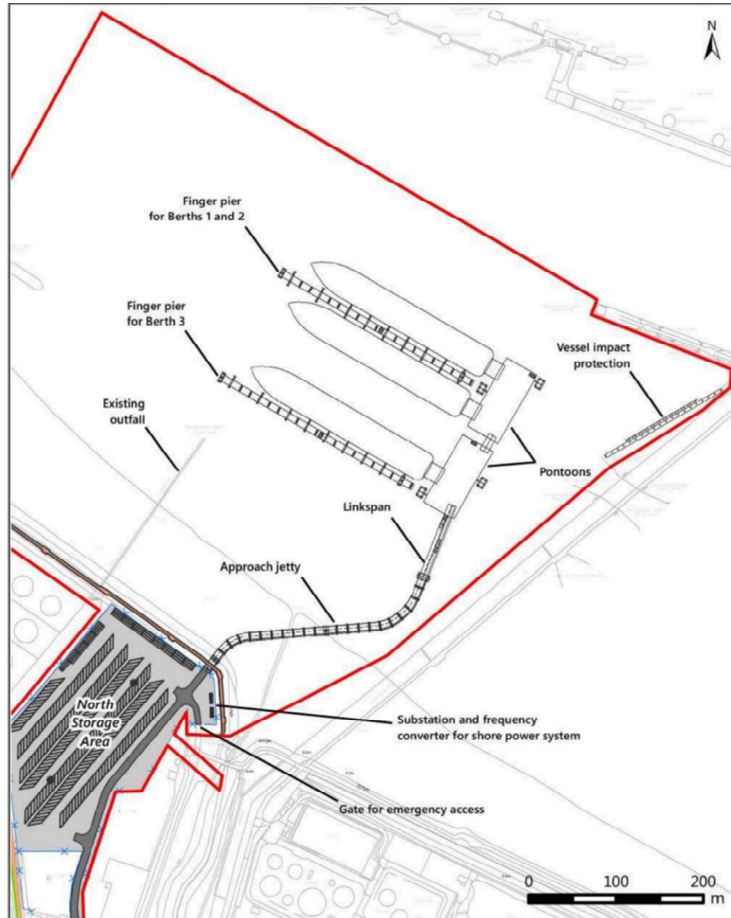


Figure 2 – Proposed realignment of the Approach Jetty and related works



- 1.6 The IOT Operators wish to note their surprise and disappointment that the Applicant has made the proposed change request without:
- (a) providing the IOT Operators with a copy of the proposed changes prior to the materials being submitted and consulted on, given that they differ significantly from those attached to the letter of 27 September 2023 [AS-020] and are completely different to changes proposed and discussed in detail in the series of design meetings attended by the IOT Operators;
  - (b) seeking the IOT Operators' agreement to (or even comments on) those proposed changes; or
  - (c) providing any details of the "enhanced management control" measures that the Applicant now intends to rely on.
- 1.7 In its letter of 27 September 2023 [AS-020] the Applicant accepted the need for a change to be made to accommodate impact protection capable of mitigating (to an acceptable level) the risks identified by the IOT Operators' sNRA. The IOT Operators have expended considerable efforts to help the Applicant identify the standard to which those mitigation measures should be designed, including providing details of that standard to the Applicant in a letter on 16 October, which appears as **Appendix 1** to this document. That of course is work that the Applicant ought to have undertaken following the Statutory Consultation for the scheme in early 2022, and sought to agree with the IOT Operators at that time and well in advance of the DCO submission.
- 1.8 The IOT Operators are very disappointed to note that the Applicant has proposed a series of measures which fail to meet the standards identified by the IOT Operators as necessary to provide adequate protection to their significant interests. As the Applicant again appears to accept (through its actions if not its language) that further impact protection measures are required, it is not clear to the IOT Operators why measures of a standard which they have identified (and justified) have not been provided. An explanation why it is said to be difficult for the project to accommodate those standards is provided (at 3.27 of the change notification document), but that is very different to an explanation of why the level of protection reflected in the IOT Operators' standards should not be provided. If it is ABP's case that the provision of adequate measures is too expensive, then the proper response may be simply to conclude that ABP is unable to provide the necessary protective measures for the important IOT facilities and to accommodate the genuine risks created by its proposal with the consequential effects of that on the acceptability and grant of the DCO.

- 1.9 The IOT Operators also note that, in its letter submitted during ISH3 [AS-020], the Applicant accepted that protective provisions substantially in the form advanced by the IOT Operators [REP1-039] would be included in any change request. There is no reference to those protective provisions in the notification of the proposed change. The Applicant has to date not provided the IOT Operators with an updated SoCG or PADS, despite the indication that such matters would be addressed alongside its change request.
- 1.10 Given the uncertainty around many aspects of the Applicant's change request, the IOT Operators wrote to the Applicant on 7 November seeking clarity on matters which are fundamental to the proposals. No response has been received to that letter, which appears at **Appendix 2** to these submissions.

## **2 IOT OPERATORS RESPONSE TO CHANGE REQUESTS**

**Change 1: The Realignment of the Approach Jetty and Related Works – within the submitted limits of deviation but further away from the IOT Trunkway – with an increase in the number and repositions of the locations of piles required to support marine infrastructure, together with ancillary works to the pier infrastructure**

### ***Restraint dolphins***

- 2.1 At para. 2.13 of the change request **Restraint dolphins** are included, which the Applicant ABP notes include up to two additional restraint dolphins for each of the landing pontoons to improve stability. These are identified in "*Figure 2 – Proposed realignment of the Approach Jetty and related works*" – see figure above with restraint dolphins identified by orange pecked line. At Section 3.1 of the Change Request, which describes the "Rationale and Need for the Changes", restraint dolphins are conspicuous by their absence and as such no details are provided by the Applicant justifying the need for restraint dolphins.
- 2.2 The IOT Operator's sNRA identified the need and position of additional restraint dolphins within the sNRA – see Appendix D Para. 3.1.3 particularly bullet 2: "*proposed dolphins to stabilise on the pontoon are not in the optimum positions to resist such an impact. We would expect the dolphins to be on the opposite side to the berthed vessels to restrain the pontoons against the impact forces. The dolphins on the berthing face will be inefficient to resist these forces as essentially the load will be resisted by the connections between the dolphin and pontoon only.*"
- 2.3 The IOT Operators welcome the inclusion of restraint dolphins in the change request, and the implicit acceptance that the IOT Operators sNRA findings in this regard is correct.
- 2.4 However, the IOT Operators' are not able to understand:
- (a) The calculations which have informed the design details which are being used in the Applicant's change request; or



(b) Where any updated NRA has been carried out to understand the effectiveness of the proposed restraint dolphins to mitigate allision risk.

- 2.5 In its change request the Applicant does not explain the purpose of the additional restraint dolphins. The IOT Operators have repeatedly requested information and detail (from first engagement on the project in Feb 2022 through to Examination Deadline 5) on the design of the IERRT and its ability to withstand the allision of an errant IERRT vessel. Most recently, the IOT Operators have requested such detail during the three design workshops. During these design meetings, Ben Hodgkins (ABP Group Head of Projects) noted that details would be provided on the ability of the IERRT infrastructure to withstand an errant vessel in due course, however no details have yet been provided.
- 2.6 Without the justification behind the design basis for the change to include additional restraint dolphins to the pontoons, the IOT Operators assume that the inclusion of the restraint dolphins, if constructed, would be to provide additional “implicit” impact protection to the IERRT structure, and as such provide additional protection to the IOT Trunkway. Therefore, IOT Operators require both the engineering design and impact loading parameters to be provided showing what the effect the restraint dolphins have on mitigating allision of an IERRT vessel with the IOT Trunkway, and separately mitigate the risk of the pontoons from becoming detached such that they may collide with the IOT Trunkway. It is also noted that para. 2.210 of Appendix 1 notes that the pile size of the restraint dolphins is proposed to be increased from 1,422mm to 1,520mm.
- 2.7 Further, as this is an additional risk control measure (not included in the ES or NRA), then an update to the Applicant’s NRA should be undertaken to confirm the effectiveness and justification for this additional risk control measure and subsequently issued for consultation. It is imperative that the IOT Operators are provided with this information in order to make an informed judgement on the effectiveness of the restraint dolphins as a risk control measure.
- 2.8 In the event the Applicant accepts that these restraint dolphins are necessary, it is critical that controls are imposed on the dDCO which require their delivery prior to commissioning of the first berth. The Applicant notes in this regard that in **[AS-020]** the Applicant has accepted that protective provisions “substantially in the form” included in the IOT Operators’ submissions REP1-039 would be included as part of any change request. The Applicant has provided a dDCO which includes such provisions, and should confirm that appropriate protective provisions will be included in the dDCO.

### ***IERRT Finger pier adjustments***

- 2.9 At para. 2.14 the Applicant notes that two additional piles to support mooring bollards have been added to improve mooring performance. The IOT Operators note that, as with the restraint dolphins, no details are provided by the Applicant to justify the inclusion of these additional piles. To date, no details other

than the length, breadth and draught of the IERRT design vessels have been provided by the Applicant, despite the multiple requests by the IOT Operators. The exception to this is the displacement, which was provided in Design Meeting 1, which at 48,431 tonnes is more than twice the displacement of current Stena T-Class vessels and considerably larger than the DFDS vessel used in simulations. The IOT Operators note that there is an intrinsic relationship between design vessels and mooring requirements for a berth, and in specifying greater mooring infrastructure the Applicant must be rectifying a deficiency in the current IERRT design and must have conducted studies to support the need for additional piles – none of which has been provided to the IOT Operators or the Examination.

- 2.10 The IOT Operators therefore seek that the Applicant provides, or is required to provide, evidence to support this change and, if it relates to navigation safety, then a commensurate update in the Applicant's NRA to address the change.

**Change 4: Enhanced Management Controls and Options for the Potential Provision of Additional Impact Protection Measures – in conjunction with and subject to enhanced navigational management controls for vessels entering or departing from the IERRT.**

**Need for further Impact Protection and Relocation of the Finger Pier**

- 2.11 The IOT Operators identified a need for additional impact protection, and the possibility that the IOT Finger Pier would need to be relocated, in its response to the statutory consultation to the IERRT proposals in early 2022. In light of the Applicant's failure to acknowledge the need for those mitigation measures, the IOT Operators have been put to the very considerable expense of submitting their own sNRA in response to the Applicant's proposals [REP2-064].
- 2.12 Whilst the Applicant has included the potential for some impact protection in its DCO Application, at no stage prior to the second set of hearings (in September 2023) has it acknowledged that such impact protection is necessary.
- 2.13 During those hearings, and as explained in the introduction to this further consultation response on the Applicant's change request, it has now belatedly accepted that further impact protection measures are necessary and has undertaken to submit a change request to provide those measures. Whilst the Applicant maintains that such measures are not required, the reality of the situation is that it would not be promoting the change request if it did not accept that it was necessary.
- 2.14 The Applicant at paras 2.27 to 2.34 of the change notification [AS-027] maintains that there is no need for impact protection measures as part of its scheme.
- 2.15 In response, the IOT Operators maintain the position advanced from the outset of their engagement with the Applicant and consistently maintained from that time. That is, that its sNRA clearly identifies the

need for a comprehensive package of further mitigation measures to adequately address otherwise unacceptable safety concerns associated with the Applicant's proposals. That is explained at length in the IOT Operators' Written Representation **[REP2-062]** at Part 5.

