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IMMINGHAM EASTERN RO-RO TERMINAL

Applicant's Response to ExA's Rule 17 Letter dated 12 January 2024
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1 Applicant's Response to the Rule 17 Letter

1.1 This submission responds to the ExA's Request for Further Information as set out in its Rule 17 letter dated 12 January 2023.

1.2 Each question as it appears in the Rule 17 Letter is provided below together with the Applicant's response.

1) With regard to concerns expressed by DFDS in [REP8-045, paragraphs 40 and 111] about the validity of the navigational safety assessments completed to date, on a without prejudice basis, provide wording for requirements to cover the two matters listed below, together with any contingent amendments that may be necessary to the Protective Provisions in favour of the Statutory Conservancy and Navigation Authority (SCNA). The ExA is making this request so that wording for requirements would be available for the Secretary of State to consider in the event of the ExA recommending that one or other or both ought to be included in any made Development Consent Order (DCO) instead of or in combination with one or other or both of Requirements R18 and R19 included in the draft DCO [REP8-005]:

a) A requirement limiting the use of the proposed berths to Stena T-class vessels

1.3 The Applicant has provided the requested wording below. For the avoidance of any doubt and given the Applicant's continuing concern as to how the objectors continue to characterise the Applicant's answers to such questions, the Applicant wishes to reiterate its position that it remains firmly of the view that the imposition of a requirement limiting the use of the proposed berths to Stena T-class vessels is inappropriate and unnecessary for a number of reasons given the simulations and assessments that have been undertaken and the navigational controls that will apply to the operation of IERRT through the existing statutory regime that relates to the powers of the Humber Harbour Master and Immingham Dock Master in any event.

1.4 The Applicant recalls that the first time that the suggestion that such a requirement might be requested by the Interested Parties was at ISH 5 **[REP7-020]**, as what appeared to be "throw away" remark when the topic of environmental assessment and vessel simulation was being discussed. The Applicant did not consider it to be merited at the time and remains of that view. It is a request for a requirement which does not reflect the evidence that has been provided by the Applicant, and the position of HMH on behalf of the SCNA, **[REP7-061]**. The Applicant refers the ExA to that evidence and information without repeating it again here, but simply notes the following particularly salient points –

i. It has been alleged that as a "design vessel" does not yet exist, the Applicant has failed to assess the integrity/ability of the IERRT marine infrastructure to accommodate a vessel of the design vessel's envelope parameters. This is wrong and does not reflect the evidence provided and explained by Mr Parr of HR Wallingford for the Applicant.

ii. As reiterated again most recently at **[REP9-011]**, in designing the IERRT marine infrastructure, the Applicant consulted the intended operator of the IERRT, namely Stena Line – with a view to understanding and establishing the characteristics of vessel which might potentially operate from the IERRT over the life of the Terminal itself, which the ExA is aware, could be over 50 years.

iii. The size and type of vessel that will be operating at the IERRT in the future is likely to be different to the Stena T-class vessel that will initially be operating from Immingham when the new Terminal has opened. However, any vessel that operates in the future will be subject to the controls that apply to the operation of vessels on the River Humber and in the Port of Immingham that have been explained and are exercised comprehensively by the Humber Harbour Master in conjunction with the Dock Master and where the relevant statutory harbour authorities retain their own statutory duties and responsibilities. That principle is the same for all infrastructure be it the IOT Terminal or DFDS's facility at the IOH (as demonstrated by DFDS having introduced the Jinling vessel and the application of assessment and controls through that process). The request for the imposition of a specific restriction for IERRT would be anomalous and unnecessary.

iv. The fact is that a "design vessel" does not exist today. What the Applicant has done, therefore, is apply the provided design vessel envelope parameters – length, beam and draft – (effectively a realistic worst case scenario) **[REP8-023]** and then design/engineer the marine infrastructure, berths and approach jetty, so that the new facility can both accommodate and withstand the size of a vessel of up to these dimensions.

v. If the Applicant had not assessed a "design vessel" it would have been criticised for not so doing and, instead, is now being criticised for so doing.

vi. ***Green Port Hull simulation –*** In this context, the ExA has been told that the HMH is currently conducting simulations of a vessel that it is proposed will operate at the Green Port Hull facility. That vessel, however, does not yet exist – it is a "design vessel". This is normal practice.