### **The Beckett Rankine design**

- 2.16 The Applicant has made repeated references to the Beckett Rankine impact protection designs in paragraphs 2.35 to 2.37. Those designs were developed by the IOT Operators' consultants Beckett Rankine as an early, indicative, design for the package of mitigation proposals identified as necessary by the IOT Operators in their Written Representation (and previous consultation responses), in the absence of any design work by the Applicant. That design work was provided at very short notice in the lead up to the Applicant's letter of 28 September 2023 **[AS-020]** and acknowledged that further impact protection was required. The design work was carried out with only the high-level information provided in the ES (which does not include details such as the IERRT Design Vessel's displacement).
- 2.17 The Applicant now appears to indicate, at paragraph 2.38 that "specific requirements" have been provided by the IOT Operators which go beyond those proposed by Beckett Rankine (and adopted by the Applicant in its letter of 28 September 2023). This is simply incorrect.
- 2.18 It is for the Applicant to design and promote its own scheme. That should include the design of accommodation or mitigation works required to protect existing infrastructure. The Applicant has failed to do so, but (very late in the day) has indicated that such measures are necessary. In the spirit of cooperation, the IOT Operators provided an indicative design to the Applicant in September. The Applicant's letter **[AS-020]** by which it undertook to submit a change request recognised that as an indicative it was design subject to future design work between the relevant parties. The IOT operators then outlined what they considered necessary following a series of design meetings in their letter of 16 October, to assist the Applicant. The Applicant however has decided (without explaining why) that such specifications cannot be met, and is therefore now proposing an alternative design.

### **Applicant's rationale and need for the changes**

- 2.19 In the context of the position outlined above, the IOT Operators make the following comments on the content of part 3 of the change notification relating to Change 4.
- 2.20 At Para. 3.21 the Applicant seems to remain of the view that, based on a flawed NRA, impact protection measures are not required. However, in meetings with the Applicant and its Harbour Authority (Humber Estuary Services), the consensus was that impact protection was required.
- 2.21 In reviewing both the NRA and the HASB meetings minutes of 12 December 2022 it is evident to the IOT Operators that a cost benefit analysis of the IOT Operators' proposed mitigation measures was not



undertaken and that the justification for not including impact protection was based on the results of HR Wallingford Simulations.

- 2.22 At Para. 3.24 the Applicant states that the “high level” schematic does not meet the requirements of the IOT Operators. The purpose was to put forward an indicative approach that could address the unacceptable risk posed by the Applicant in proposing the IERRT development. The schematic is noted as “indicative” and specifically states that “*Number and spacing of impact protection islands to be designed to meet minimum beam of existing / future IERRT vessels*” [AS-020]. Additionally, as noted above, the schematic issued was a proactive attempt by the IOT Operators (and its consultants) to address the complex issues of impact protection and relocation of the IOT Finger pier requirements, in the absence of design work which ought to have been carried out by the Applicant.
- 2.23 The Applicant asserts that the requirement of the IOT Operators has somehow changed, by stating “*that the IOT Operators are now stating as being required*”. This is not correct: the IOT Operators’ requirements have not changed since February 2022. It is for the Applicant to ensure that the potential impacts of the scheme are adequately mitigated. It is not for those parties potentially affected by the proposals (with potentially catastrophic impacts) to design their own mitigation measures.
- 2.24 At Para. 3.25 the Applicant summarises their understanding of the IOT Operators’ requirements in subparagraphs (a) to (g). The IOT Operators correct and/or clarify each subparagraph in the table below:

ABP Comment	IOT Operators’ response
(a) 2 x "impact protection islands with a maximum gap of 25m (no greater than the beam of the smallest IERRT design vessel)	This requirement is consistent with indicative schematic appended to the Applicant’s own letter issued at ISH 3 [AS-020]
(b) The impact protection structures should be independent of any extension of the finger pier, with sufficient clearance to ensure separation from the finger pier in case of allision	The requirement is not that there is sufficient clearance, but that the impact protection if struck should adequately protect the IOT Finger Pier and Trunkway. Should the Applicant wish to provide sacrificial impact protection (which is cheaper and which IOT Operators have accepted as an approach in principle), then it should meet the original requirements of protection of the IOT infrastructure
(c) Design vessel speed - 4 knots (the maximum current velocity which occurs <1 % of the time)	This requirement has been repeatedly referenced to the Applicant and is specifically noted within the IOT Operators sNRA at Section 11.2.2 Para. 349 and Appendix D at Para. 3.1.3



(d) Design vessel size - all IERRTvessels including Future Vessel;	This requirement has also been repeatedly referenced to the Application and is also specifically noted within the IOT Operators sNRA at Section 11.2.2 Para. 349 and Appendix D Para. 3.1.3
(e) 2 x barge berths on south face of finger pier;	This requirement is recorded accurately
(f) 2 x coaster vessel berths on northern face, requiring an extension of the finger pier of approximately 1 00m; and	At Section 11.2.1 of the sNRA, relocation of the IOT Finger Pier is provided as a risk control measure (that is confirmed as required through a rigorous and transparent Quantitative Risk Assessment and Cost Benefit Analysis). IOT Operators have been pragmatic in developing a cost optimised design (the extension of the IOT Finger Pier) as the Applicant has been unable to provide any options in this regard. This has been provided as an optimised requirement, to the benefit of the Applicant, rather than a new requirement
(g) Modifications to existing, and provision of new, topside equipment including pipework and Marine Loading Arms to accommodate two coaster vessel berths on the northern face of the finger pier.	This is clearly a requirement for relocation or reconfiguring of the IOT Finger Pier to accommodate the changes needed to address the unacceptable risks brought about by the Applicant's IERRT development

2.25 In relation to Para. 3.26 the IOT Operators require the results of the feasibility study to be shared. It is a continuing concern that to date no feasibility reports have been provided to justify the Applicant's position.

2.26 Para. 3.27 seems to provide a summary of the feasibility assessment results. However, as this study has not been provided the efficacy and rigour of the assessment cannot be determined based on a summary of the key issues. This is not the first time that the Applicant has failed to share its data but has only revealed its own interpretation which cannot be accepted without verification. The IOT Operators have been clear that it is up to the Applicant to define and provide appropriate mitigation. Nevertheless, the IOT Operators note that there are issues with this summary:

- (a) Without substantiation of the future vessel sizes proposed for the IERRT and no details for the impact protection design calculations that have been undertaken to determine the required impact size it is difficult to comment on the conclusion regarding impact protection structure size. However, it is understood that the Applicant considers that an open structure is the only suitable impact protection type, and given this position it will result in large structural footprint. The IOT Operators consider that a closed cellular structure should be considered which is backfilled with

gravel, as indicatively shown on the sketch produced by the IOT team, as this will have a smaller structural footprint than an open structure.

It is not clear if any dampening effects have been considered due to vessel hull failure upon impact, however this would act to reduce the overall impact force if considered. Further to this, it is not clear if fendering systems have been considered to reduce the design impact force for the structure. The updated design proposals indicate an allowance for fenders, but there is no clarity or detail on what these fenders are, what forces they resist, and how these are incorporated into the impact protection design.

- (b) We agree with the Applicant that a closed structural form, such as a cofferdam backfilled with gravel, would provide more strength against impact than an open piled structural solution. However, we disagree that a cofferdam structure would necessitate the need for 10m dredging depth of the silts. Alternative options such as silt treatment within the cofferdam should be explored. It should also be noted that settlement of backfill placed on silts would not be a main design concern.
- (c) The question of the likely significant environmental effects of a change proposal are a matter for the Applicant to ensure are adequately assessed as part of any change request. In this subparagraph, the Applicant indicates that the catastrophic effects of an allision with the IOT Trunkway should not be adequately mitigated due to the envelope of the mitigation works required being materially different to those previously assessed. The IOT Operators' would observe that ensuring effective mitigation is secured, and subsequently assessing the likely significant effects of that mitigation, are different matters. The short point is that the Applicant simply has not carried out the necessary assessment work in good time, as it would have had the chance to do had it engaged with the mitigation proposals when first identified in early 2022.

The fact that the Applicant has not carried out the necessary environmental assessment work is not a defensible justification for necessary mitigation measures to be omitted from its proposals.

- (d) It is for the Applicant to propose adequate mitigation for its scheme. The Applicant suggests that extending the IOT Finger Pier might accommodate the necessary mitigation, but then discounts it as impacting on the IERRT's navigational area. The Applicant appears to indicate that the design of its own scheme is inconsistent with the mitigation necessary to offset its (otherwise unacceptable) impacts. That is not a good reason for such mitigation not to be required. Rather, it is a reason for development consent not to be granted for the IERRT.

Again, it is for the Applicant to adequately mitigate the impacts of its own design proposals. If that requires strengthening of the IOT Finger Pier and modifications to the pipework, that is not a justification for failure to provide those mitigation works.

**The Applicant's alternative scheme**

- 2.27 At Para.3.28 & 3.29 the Applicant states that it has proposed an alternative scheme to the IOT Operators but in fact it has yet to provide any detail as to how the parameters of the alternative design have been justified. The IOT Operators raised a series of queries on these matters with the Applicant on 7 November 2023, and are yet to have a response. In the absence of a response to those queries, the following comments are made.
- 2.28 The Applicant has taken an arbitrary approach to defining maximum design velocity of 2.9 knots. It is not clear where this has come from and no details of the "statistical analysis" is understood or agreed by the IOT Operators. The IOT Operators understand that this analysis relates to a vessel of less than the half the displacement of those proposed by the Applicant and at a velocity 35% lower than could be experienced (maximum tidal speed is 4.5knots). It is evident from the change request that the Applicant provides a resultant impact force for the IOT Operators requirements of 80MN, but doesn't provide the same figures for the design they are actually proposing.
- 2.29 The Applicant must adequately assess risk to an accepted standard and provide clear justification for ALARP judgements, including the detail of the proposed design and the parameters of any additional risk control measures, such as impact protection - the Agent of Change principle is central and very clear to this requirement.
- 2.30 Any additional control measures must be clearly defined and evidenced. To this end the IOT Operators have made the (obvious) point that impact protection must be sufficient to arrest an errant IERRT design vessel, thereby preventing allision of IERRT vessels with the IOT Trunkway, IOT Finger Pier and vessels alongside the IOT Finger Pier.
- 2.31 In the context of the need to arrest an errant IERRT design vessel, the Applicant indicated at ISH3 that procedural controls would not be sought within the DCO and that the ABP statutory harbour authorities of either Humber Estuary Services or the Port of Immingham would be responsible for their management and imposition (noting the Applicant has not been consistent about which of its own authorities has control over the proposed IERRT development and vessel berthing). Since there is a lack of independence and independent scrutiny, as noted in the IOT Operators Deadline 5 submissions, the IOT Operators do not consider the reliance on the Applicant's own statutory authorities and employees acceptable to mandate or devise the necessary procedural controls. In this regard it should be noted

that the Applicant's NRA only requires procedural controls for the operational phase of the IERRT to address the un-acceptably high-risk hazards brought about by the IERRT development.

### **Enhanced Navigational Management Controls**

2.32 The Applicant states at Para 2.42 that "Enhanced navigational management controls" will be developed with the IOT Operators but documents the "*vehicle for these enhanced controls will be either by the issue of a General Direction/Notice to Mariners or a revision to the Immingham Marine Operations Manual*" which are to be provided by the Statutory Harbour Authority – Humber Estuary Services or Port of Immingham. However, there appears to be no provision for these controls to be secured in the DCO to reassure the IOT Operators that they will be implemented. The only "Enhanced navigational management controls" seems to be related to the provision of tug assistance for IERRT vessels arriving to Berth 1 during an ebb tide. No details have been provided to the ExA to date by the Applicant on how this will work, or how any towage requirement would impact the available towage in the Humber Estuary and not result in a knock-on impact to tug availability for IOT vessels. No public consultation has been carried out by the Applicant on this element of its change request.

2.33 Elsewhere in the change document (e.g. at Para 3.29) the Applicant notes that "*operational limit for the deployment of tugs on the Humber, namely 2.5 knots*". From that statement it appears that the towage control is no more than the current provision on the Humber Estuary for other terminals located in less navigationally onerous locations, with less sensitive receptors in the immediate vicinity. It is also notable that such towage was included when scoring hazard risk during stakeholder workshops. For the Applicant to then rely on this as an additional measure makes no sense, especially when the IERRT berths have been acknowledged to be challenging and it is accepted that the location is amongst the most difficult and challenging area of the Humber Estuary in the context of RoRo operations at all states of the tidal cycle.

### **Impact Control Measures: Linear Protection**

2.34 Regarding Para. 3.31 the IOT Operators have not passed any comment on the Linear protection to the IOT Trunkway and so do not understand the Applicant's statement that it is a requirement of the IOT Operators to increase the number of piles from 20 to 25.

2.35 In terms of the design of the linear protection, then to date no further details have been provided by the Applicant regarding its ability to withstand impact by an IERRT vessel and as such the IOT Operators remain in the dark as to what effect implementing this measure will do to reduce risk to the IOT Trunkway. As noted in the sNRA, the adequacy of the linear protection is at best questionable and at worst pointless.

2.36 It is also noted that Para. 2.5.2 of Appendix 1 indicates that the pile sizes of the linear impact protection measures is proposed to be increased from 1,422mm to 1,520mm. However, there is no detail or basis



provided for this design change and therefore the IOT Operators assume it is due to the Applicant's consideration of the need to provide sufficient impact protection measures to the IOT Trunkway which accounts for all vessel types, including future vessels. It is noted that the protection structure length has been proposed to be increased, but the fendering extent along the impact protection structure has not been altered. We therefore assume that the fenders do not act to limit or control impact protection forces.

- 2.37 It is not clear in the proposals why the Applicant proposes to protect the IOT Trunkway but does not consider the protection of the southern berths of the finger pier to be necessary. There is no documentation provided to justify why the IOT Trunkway is considered to be at greater risk.

**Impact Control Measures: Additional protection barrier to IOT Finger Pier**

- 2.38 The additional protection barrier proposed for the IOT Finger Pier is highlighted by purple pecked line in the figure above. It appears to be a sacrificial impact protection system that is not connected to the IOT Finger pier. Once again, the Applicant has failed to provide any details or characteristics of their proposal.
- 2.39 The IOT Operators require that impacts on operations at the IOT Finger Pier brought about by the Additional protection barrier to IOT Finger Pier is assessed in full.

**Simulations**

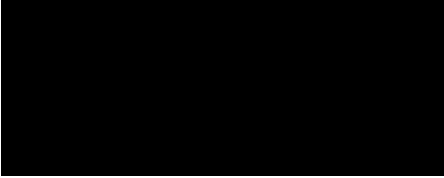
- 2.40 The IOT Operators note that the simulations proposed by the Applicant as requested by the ExA Action Point 17, do not include any provision to interrogate the effects of the change requests on the IOT Operators or confirm that the change requests meet the intended requirements.

**3 CONCLUSIONS**

- 3.1 The IOT Operators' views on the proposed change request are outlined in this letter and its appendices.
- 3.2 The IOT Operators are disappointed to note that, despite the Applicant's commitment in its letter of 28 September 2023 [AS-020] to deliver the mitigation measures identified by the IOT Operators:
- (a) Insufficient information has been provided by the Applicant to demonstrate why it is advancing mitigation measures in the form proposed, rather than those outlined clearly by the IOT Operators in their letter of 16 October 2023 (**Appendix 1**); and
  - (b) The mitigation measures which are being proposed by the Applicant appear (on the limited information provided) to be insufficient to adequately address the very serious risks identified in the IOT Operators' sNRA [REP1-064].



3.3 In the absence of acceptable mitigation being provided, and the nature of the risks created, the IOT Operators reluctantly suggest that the DCO should not be confirmed.



**Matt Dearnley**  
**Terminal Manager**

**ASSOCIATED PETROLEUM TERMINALS (IMMINGHAM) LIMITED**



**ASSOCIATED PETROLEUM TERMINALS  
(IMMINGHAM) LIMITED**

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TEL.: (01469) 570300  
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Date: 16 October 2023

Ref: APT

Dear Associated British Ports,

**IMMINGHAM EASTERN RO-RO TERMINAL DEVELOPMENT**

**Background**

- 1.1 We write with reference to Associated British Ports' ("**ABP**") application for the proposed Immingham Eastern Ro-Ro Terminal Development ("**IERRT**") and to the ongoing DCO Examination. Where relevant we have referred to document references from the IERRT DCO Examination Library.
- 1.2 As you will be aware, Associated Petroleum Terminals (Immingham) Limited and Humber Oil Terminals Trustee Limited (together the "**IOT Operators**") have significant concerns regarding the potential navigation and shipping effects of the IERRT on the Immingham Oil Terminal ("**IOT**"). These have been set out in various consultation responses and correspondence to ABP [REP2-063] and in the Written Representation [REP1-062] and shadow Navigation Risk Assessment ("**sNRA**") [REP1-064] submitted to the Examination on behalf of the IOT Operators. These concerns primarily relate to the Navigation Risk Assessment ("**NRA**") submitted by ABP [APP-089] and the risk control measures proposed as part of the IERRT application.
- 1.3 Recent discussions between the IOT Operators and ABP led to a letter being submitted to the Examining Authority on 28 September 2023 [AS-020]. This set out that (while each party notional retained its position on the NRA) ABP intended to make a request to amend the DCO application in order to enable the delivery of mitigation measures required by the IOT Operators. The letter also stated that ABP would ensure that protective provisions substantially similar to the IOT Operators' amended protective provisions [REP1-039] would be included in the DCO. In light of the letter being submitted, the IOT Operators agreed not to engage in detail with navigation and shipping matters and NRA issues during

Issue Specific Hearing 3 (“ISH3”) on 27 and 28 September 2023 and these discussions were accordingly curtailed by the ExA.

- 1.4 Since ISH3, the IOT Operators and ABP have been in ongoing discussions regarding the risk control measures which are required by the IOT Operators. The purpose of this letter is to set out what is required by the IOT Operators along with a clear justification for why such measures are needed.

**Risk Control Measures**

- 1.5 As set out in previous submissions (including the Written Representation and sNRA) and in the letter submitted on 28 September 2023, the IOT Operators require the following to ensure that the IOT can continue to operate safely in the event that the IERRT is constructed:

- (a) The IOT finger pier must be amended to accommodate two Coastal tankers to berth on the northern side of the finger pier and two barges to berth on the southern side of the finger pier.

This will need to provide for two Coastal tankers of up to 105m in length with an additional 25m for bow / stern lines and 50m for bow and stern lines together on the northern face of the Finger Pier. On the southern face of the finger there will need to be two barge berths of up to 60m in length and 10m for bow and stern lines. As part of these measures, the accommodation works identified in the Appendix are also expected to be required to enable the revised IOT finger pier arrangement to operate.

- (b) Adequate impact protection should be delivered by ABP to protect the IOT from vessels using the IERRT.

The IOT Operators require vessel impact protection islands to be provided to arrest errant vessels using the IERRT in order to protect the IOT finger pier and trunkway. The vessel impact protection should include a barge passageway with 25m navigable width. There should be no connection between the impact protection and the IOT finger pier to ensure that the finger pier remains operable if an impact occurs. The impact protection should be able to withstand the maximum vessels that will visit IERRT (which is understood to be vessels with a displacement of 48,431 tonnes) travelling at impact speeds of up to 4 knots speed over the ground which correlates to the assumed maximum tidal velocity experienced in the vicinity of the IERRT. In addition, there should be roller fendering on the north east corner of the IOT finger pier and fendering to the impact protection itself for barges.

- (c) The IERRT itself should be constructed with adequate impact protection and will be sufficiently resilient to ensure that any vessel impacting the IERRT will not impact the IOT. The IERRT

should therefore be able to withstand the same specification of vessel displacement and speed as identified above at 1.5(b).

- 1.6 ABP will need to make a request to amend the DCO application in order to enable the delivery of these mitigation measures to the standard required by the IOT Operators. As set out in ABP's letter of 28 September 2023, the final design of the amended finger pier, impact protection and the offshore aspects of the IERRT will require the prior approval of the IOT Operators. Similar provisions are included in paragraph 5 of the protective provisions as amended by the IOT Operators [REP1-039] and is essential to ensure the measures adequately protect the IOT.
- 1.7 Should any of these measures result in any additional environmental effects to those assessed in ABP's Environmental Statement submitted with the IERRT application, ABP will need to submit additional environmental information to the Examination to confirm that such measures will not lead to any additional significant environmental effects (as the ExA itself highlighted during ISH3).
- 1.8 In addition to these measures, the IOT Operators require a Marine and Liaison Plan to be developed by ABP in conjunction with the IOT Operators and other applicable stakeholders to cover the construction and operational phase of the IERRT.
- 1.9 The need for a Marine and Liaison Plan for the construction phase is included in paragraph 5(2)(a) of the protective provisions as amended by the IOT Operators [REP1-039]. This confirms that the plan should be developed by ABP in consultation with the IOT Operators to set out details of the construction methodology and schedule of works for the IERRT. This should be delivered prior to commencement of the offshore works.
- 1.10 The IOT Operators also consider that a Marine and Liaison Plan should be developed for the operational phase of the IERRT to develop and manage procedural controls related to the IERRT development. It is envisaged that this control measure will bring together several procedural controls, for the operational phase of the IERRT identified during the hazard workshops including berth limits, towage requirements and operational deconfliction. These procedural controls are necessary to ensure that the eventual use of the IERRT during the operational phase is consistent with the design parameters used to inform the measures set out in paragraph 1.5 of this letter. The required procedural controls are set out in further detail in paragraph 1.34 of Section F of the IOT Operators' Deadline 4 submission [REP4-025]. The IOT Operators therefore consider that the protective provisions should be amended further to include the productions of a Marine and Liaison Plan to cover the operational phase of the IERRT. A draft plan should be delivered and submitted prior to the end of Examination, to ensure that any procedural controls relied on by ABP are agreed prior to the end of the Examination process. A final plan should be agreed by APT prior to commissioning of any berth of the IERRT development.

- 1.11 In order to deliver these risk control measures it will be necessary for ABP and the IOT Operators to agree consequential changes to the existing licence to use the IOT, which would also need to be agreed and secured as part of any change request.

**Other measures**

- 1.12 The letter submitted by ABP to the Examining Authority on 28 September 2023 [AS-020] confirms that ABP will update the draft DCO to include protective provisions for the benefit of the IOT Operators substantially in the form included in REP1-039. Being in 'substantially' the same form as REP1-039 provides flexibility and enables appropriate amendments to be made to the protective provisions to take into account recent discussions and the measures set out in the letter.
- 1.13 The protective provisions will include an obligation to deliver the measures listed above in consultation with and to the reasonable satisfaction of the IOT Operators with the final design of the measures being subject to the approval of the IOT Operators (see paragraph 5 of [REP1-039]). In addition, the protective provisions include the following measures which are required by the IOT Operators to ensure that the IOT and the refineries which rely on the IOT are not prejudiced by the IERRT development:
- (a) Vessels using the IOT should be given priority over vessels using the IERRT due to tidal constraints on vessels arriving and departing from the IOT. In addition to the Marine and Liaison Plan for the operational phase of the IERRT, the IOT Operators wish to reserve the right to make any approval of IERRT offshore works subject to requirements to ensure the IOT Operators do not suffer more interference than is reasonably practicable and to guarantee that vessels using the IOT are given priority over IERRT vessels. This is set out in paragraph 6 of the protective provisions as amended by the IOT Operators [REP1-039].
  - (b) All offshore works forming part of the IERRT should only take place in accordance with the agreement of the IOT Operators (see paragraph 5(1) of [REP1-039]). In addition, details of any works to be undertaken in the vicinity of the IOT or that might otherwise adversely impact the IOT will need to be submitted to the IOT Operators for approval in advance of undertaking such works (see paragraph 4 of [REP1-039]).
  - (c) The IOT Operators will need to be indemnified for any costs incurred or business losses suffered as a result of the IERRT development (see paragraphs 7 and 9 of [REP1-039]).
- 1.14 Furthermore, the IOT Operators have requested that all costs incurred to date and all future costs in relation to the IERRT application should be paid by ABP. This is on the basis that concerns on the navigation and shipping effects of the IERRT have been consistently raised since the IOT Operators' first consultation response dated 22 February 2022 and the mitigation measures now being offered by ABP are based on what was included in the OIT Operators' letter dated 25 July 2022. There has been no

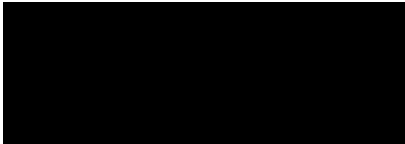


material change in circumstances in the intervening period. Significant costs would have been saved had ABP engaged with the IOT Operators and offered the requested mitigation measures as part of the original IERRT DCO application and so avoided the need for the IOT Operators to participate in detail in the Examination.

**Conclusion**

- 1.15 For the reasons set out in this letter, and consistently with the letter ABP presented to the Examination during ISH3, the IOT Operators invite ABP to confirm that they will make a request to amend the DCO application which will enable the delivery of the measures outlined above to the required standard. The IOT Operators should continue to be consulted on whether proposals are capable of meeting that required standard as the change request is prepared.
  
- 1.16 Should ABP consider that any of the measures are to be delivered in a way that departs from the standards set out above, ABP will need to provide a clear justification for why a different approach has been taken.

We look forward to hearing from you on the matters outlined in this letter.



**Matt Dearnley  
Terminal Manager**

**ASSOCIATED PETROLEUM TERMINALS (IMMINGHAM) LIMITED**

## **Appendix**

The following accommodation works are expected to be required to enable the revised IOT finger pier arrangement to operate, to include without limitation:

- Installation of 3 new 8" Marine Loading arms on the new Berth 6 and removal of the old loading arms from the existing Berth 6 on completion (removal needed due to obstructing revised operation). Arms control systems and hydraulic packs to be suitable for operating in ATEX hazardous areas.
- Installation of 2 new 8" Marine Loading arms on the new Berth 8 and removal of the old loading arms from the existing Berth 7 on completion (removal needed due to obstructing revised operation). Arms control systems and hydraulic packs to be suitable for operating in ATEX hazardous areas.
- Fire system and foam monitor additions / modifications.
- Berth communication hut repositioning to be compliant with ATEX hazardous area zone and Occupied Building Risk Assessment requirements.
- Modifications to gas oil and kero dye marker injection systems.
- Slops tanks addition and removal of old
- Product sampling (DOPAK) system
- Nitrogen purging piping modifications
- Bunkering hose modifications
- Rainwater sump collection modifications
- 16" firewater line modifications
- Berth 6 piping modifications / replacements for the following lines ranging from 8" to 12" in diameter, Fuel oil line 1, fuel oil line 2, CFO, Gasoil 1(G102), Gasoil 2 (kero), Gasoil 3 (AD10), Gasoil 4 (G102) Gasoil 5 (bunkers),Gasoil direct, Ballast slops, Motorspirit 1, Motorspirit 2, Motorspirit direct, noting all Gasoil lines are interchangeable.
- Berth 8 piping modifications / replacements for the following lines ranging from 8" to 12" in diameter, Gasoil 1(G102), Gasoil 2 (kero), Gasoil 3 (AD10), Gasoil 4 (G102) Gasoil 5 (bunkers),Gasoil direct, Ballast slops, Motorspirit 1, Motorspirit 2, Motorspirit direct, noting all Gasoil lines are interchangeable.
- All piping to be designed to ASME B31.3
- All instrumentation and dye pump skids to be designed for appropriate ATEX hazardous area zoning.
- Design temperatures, pressures, flowrates and materials of construction will be provided for each system (loading arm, piping, injection skid etc etc) in due course.





**ASSOCIATED PETROLEUM TERMINALS  
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Date: 7 November 2023

Ref: APT

Dear Associated British Ports,

**IMMINGHAM EASTERN RO-RO TERMINAL DEVELOPMENT**

This letter is an interim response to the Associated British Ports (**ABP**) communications concerning the proposed change request for the Immingham Eastern RoRo Terminal (**IERRT**), and in particular the “Proposed Changes Notifications Report” (examination reference document [AS-027]).

The **IOT Operators** have a number of queries on the change request and further information is urgently required to enable an informed response to the changes proposed within the consultation window.

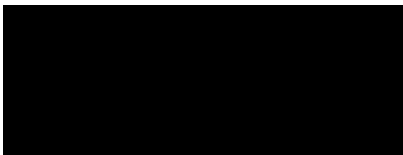
We therefore request that ABP respond as a matter of urgency to each of the issues below;

1. **In respect of Change 1:** described as “*the Realignment of the Approach Jetty and Related Works - within the submitted limits of deviation but further away from the IOT Trunkway - with an increase in the number and repositions of the locations of piles required to support marine infrastructure, together with ancillary works to the pier infrastructure*”, please provide the basis of design parameters (including design vessel characteristics / velocity used and associated impact design loadings) for the following possible additional infrastructure in relation to arresting errant IERRT vessels:
  - a. Restraint dolphins
  - b. IERRT finger pier adjustments.
2. **In respect of Change 4:** described as “*Enhanced Management Controls and Options for the Potential Provision of Additional Impact Protection Measures - in conjunction with and subject to enhanced navigational management controls for vessels entering or departing from the IERRT*”, please provide the basis of design parameters (including design vessel characteristics / velocity used and associated impact design loadings) for the following possible additional infrastructure in relation to arresting errant IERRT vessels:



- a. Enhanced Navigational Management Controls
  - b. Impact Control Measures:
    - i. Linear Protection
    - ii. Additional protection barrier to IOT Finger Pier.
3. **In respect of the additional protection barrier:** please confirm what assessments have been undertaken to address impacts on IOT operations at the IOT Finger Pier brought about by the additional protection barrier both in relation to its construction and operation (noting that the existing finger pier has a roller fender to aid berthing of coastal tankers which will likely be more needed due to amended tidal flow resulting from the blocking effect of the IERRT pontoons).
4. **In respect of the ABP NRA:** the above change requests (Changes 1 and 4) have seemingly been implemented to mitigate errant IERRT vessels alliding with IOT infrastructure (and tankers alongside) and as such constitute additional risk control measures. Please confirm that an assessment of residual navigation risk has been undertaken with these measures in place (including cost benefit analysis against defined standards of acceptability), and if so when the assessment (which we assume is an update to the IERRT NRA) will be shared.
5. **In respect of the proposed additional infrastructure:** please confirm what assessments have been undertaken in relation to the IERRT construction and construction / operation phases, and whether it is intended that the additional infrastructure will be constructed prior to IERRT becoming operational.
6. **In respect of protective provisions:** ABP has agreed to incorporate protective provisions for the protection of the IOT Operators as part of its change request [REP1-039]. That agreement was recorded in the ABP letter of 28 September 2023 [AS-020]. An updated copy of the DCO demonstrating the incorporation of those protective provisions securing the benefit of the mitigation being proposed by ABP as part of its change request has not been provided. ABP is asked to urgently provide an updated draft DCO showing how it proposes to incorporate those protective provisions for the benefit of the IOT Operators.

We look forward to hearing from you on the matters outlined in this letter.



**Matt Dearnley**  
**Terminal Manager**

**ASSOCIATED PETROLEUM TERMINALS (IMMINGHAM) LIMITED**

Immingham Eastern Ro-Ro Terminal

## **Deadline 6 Appendix 2**

**IOT Operators, Revised Protective Provisions for the Protection of the IOT  
Operators**

## PART 14

## FOR THE PROTECTION OF THE IOT OPERATORS

**Application**

1. (1) For the protection of —

(a) Associated Petroleum Terminals (Immingham) Ltd and Humber Oil Terminal Trustees Ltd (together the “IOT Operators”); and

(b) Phillips 66 Limited and Prax Lindsey Oil Refinery Limited (together the “IOT Operators’ Owners”)

the following provisions, unless otherwise agreed in writing at any time between the Company/undertaker and the IOT Operators or the IOT Operators’ Owners, have effect.

**Commented [BS1]:** The owners of the IOT Operators have been added to take the benefit of the indemnity provisions only.

Any impact on the IOT itself would have a direct effect on the IOT Operators’ Owners business, and it follows they should take the benefit of the indemnities.

**Commented [BS2]:** Updated throughout to reflect Applicant’s amendments to draft DCO.

**Commented [BS3]:** The undertaker should maintain an adequate level of insurance to address potential third party liabilities during the course of the construction and operation of the IERRT. This is standard practice where new developments are proposed in close proximity to existing infrastructure.

**Interpretation**

2. In this Part of this Schedule —

“acceptable insurance” means general third party liability insurance effected and maintained by the undertaker with a combined property damage and bodily injury limit of indemnity of not less than £50,000,000.00 (fifty million pounds) per occurrence or series of occurrences arising out of one event. Such insurance shall be maintained for the duration of the construction period of Work Nos. 1, 2 and 3, and after the construction period of Work Nos. 1, 2 and 3 in respect of any use and maintenance of such works by or on behalf of the undertaker and arranged with an insurer whose security/credit rating is not lower than: “A-” if the rating is assigned by Standard & Poor’s Ratings Group or Fitch Ratings, and “A3” if the rating is assigned by Moody’s Investors Services Inc., such insurance shall include (without limitation):

(a) a waiver of subrogation and an indemnity to principal clause in favour of the IOT Operators

(b) pollution liability for third party property damage and third party bodily damage arising from any pollution/contamination event with a (sub)limit of indemnity of not less than £10,000,000.00 (ten million pounds) per occurrence or series of occurrences arising out of one event or £20,000,000.00 (twenty million pounds) in aggregate;

“alternative apparatus” means appropriate alternative apparatus to the satisfaction of the IOT Operators to enable the IOT Operators to fulfil its functions in a manner no less efficient than previously;

“apparatus” means any part of Immingham Oil Terminal Jetty and associated oil terminal and tank farm including the pipe-line and storage system, structures and other infrastructure owned or maintained by the IOT Operators and includes any structure in which apparatus is or is to be lodged or which gives or will give access to apparatus;

“Associated Petroleum Terminals (Immingham) Ltd” means Associated Petroleum Terminals (Immingham) Limited, company number 00564394 registered at Queens Road, Immingham, Grimsby, N E Lincolnshire, DN40 2PN, and any successor in title;

“authorised development” has the same meaning as in article [2] (interpretation) of this Order (unless otherwise specified) and includes any associated development authorised by the Order and for the purposes of this Part includes the use and maintenance of the authorised development and construction of any works authorised by this Schedule;

“functions” includes powers and duties;

“Humber Oil Terminals Trustee Ltd” means Humber Oil Terminals Trustee Limited, company number 00874993 registered at Queens Road, Immingham, Grimsby, N E Lincolnshire, DN40 2PN, and any successor in title;

"in" in a context referring to apparatus in land, includes a reference to apparatus under, over or upon land;

"IOT" means the Immingham Oil Terminal jetty which is operated by Associated Petroleum Terminals (Immingham) Ltd on behalf of Humber Oil Terminals Trustee Ltd;

"IOT Finger Pier" means the IOT finger pier and its associated infrastructure;

"IOT Mitigation Measures" means the measures to be delivered by the CompanyUndertaker in consultation with the IOT Operators to the reasonable satisfaction of the IOT Operators to ensure the safe use of the IOT and must include:

(a) a ~~modified new finger pier to the IOT to replace the existing~~ IOT Finger Pier ~~designed at a suitable location determined~~ in consultation with the IOT Operators ~~to enable two Coastal tankers of up to [max size to be added] to berth on the northern side of the finger pier and two barges of up to [max size to be added] to berth on the southern side of the finger pier in accordance with [Work No. X]~~;

(b) ~~completion of Work No. 3;~~

~~(c) the provision of a Marine Liaison Plan to minimise any conflict between the authorised development and the operations of the IOT;~~

unless otherwise agreed in writing between the CompanyUndertaker and the IOT Operators.

"IOT Operators" means Associated Petroleum Terminals (Immingham) Ltd and Humber Oil Terminals Trustee Ltd;

"Marine and Liaison Plan" means a plan ~~for the construction and operational phases of the authorised development~~ detailing the construction methodology and schedule of works for the authorised development ~~and to manage procedural controls such as berth limits, towage requirements and operational deconfliction relating to the authorised development~~ which is to be developed by the CompanyUndertaker in consultation with the IOT Operators;

"Phillips 66 Limited" means Phillips 66 Limited, company number 00529086 registered at 7th Floor, 200-202 Aldersgate Street, London EC1A 4HD, and any successor in title;

"Prax Lindsey Oil Refinery Limited" means Prax Lindsey Oil Refinery Limited, company number 00564599 registered at Harvest House, Horizon Business Village, Weybridge KT13 0TJ, and any successor in title;

"pipe-line" means the whole or any part of a pipe-line belonging to or maintained by the IOT Operators and includes any ancillary works and apparatus; all protective wrappings, valves, sleeves and slabs, cathodic protection units, together with ancillary cables and markers; and such legal interest and benefit of property rights and covenants as are vested in the IOT Operators in respect of those items;

"plans" includes all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed;

"specified works" means any of the authorised development or activities undertaken in association with the authorised development which will or may be situated on, over, under or within 50 metres measured in any direction of any apparatus, or (wherever situated) impose any load directly upon any apparatus or involve embankment works within 50 metres of any apparatus or may in any way adversely affect any apparatus; and

"working day" means any day other than a Saturday, Sunday or English bank or public holiday.

### Acquisition of land and apparatus

3. (1) Irrespective of any provision in this Order or anything shown on the land plans or contained in the book of reference—

(a) the CompanyUndertaker must not acquire or take temporary possession of any land interest of the IOT Operators or any apparatus or appropriate, acquire, extinguish, interfere with or override any easement or other interest of the IOT Operators or obstruct or render less convenient the access to any apparatus, otherwise than by agreement with the IOT Operators; and

**Commented [BS4]:** Work No to be added once change request made

**Commented [BS5]:** Amended to reflect modified finger pier rather than replacement finger pier

**Commented [BS6]:** Work number for impact protection to be amended after change request

**Commented [BS7]:** MLP referred to it in 5(3) below

**Commented [BS8]:** Definition has been amended to clarify that Marine and Liaison Plan should cover both construction and operational phases of the IERRT

(b) any right of the IOT Operators to operate, maintain, repair, renew, adjust, alter or inspect any apparatus must not be extinguished by the Companyundertaker until any necessary alternative apparatus has been constructed and is in operation to the reasonable satisfaction of the IOT Operators.

#### Retained apparatus

4.—(1) Not less than 56 days before the commencement of any specified works, the Companyundertaker must submit to the IOT Operators a plan.

(2) The plan to be submitted to IOT Operators under sub-paragraph (1) must include a method statement and describe—

- (a) the exact position of the works;
- (b) the manner of their construction including details of excavation and positioning of plant;
- (c) the position of all apparatus;
- (d) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus;
- (e) any intended maintenance regimes; and
- (f) an assessment of risks of rise of earth issues.

(3) The Companyundertaker must not commence any specified works until the IOT Operators has given written approval of the plan so submitted.

(4) Any approval of the IOT Operators required under sub-paragraph (3) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (5) or (7);

(5) In relation to any specified works, the IOT Operators may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its apparatus against interference or risk of damage or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(6) The specified works must only be executed in accordance with the plan submitted under sub-paragraph (1) as approved or as amended from time to time by agreement between the Companyundertaker and the IOT Operators and in accordance with such reasonable requirements as may be made in accordance with the paragraph by the IOT Operators for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and the IOT Operators is entitled to watch and inspect the execution of those works.

(7) Where under sub-paragraph (3) the IOT Operators requires any protective works to be carried out either by itself or by the Companyundertaker (whether of a temporary or permanent nature) such protective works must be carried out to the IOT Operators' satisfaction prior to the commencement of any authorised development (or any relevant part thereof) for which protective works are required and the IOT Operators must give 56 days' notice of its requirement for such works from the date of submission of a plan in line with this paragraph (except in an emergency).

(8) Nothing in this paragraph precludes the Companyundertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of the authorised development, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph apply to and in respect of the new plan.

(9) At all times when carrying out any part of the authorised development, the Companyundertaker must comply with relevant guidance issued by the Health and Safety Executive and with the Control of Major Accident Hazards Regulations 2015.

#### Offshore Works

5.—(1) The Companyundertaker must not except with the agreement of the IOT Operators carry out Work Nos. 1, 2 and 3, or any part of it.

**Commented [BS9]:** Work numbers to be confirmed once the change request has been made. This should include offshore works to the IERRT, impact protection works and finger pier works

(2) Before ~~beginning to construct Work Nos. 1 and 2, or any part of it~~ any berths forming part of Work No. 1 are commissioned, the ~~Companyundertaker~~ must—

(a) deliver the IOT Mitigation Measures in consultation with the IOT Operators;

~~(b) submit to the IOT Operators plans of Work Nos. 1 and 2 (or part of it) including sufficient detail to show that the jetty and berths will have adequate impact protection to sufficiently protect the IOT in the IOT Operators' reasonable opinion and such further particulars available to it as the IOT Operators may request within 21 days of receipt of the plans reasonably requested.~~

(3) Before beginning to construct Work Nos. 1, 2 and 3, or any part of it, the ~~Companyundertaker~~ must provide a Marine and Liaison Plan to minimise any conflict between the authorised development and the operations of the IOT and submit to the IOT Operators plans of Work Nos. 1, 2 and 3 (or part of it) including sufficient detail to show that the jetty, berths and impact protection works will provide adequate impact protection to sufficiently protect the IOT in the IOT Operators' reasonable opinion and such further particulars available to it as the IOT Operators may request within 21 days of receipt of the plans reasonably requested.

(4) Work Nos. 1, 2 and 3 must not be constructed except in accordance with such plans as may be approved in writing by the IOT Operators.

(45) Any approval of the IOT Operators required under this Schedule—

(a) must not be unreasonably withheld or delayed;

(b) in the case of refusal must be accompanied by a statement of grounds of refusal; and

(c) may be given subject to such reasonable requirements as the IOT Operators may have in connection with the safe, economic and efficient use, operation and maintenance of the IOT or otherwise for the protection of any apparatus,

provided always that in relation to a refusal under sub-paragraph (b) or any requirements requested pursuant to sub-paragraph (c) the ~~Companyundertaker~~ is permitted to refer such matters to arbitration pursuant to article [36].

(56) The IOT Operators must employ reasonable endeavours to respond to the submission of any plans within a period of 56 days from the date of submission of the plans. If the IOT Operators require further particulars, such particulars must be requested by the IOT Operators no later than 21 days from the submission of plans and thereafter the IOT Operators must employ reasonable endeavours to respond to the submission within 56 days from receipt of the further particulars.

(67) The ~~Companyundertaker~~ must give to the IOT Operators not less than 14 days' notice in writing of its intention to commence construction of any part of Work Nos. 1, 2 and 3 and notice in writing of its completion not later than 7 days after the date on which it is completed and the IOT Operators ~~will be~~ are entitled by its officer to watch and inspect the construction of such works.

(78) If any part of Work Nos. 1, 2 and 3 or the IOT Mitigation Measures is constructed otherwise than in accordance with this Part of this Schedule the IOT Operators may by notice in writing identify the extent to which the works do not comply with the approved details or otherwise with this Part of this Schedule and request the ~~Companyundertaker~~ at the ~~Companyundertaker~~'s own expense carry out remedial works so as to comply with the requirements of this Part of this Schedule or such alternative works as may be agreed with the IOT Operators or as otherwise may be agreed between the parties.

(89) Subject to sub-paragraph (9), if within a reasonable period, being not less than 28 days beginning with the date when a notice under sub-paragraph (78) is served upon the ~~Companyundertaker~~, the ~~Companyundertaker~~ has failed to begin taking steps to comply with the requirements of the notice and has not subsequently made reasonably expeditious progress towards their implementation, the IOT Operators may execute the works specified in the notice and any reasonable expenditure incurred by the IOT Operators in so doing will be recoverable from the ~~Companyundertaker~~.

(910) In the event of any dispute as to whether sub-paragraph (78) is properly applicable to any work in respect of which notice has been served under that sub-paragraph, or as to the reasonableness of any

**Commented [BS10]:** Amended to reflect letter - mitigation measures to be delivered before commissioning of any berth

**Commented [BS11]:** Work numbers to be confirmed once change request is made. Plans of offshore works to be provided for approval before commencing construction

requirement of such a notice, the IOT Operators ~~with must~~ not, except in the case of an emergency, exercise the powers conferred by sub-paragraph (8) until the dispute has been finally determined in accordance with article [36] (arbitration).

**Commented [BS12]:** 'shall' and 'will' amended to comply with drafting guidance (Advice Note 15)

### Operation of Offshore Works

6. The IOT Operators' agreement under paragraph [5(1)] of this Part of this Schedule may be made subject to requirements in relation to the construction or operational phases of the authorised development to ensure that the IOT Operators do not suffer more interference than is reasonably practicable and may require reasonable commitments by the Companyundertaker to ensure that vessels and tankers using the IOT are given priority over vessels using the authorised development.

### Expenses

7. Save where otherwise agreed in writing between the IOT Operators and the Companyundertaker and subject to the following provisions of this paragraph, the Companyundertaker must pay to the IOT Operators within 30 days of receipt of an itemised invoice or claim from the IOT Operators all charges, costs and expenses reasonably incurred by the IOT Operators in, or in connection with the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus or alternative apparatus which may be required in consequence of the execution of any such works as are referred to in this Part including without limitation—

- (a) any costs reasonably incurred by or compensation properly paid by the IOT Operators in connection with the acquisition of rights or the exercise of statutory powers for such apparatus;
- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus, where no written diversion agreement is otherwise in place;
- (c) the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works; and
- (f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Part.

### Damage to property

8.—(1) The Companyundertaker must permit the IOT Operators access to any apparatus during the carrying out of any specified works reasonably required for the purposes of inspection, maintenance and repair of such apparatus and upon reasonable notice.

### Indemnity

9.—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any works authorised by this Part or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the Companyundertaker or in consequence of any act or default of the Companyundertaker (or any person employed or authorised by it) in the course of carrying out such works (including without limitation works carried out by the Companyundertaker under this Part or any subsidence resulting from any of these works), any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purpose of those works) or property of the IOT Operators, or there is any interruption in any



service provided by the IOT Operators, or the IOT Operators or the IOT Operators' Owners becomes liable to pay any amount to any third party, the Companyundertaker must~~will~~—

(a) bear and pay on demand accompanied by an invoice or claim from the IOT Operators or the IOT Operators' Owners the cost reasonably and properly incurred by the IOT Operators or the IOT Operators' Owners in making good such damage or restoring the supply; and

(b) indemnify the IOT Operators and the IOT Operators' Owners for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from the IOT Operators or the IOT Operators' Owners, by reason or in consequence of any such damage or interruption or the IOT Operators or the IOT Operators' Owners becoming liable to any third party as aforesaid other than arising from any default by the IOT Operators.

(2) The fact that any act or thing may have been done by the IOT Operators on behalf of the Companyundertaker or in accordance with a plan approved by the IOT Operators or in accordance with any requirement of the IOT Operators as a consequence of the authorised development or under its supervision does not (unless sub-paragraph (3) applies) excuse the Companyundertaker from liability under the provisions of sub-paragraph (1) unless the IOT Operators fails to carry out and execute the works properly with due care and attention and in a skilful and workmanlike manner or in a manner that does not materially accord with the approved plan or as otherwise agreed between the Companyundertaker and the IOT Operators.

(3) Nothing in sub-paragraph (1) ~~will~~imposes any liability on the Companyundertaker in respect of—

(a) any damage or interruption to the extent that it is attributable to the neglect or default of the IOT Operators, its officers, employees, contractors or agents; and

(b) any authorised development or any other works authorised by this Part carried out by the IOT Operators as an assignee, transferee or lessee of the Companyundertaker with the benefit of this Order pursuant to section 156 of the 2008 Act or article [8] (benefit of the Order) subject to the proviso that once such works become apparatus ("new apparatus") any works yet to be executed and not falling within this sub-paragraph (b) are subject to the full terms of this Part including this paragraph in respect of such new apparatus.

(4) The IOT Operators and the IOT Operators' Owners must give the Companyundertaker reasonable notice of any claim or demand and no settlement, admission of liability or compromise or demand must be made, unless payment is required in connection with a statutory compensation scheme, without first consulting the Companyundertaker and considering its representations.

(5) The IOT Operators and the IOT Operators' Owners must, in respect of any matter covered by the indemnity given by the Companyundertaker in this paragraph, at all times act reasonably and in the same manner as it would as if settling third party claims on its own behalf from its own funds.

(6) The undertaker shall not carry out Work Nos. 1, 2 and 3, or any part of such works, unless and until the IOT Operators are satisfied acting reasonably that the undertaker has procured acceptable insurance and the IOT Operators have confirmed the same in writing to the undertaker.

### Co-operation and reasonableness

**10.**—(1) Where in consequence of the proposed construction of any of the authorised development, the Companyundertaker requires the removal of apparatus under this Part of this Schedule or the IOT Operators makes requirements for the protection or alteration of apparatus under this Part of this Schedule, the Companyundertaker must use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of the IOT Operators' undertaking and the IOT Operators must use its best endeavours to cooperate with the Companyundertaker for that purpose.

(2) the Companyundertaker and the IOT Operators must act reasonably in respect of any given term of this Part of this Schedule and, in particular, (without prejudice to generality) where any consent or expression of satisfaction is required by this Part of this Schedule it must not be unreasonably withheld or delayed.

### Miscellaneous

11. Nothing in this Part of this Schedule affects the provisions of any enactment or agreement regulating the relations between the ~~Companyundertaker~~ and the IOT Operators in respect of any apparatus laid or erected in land belonging to the ~~Companyundertaker~~ on the date on which this Order is made provided that the terms of the relevant enactment or agreement are not inconsistent with the provisions of this Order, including this Part of this Schedule. In the case of any inconsistency, the provisions of this Order, including this Part of this Schedule, prevail.

### Emergency circumstances

12.—(1) The ~~Companyundertaker~~ acknowledges that the IOT Operators provides services to His Majesty's Government, using its apparatus, which may affect any works to be carried under this Order.

(2) In the following circumstances, the IOT Operators may on written notice to the ~~Companyundertaker~~ immediately suspend all works that necessitate the stopping or suspending of the supply of product through any apparatus under this Order and the IOT Operators ~~shall are not be in~~ breach of its obligations to proceed:

- (a) circumstances in which, in the determination of the Secretary of State, there subsists a material threat to national security, or a threat or state of hostility or war or other crisis or national emergency (whether or not involving hostility or war); or
- (b) circumstances in which a request has been received, and a decision to act upon such request has been taken, by His Majesty's Government for assistance in relation to the occurrence or anticipated occurrence of a major accident, crisis or natural disaster; or
- (c) circumstances in which a request has been received from or on behalf of NATO, the EU, the UN, the International Energy Agency (or any successor agency thereof) or the government of any other state for support or assistance pursuant to the United Kingdom's international obligations and a decision to act upon such request has been taken by His Majesty's Government or the Secretary of State; or
- (d) any circumstances identified as such by the COBRA committee of His Majesty's Government (or any successor committee thereof); or
- (e) any situation, including where the United Kingdom is engaged in any planned or unplanned military operations within the United Kingdom or overseas, in connection with which the Secretary of State requires fuel capacity.

(3) The parties agree to act in good faith and in all reasonableness to agree any revisions to any schedule, programme or costs estimate (which ~~shall includes~~ costs of demobilising and remobilising any workforce, and any costs to protect the IOT Operators' apparatus "mid-works") to account for the suspension.

(4) The IOT Operators ~~are shall~~ not ~~be~~ liable for any costs, expenses, losses or liabilities the ~~Companyundertaker~~ incurs as a result of the suspension of any activities under this paragraph or delays caused by it.

Immingham Eastern Ro-Ro Terminal

## **Deadline 6 Appendix 3**

IOT Operators, *'Summary Comments on IERRT Navigational Simulations'*

## IOT Operators - Summary Comments on IERRT Navigational Simulations

### APT / Nash –Record of IERRT Navigational Simulations

1. The Applicant held the ISH3 AP17 Navigational Stakeholder Simulations at HR Wallingford (HRW) on 7th/8th November 2023.
2. These simulations were attended by representatives from Associated Petroleum Terminals (APT) and NASH Maritime (Nash) on behalf of the IOT Operators.
3. The IOT Operators provide below summary comments on the description of the simulations, some initial concerns, and general comments on the simulations. The IOT Operators have also provided a table of the detailed notes for each run. Where this table refers to DFDS comments, this is only to show the summary notes of the DFDS position and is subject to anything addressed by DFDS in their Deadline 6 submissions.

### Description of Simulations

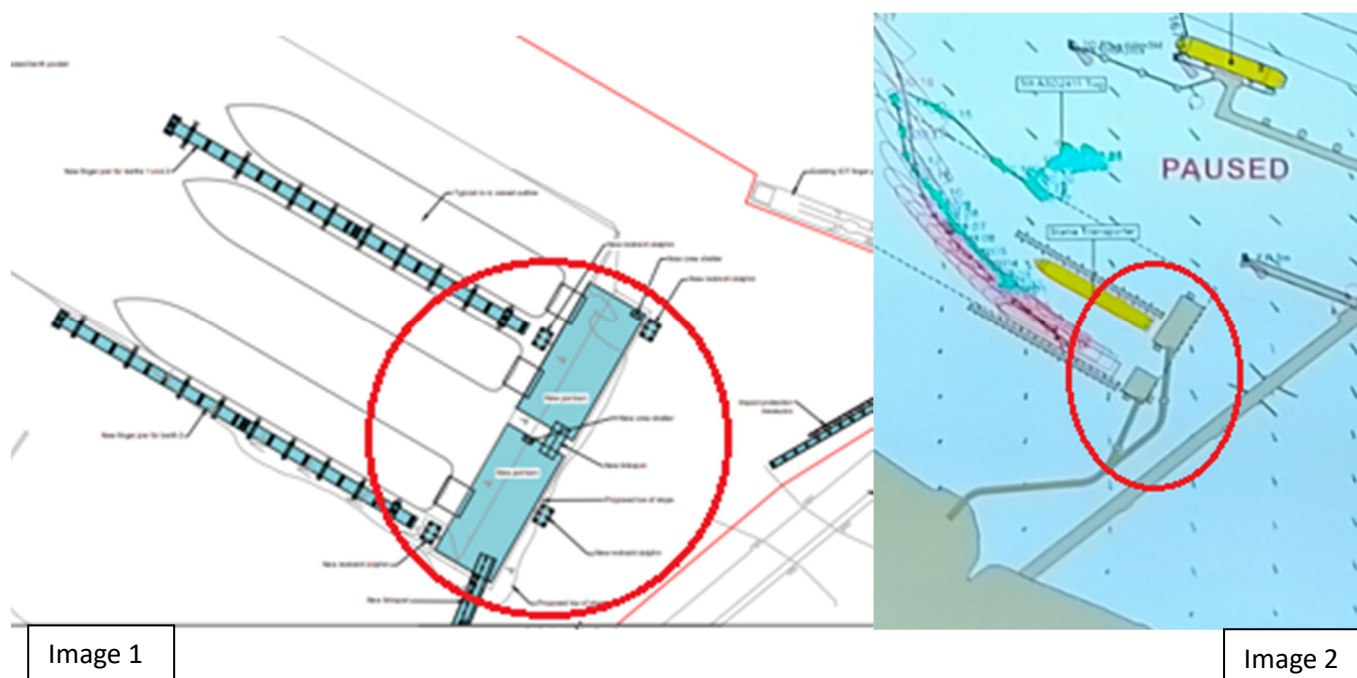
4. All runs were conducted using Stena T Class as own ship (212m x 26m).
5. Tugs used were SMS 50t ASD (24m x 9m) – aft tug driven by SMS tug skipper in adjacent simulator, forward tug representation delivered by simulator operator.
6. Apart from run 1 a vessel was moored on the adjacent berths 2 or 3.
7. All runs had 185m tanker berthed on Immingham Eastern Jetty (EJ) also 2 + 2 Tugs double berthed on EJ Finger Pier tug berth.

### Initial concerns:

8. There were multiple factors affecting the results of these simulations which should have been considered when designing the parameters of the simulations. In particular:
  - a. the size and characteristics of the model used was not representative of the intended design vessel specifications for the IERRT;
  - b. the two Stena masters now have many days' worth of experience in the simulator;
  - c. the simulations were conducted in a sterile environment;
  - d. apart from some wind, all simulations were conducted in favourable conditions of daylight and good visibility.
9. Additionally, the simulations could have been more thoroughly tested against real-world complications. Certainly, any lack of concentration errors, for example allowing the tide to come at too much of an angle to the ship, take effect extremely quickly and can be difficult to recover from.

### General comments:

10. APT / Nash pointed out that the HRW infrastructure model of the area was incorrect in that the DCO application (image 1) showed a layout of the RoRo berth pontoons which was substantially different to that modelled for all simulation purposes to date (image 2). It is obvious therefore that, especially when near the start of the flood tide when there is no flow inshore of IERRT 3, the blockage of tidal flow in image 1 would be substantially greater than the amount of blockage in image 2. To what degree would depend on the prevailing tidal height and the under-pontoon clearance at that time but the alteration on the tidal flow between IERRT 2 and 3 and therefore the effect on ship's manoeuvring for those berths has not been modelled. Furthermore, and perhaps of greater concern to IOT Operators is that the additional blockage is very likely to significantly alter the tidal flow experienced on the flood tide at IOT Finger Pier berths 6 and 8, with an increased flow rate, greater set on to berth 8 and greater set off berth 6. The tidal flow modelling is therefore required to be redone and the IOT Finger Pier simulations repeated.



11. APT / Nash reiterated once again that the RoRo model intended to be used for these simulations was not representative of the declared design vessel and therefore inappropriate to be used. The Stena T Class as currently operated in the Humber is substantially smaller in dimensions and under half the displacement (Stena T Class 21,451t displacement or IERRT Design Vessels 48,431t). The design vessel

would have over twice the kinetic energy when moving, therefore tugs would have significantly less effect. Larger ships take longer to manoeuvre and are generally proportionally underpowered, especially given industry trends towards fuel saving design and resultant limitations of power required by, for example, EEDI, EEXI and CII.

12. The purpose of ExA Action Point 17 is to address 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”, noting further that ‘simulations should be based on what can reasonably be considered as normal operating conditions and vessel types for the Proposed Development’. To run the simulations with any other model to that of design dimensions and displacement is therefore failing to demonstrate that the dimensions of the area of the proposed IERRT berths 2 and 3 in relation to the Eastern Jetty and tug berth are adequate for manoeuvring the largest vessel. Where the Proposed Development is engineered to facilitate a certain design vessel, then the Applicant must prove that the terminal is suitable for that design vessel. Note that IERRT design size vessels are substantially bigger than the largest vessel able to use Immingham Lock, and therefore would be, by far, the largest vessels manoeuvring inside the line of IOT main jetties and by far the closest to IOT trunkway.
13. APT / Nash reiterated that where the run simulated depicted a vessel alongside an adjacent berth then the wind shading feature should be enabled. To do otherwise would not be representative of the real conditions experienced during the run. HRW enabled wind shading in only 3 of the 16 runs conducted on 7<sup>th</sup> and 8<sup>th</sup> November. Wind shading generally adds to the degree of difficulty at one stage of the manoeuvre but will aid the manoeuvre once the ship is completely in the shade of one already moored as it is then sheltered from the prevailing wind.
14. A discussion was held between APT / Nash and HRW on the interpretation of ‘gusting’. HRW software can add a ‘variance’ around the mean wind but if gusting is required then gusts have to be applied manually by the simulator operator. APT / Nash pointed out that if gusting is only applied to an extent above the mean wind rather than a combination of above and below the mean, then this would effectively raise the mean to a higher level, therefore the only way to replicate upward and downward variations around the mean would be to use the ‘variance’ feature, although this is unlikely to replicate the level and duration of peaks and troughs actually experienced on the river at Immingham. The routine variance applied by HRW (and used in all IERRT simulations to date) is +/- 2.5 knots around the mean wind. APT / Nash pointed out that, whilst this level of variance might be reasonably representative for low wind speeds, the variance generally experienced during higher winds, especially those associated with low pressure systems, is far higher. HRW stated that the variance settings can be made higher if required.
15. One of the Stena masters had the previous week completed a ‘use of tugs’ course at the Maritime Research Institute Netherlands (MARIN).
16. It is essential to constantly monitor speed through the water (STW) and speed over ground (SOG). STW must remain in check (under 3.5 knots for effective use of bow thrust and for safe and effective use of forward tug), which means that given the tidal flows SOG achieved can often be minimal. Manoeuvres can take much longer than envisaged and therefore the vessel is in the ‘critical area’, susceptible to wind and tide & in close proximity to potential collision, for prolonged periods. Maintaining the correct angle of tide on the bow or stern is critical to a safe manoeuvre. All arrival runs were terminated early but still took between 35 and 50 minutes.

**RUN COMMENTS:**

NOTE: No HRW track and telemetry trend chart plots were available by the time of submission of these notes and will require to be studied once available, pending update of these notes.

Run ID	IERRT Manoeuvre	Run Rating	Wind lower & upper variance (& mean)	Tide	Tug(s)	Wind shading Y/N	HRW & ABP Comment	Stena / Tug Comment	DFDS Comment	APT Comment
1	<b>Approach</b> to #3 Berth in <b>Normal</b> Conditions.  Ro-Ro Starting Position Abeam of IOT #3.	Pass	SW 15-20Kts (SW 17.5Kts)	Peak Ebb	0	N	'Warm-up' run Viewed as a Successful Run  Noted that the simulated current has to be manually changed between what is observed in the river and then switched to what is observed in the dredged pocket – cannot be gradually phased.	Small issue with simulator not being able to correctly position Engine controls. Port engine 10% high offset. Requires a recalibration.	Asked what the time interval would be to allow the next vessel near to the IOT.  Noted that the run from clearing IOT to entering IERRT dredged pocket was 14mins.	Noted the Ro-Ro passing distance off IOT Berth 1 – 'A' Dolphin was 167m. APT asked that in subsequent runs we maintain +150m clearance from IOT 1.  No moored vessel on IERRT 2.  Nearing Eastern Jetty Bow of Ro-Ro was 53m from the moored Tugs
2	<b>Departure</b> from #3 Berth in <b>Normal</b> Conditions	<b>Initially Marginal</b> due to proximity of clearing Ro-Ro vessel on IERRT berth 2  <b>Scenario was re-run - Pass</b>	SW 15-20Kts (SW 17.5Kts)	Peak Ebb	0	N	V/L departing the berth got quite close (9m) to the Ro-Ro vessel on IERRT #2 and the berth knuckle.  ABP agreed Ro-Ro must ensure clearance of 150m from IOT.	Noted that this initial run was a mistake and that the vessels did get too close.  Second time was 40m gap between the two vessels.	Asked whether the ME & Bow Thrust instrumentation was available for the run. Wish to review telemetry for all runs.	APT noted the Ro-Ro passing distance off IOT Berth 1 and that it would be preferred to bring the Ro-Ro further to the North before commencing the swing out of the Bellmouth to the East - to ensure that if there was a breakdown then the Ro-Ro wouldn't set down onto the IOT.
3	<b>Approach</b> to #3 Berth in <b>Normal</b> Conditions	Pass	NE 15-20Kts (NE 17.5kts)	Peak Ebb	0	N	V/L on Eastern Jetty & IERRT #2	Stena replied – Bow thruster was only used to push the Bow to Port at the start of the manoeuvre. Therefore, wouldn't affect the Tugs. However, this was checked later, and Bow thruster was used both Port & Stbd to steady the bow.	Perhaps more use of the Main Engines than needed? Noted that the Bow thruster was only used to about 40% power.	To steady the bow of the Ro-Ro backing down to Berth 3, bow thrust to was used to stbd 40% power with resultant wash to port. Passing distance from moored tugs was only 20m which is close. At this distance in a stronger on-berth wind, high possibility for the bow thruster wash to damage/breakout the Tugs double-moored on the Eastern Jetty Tug Pier. Pass criteria achieved but stronger use of B/T or any closer passing distance would be marginal.
4	<b>Departure</b> from #3 Berth in <b>Normal</b> Conditions	Pass	NE 15-20Kts (NE 17.5kts)	Peak Ebb	0	N	V/L on Eastern Jetty & IERRT #2	No notable interaction observed between Ro-Ro and Tugs.	DFDS commented on the 7kts speed through the water when passing the Tugs on the Eastern Jetty. Although there was 94m clearance – no notable interaction observed.	Noted that current rapidly increases to 4kts when clear of the dredged pocket.
5	<b>Approach</b> to #3 Berth in	Pass	NE 15-20Kts (NE 17.5)	Peak Flood	0	N	Harbour Master described scenario. Flooding Tide & V/L on Eastern Jetty & IERRT #2.	Noted that the initial swing to 160 around A1 dolphin could begin		Noting peak flood tide rate 3+ knots and given the need to keep speed through water below 3.5 - 4 kts for

Run ID	IERRT Manoeuvre	Run Rating	Wind lower & upper variance (& mean)	Tide	Tug(s)	Wind shading Y/N	HRW & ABP Comment	Stena / Tug Comment	DFDS Comment	APT Comment
	Normal Conditions						ABP noted that on a flooding tide the time for the Ro-Ro to clear the bell mouth area is a fairly significant period. HMM noted potential need to use tug in such tidal condition.	earlier, as tide taking the Ro-Ro away from IOT.		bow thrust efficiency, RoRo only makes about 1 knot of sternway towards berths Ro-Ro was getting close to limits with Speed through Water.
6	Departure from #3 Berth in Normal Conditions	Pass	NE 15-20Kts (NE 17.5)	Peak Flood	0	N	Need to keep the Ro-Ro Stern to tide. Initial current 309T x 1.5Kts	Noted that this departure took the Ro-Ro close to the Eastern Jetty.  However, there was spare power with engines and Thruster.  Next time would use more power to lift v/l earlier & increase clearance to East Jetty.		RoRo passed approx. 25m parallel to tanker on Eastern Jetty prior to turning bow to port on flood tide and backing out towards river. Passing 1 ship's beam from a loaded petrochemical tanker is unusual, especially during an on-berth wind, however Exolum as EJ operators apparently (to date) have no minimum passing criteria.
7	Approach to #3 Berth in Normal Conditions	Pass	SW 15-20Kts (SW 17.5Kts)	Peak Flood	0	N	Last run for Day 1.		DFDS Agreed with APT point about type & size of the model vessel for the simulations.	Swing around IOT1 conducted at the NE edge of the dredged pocket, ship's head to 170 to stem tide, then swing to stbd, bow 100m clear of EJ, ship's head to 330 then back down to berth. Seemed to work well. However, raised point about type & size of the Model vessel for the simulations. Small & manoeuvrable or bigger and lethargic?
8	Departure from #3 Berth in Normal Conditions	Pass	SW 15-20Kts (SW 17.5Kts)	Peak Flood	0	N	First run for day 2. HRW are completing a Qualitative Assessment - therefore we don't have hard limits on Power use.	Small recalibration still needed on Port Main Eng telegraph (10% error). With this tidal condition the risk is to turn to starboard too early	DFDS noted that thruster power was at 75% for a significant time.  Vessel technical parameters have already been discussed.	No issues initially 2 knots SOG (generated by tidal) flow out of berth STW zero, split sticks to creep sideways, B/T stbd, clear IERRT 2 vessel, clear EJ then swing stbd with minimal headway – v/l turned through the wind into the Flood tide. Noted a significant amount of Thruster use.
							HRW - Extreme conditions are higher mean wind speeds but - HRW standard variance remains simulated as the average value +/- 2.5kts.			
9	Approach to #3 Berth in Extreme Conditions	Pass	No Wind Shading in use.	Peak Ebb	2	N	HMM – high end of what would be environmentally operable conditions – peak tide and mean wind force 7. HRW: Moderate amounts of Power used by Ship & Tugs.	Stena discussed that Bow thruster power is non-linear. Therefore, using more revs equate to	Debated acceptable use of Bow thruster power. Using 100% power means that there is no reserve power.	Noted No Wind Shading in use - Stena thought final elements of manoeuvre might be easier with shading enabled.

Run ID	IERRT Manoeuvre	Run Rating	Wind lower & upper variance (& mean)	Tide	Tug(s)	Wind shading Y/N	HRW & ABP Comment	Stena / Tug Comment	DFDS Comment	APT Comment
			NE 25-30Kts (Average NE 27kts)				<p>Discussed that visual clearance distances F&amp;A can be offered by sim operator if required.</p> <p>ABP: good that we are quickly finding that equilibrium position to align - off the NE section of the dredged pocket</p>	<p>substantially more power.</p> <p>Difficult to view surroundings, especially moored tugs, from the simulator bridge therefore reliance on ECDIS for situational awareness.</p> <p>Would like clearance distances to be offered on subsequent runs.</p> <p><b>Stena &amp; SMS Tug:</b> Noted that the tug line needs to be on the Port Side Aft even if tug is working starboard quarter - to give sufficient scope of tow line to be effective.</p>	<p>Was Tug lead position on the Port Side of the ramp and resultant rope across stern compatible with the Stern Ramps on other Ro-Ro's (chafing / line)?</p>	<p>Ro-Ro starting point further to the North (nearer to 9A Buoy).</p> <p>Tugs secured at the NE section of the dredged pocket.</p> <p>Stern dropped in towards berth and came close but was rescued by aft tug pulling 50%</p> <p>Forward tug although secured was not used during manoeuvre.</p>
10	Departure from #3 Berth in Extreme Conditions	Pass	<p><b>Wind Shading in Use</b></p> <p>NE 25-30Kts (Average NE 27kts)</p>	Peak Ebb	2	Y	<p>ABP – need to let Tugs go at the end of the dredged pocket – then come well to the North before commencing turn into the River.</p> <p>HRW: Noted that tugs were only used about 10% power due to sheltering of the Ro-Ro on berth #2.</p> <p>ABP: noted that the aft tug did get very close to the Ro-Ro on IERRT Berth #2 when lifting and had to drop more astern.</p>	<p>Stenna noted the issues with using tugs in such close proximity to the Ro-Ro.</p> <p>Noted that when making the turn to stbd outside of the dredged pocket – must be careful about the way that the set brings the v/l down the river.</p>		<p>Simulator staff now giving clearance distances F&amp;A to Ro-Ro Bridge.</p> <p>Noted that during the swing the Ro-Ro was still heading 045T &amp; moving bodily towards the IOT.</p> <p>4.8 knots flow mid river.</p> <p>Noted that the simulated Ebb tides were near parallel to the IERRT. If tides were deflected further South, then departure from #3 would have been more challenging. Tugs lifting 20-25% to depart berth. Ebb tide slightly on port bow counteracted effect of NE wind. Headway limited to 3.5 knots STW for tugs to be effective, therefore extremely slow ground speed. Once clear of IERRT ½ knuckle, tugs let go, STW increased to 8.5kts (4 kts SOG).</p>



Run ID	IERRT Manoeuvre	Run Rating	Wind lower & upper variance (& mean)	Tide	Tug(s)	Wind shading Y/N	HRW & ABP Comment	Stena / Tug Comment	DFDS Comment	APT Comment
11	Approach to #3 Berth in Extreme Conditions	Pass	Wind Shading remained enabled even though not originally intended  NE 25-30Kts (Average NE 27kts)	Peak Flood	2	Y	ABP would discuss internally about traffic management.	V/L starting position was probably too far North.  Fwd Tug was made fast once the v/l had completed the swing & started backing down onto the berth.  Stena noted that Wind Shading wasn't expected and was the reason it took longer to get v/l alongside.  SMS Tug noted that it would really have shortened the line further when getting into the berth to give more room.		Noted that it took 50mins to run this simulation – not a quick manoeuvre.  Asked ABP about when traffic might be allowed in / out of Immingham Docks / finger pier.  Rounded IOT1, head 140, then swung ship using stern tug 50% the 75%, once headway zero forward tug brought in to secure. Bow thrust 50% max throughout.  Backed down using bow thrust constant 55% into wind, then forward tug between 25% and 40%. Aft tug stbd quarter low power. Bow well clear of moored tugs.  Current at berth is setting off 10 degree angle, 1.7kts. Difficult to get ship laterally alongside without the effect of the NE wind, but aft tug not used to push.
12	Departure from #3 Berth in Extreme Conditions	Pass	Wind Shading Off  NE 25-30Kts (Average NE 27kts)	Peak Flood	2	N		Both tugs were made fast to Ro-Ro.	A successful manoeuvre – but noted that although acceptable - more power was now being applied.	After leaving the Jetty bodily – completed an Anti-clockwise turn using the Aft tug to pull stern to the North, bow towards lock bell mouth rather than fight the tide by turning the bow into the wind. Once making sternway to the east, aft tug had difficulty swinging ship as pulling close to pivot point without advantage of lever. Far more efficient to use forward tug lifting port bow with advantage of long lever. Time consuming manoeuvre, swing off bell mouth completed 33 mins into run
13	Approach to #2 Berth in Extreme Conditions	Pass	Wind Shading in Use SW 25-30Kts	Peak Ebb	2	Y	2 x Tugs will also note the sheltering effects from Oil tanker on Eastern Jetty and from Tanker on IOT #1.			Once clear of IOT1, ship's head 285, crab across using tide, COG 190 (ebb tide on stbd bow counteracts effect of SW wind), Once parallel to EJ,

Run ID	IERRT Manoeuvre	Run Rating	Wind lower & upper variance (& mean)	Tide	Tug(s)	Wind shading Y/N	HRW & ABP Comment	Stena / Tug Comment	DFDS Comment	APT Comment
			(Average NE 27kts)							reduced angle of tide on bow, both tugs pulling up to 75% into wind and bow 75% port, even then only making 0.3 kts sideways. In any significant gusting likely need to abort. Felt like this was a more complex manoeuvre than for approach onto berth 3.
			HRW: Wind variance will be moved to mean speed +/- 5 kts							NASH requested wind variance increased to more realistic level for strong wind. HRW offered 5 kts above and below mean, HRW said more would be preferable.
14	<b>Departure</b> from #3 Berth in <b>Extreme</b> Conditions	Pass	<b>Wind Shading Off</b> SW 22-32Kts (Average NE 27kts)	Peak Ebb	2	N	No v/l to shelter from. Wind Gusting at 5kts variance	Starting with Tugs fast fwd Pushing Stbd Bow & Pulling Aft Qtr.  Fwd Tug let – go asap just as Ro-Ro clears dredged pocket.  SMS: no need to have the Fwd Tug attached – keep it free.		Both tugs pushing 50% during unmooring. Stana master had commented how quickly ship goes sideways when unmooring in any kind of off berth wind. When lifting off the Jetty – noted high bow thruster use. Fwd Tug pushing on Stbd Bow - . Will wash from Bow thruster cause issues for the Fwd Tug? <i>Stena replied that this was not the case as the Bow thruster was far fwd on the taper of the bow and the tug needs to be further aft on the Shoulder flat side.</i>  Ship taken well up tide towards bulk terminal mindful of ebb set down towards IOT1.
15	<b>Approach</b> to #3 Berth in <b>Extreme</b> Conditions	Pass	SW 22-32Kts (Average NE 27kts)	Peak Flood	2	N	Wind Gusting at 5kts variance	Tugs used well,  Commented that the higher wind variance was more representative of what would normally be experienced at the currently used HRT CLdN berth.		Aft tug secured early, swung ship into tide rounding IOT1, ship's head 170 towards flood tide, swung to stbd off bellmouth, aft tug lifting, forward tug pushing port bow. Backing down, fwd tug loose pushing, aft tug pushing 30%. All within limits. 36 minutes.
16	<b>Departure</b> from #3	Pass	SW 25-30Kts	Peak Flood	2	N	Wind Gusting reduced to 2.5kts variance	Tugs used well		Tugs pushing on for unmooring, stood down once clear of IERRT 2,

Run ID	IERRT Manoeuvre	Run Rating	Wind lower & upper variance (& mean)	Tide	Tug(s)	Wind shading Y/N	HRW & ABP Comment	Stena / Tug Comment	DFDS Comment	APT Comment
	Berth in <b>Extreme</b> Conditions		(Average NE 27kts) Gusting reduced to 2.5kts variance							vessel swung to starboard around A1 dolphin. All well within limits.