vii. ***Vessels simulated –*** As to the suggestion that it is only the Stena Transit that has been simulated and assessed, that is not the case. As has been confirmed by Mr Parr of HR Wallingford and the evidence provided, the Applicant has not just simulated the Stena T-class vessel using the facility, but has also simulated the larger Jinling operated by DFDS, and it has also simulated the even larger G9 vessel operated by CLdN for the purposes of considering a "dead vessel". In such circumstances, the Applicant does not understand the basis for the request by the IPs for a Stena Transit vessel class

restriction for the commencement of operations at the IERRT on the facts or as a matter of principle as discussed above. The use of these other vessel types with the IERRT infrastructure has been assessed – and in this context the ExA's attention is also drawn to the Applicant's answer to Question 3 (a) below.

viii. ***Commencement of permitted operation –*** As noted above, at the Examination in evidence from the HMH **[REP7-068]** it was explained that no vessel type will be permitted to operate from the IERRT until both the Dock Master and the HMH in their capacity as SHAs have satisfied themselves that what is being proposed by the operator is safe in terms of both the use of vessel proposed and the marine infrastructure that will accommodate the given vessel. The HMH explained in some detail and this was corroborated by the Applicant **[REP7-066]** that the SHAs will require further vessel simulations to be undertaken, possibly further assessment and then, even if they are satisfied with the simulations, a vessel will only be permitted to operate from IERRT under strict "slow start" procedures, involving the use of particular berths, in specified weather conditions and with tugs as circumstances dictate to build up the operating base of knowledge. As noted below, the Dock Master will then publish the maximum dimensions and operating parameters of vessels permitted to use the IERRT. In light of this it is impossible to understand why a requirement is being sought and would be necessary.

ix. ***Obligations of the SHAs*** – The procedures above reflect the existing responsibility of the SHAs. To include any specific provision in the DCO which would duplicate – and also potentially complicate the exercise of the SHA's obligations if the requirement cut across those functions – would usurp the statutory functions already imposed on the SHAs by Parliament which are clearly best exercised by them given their statutory functions, responsibilities in respect of safety and their detailed knowledge and working experience of the River and Port.

x. ***Day to day operation –*** Once the IERRT facility is operational and all commencement limitations have been satisfied – for whatever class of vessel permitted to use the ro-ro facility as vessel types change – the Stena vessels will still be subject to the normal regulation imposed by the Dock Master as far as the Port is concerned and the HMH as far as passage in the Humber is concerned.

xi. ***Port Plan –*** As the ExA can see from the appended copy of the Port plan (provided at Appendix 1), all berths are subject to published size restrictions – imposed by the two SHAs. Thus –

a. The ***Immingham Outer Harbour*** use of that facility is limited to vessels with a maximum length of 240m, beam 55m, draft 11m and Dwt 18,500. The ***IOT*** facility is limited

to a vessel of maximum length 366m, draft 13.1m, Dwt 290,000 with no beam restriction; and The ***Humber International Terminal*** is limited to vessels with a maximum length of 289m, beam 45m, draft 12.8 to 14.4m and Dwt 200,000.

b. A similar limitation on the size of vessel will be published for the IERRT which will only change if both SHAs are satisfied that a different class of vessel can operate safely at the facility.

c. In light of the above, the Applicant remains strongly of the view that there is no need for the inclusion of a provision in the DCO which would duplicate existing practice at the Port – which is already the legal responsibility of the SHA.

1.5 ***Requirement wording –*** Entirely without prejudice to the position above, if the ExA or the Secretary of State take the view that a Requirement limiting the use of the proposed berths to Stena T-class vessels is required the Applicant has set out proposed wording as follows:

"No class of vessel shall be permitted to operate at the authorised development unless –

a. *the Statutory Conservancy and Navigation Authority and the dock master are separately both satisfied that the specified class of vessel can safely operate at the authorised development;*

b. *such limitations as may be considered appropriate by the dock master for the particular class of vessel have been imposed in terms of permitted length, draft, beam and deadweight tonnes; and*

c. *such limitations have been formally published.*"

b) A requirement for the impact protection measures for the Immingham Oil Terminal (IOT) Finger Pier comprising proposed Work Number 3 be constructed in full prior to any of the proposed berths being brought into use

1.6 As requested, the Applicant has provided a form wording requested by the Examining Authority below. Again, given the same points of concern made above, the Applicant reiterates that this is entirely without prejudice to its position that such a requirement is not necessary or appropriate.

1.7 Since the submission of its DCO application and throughout the Examination, and following all the further assessment and simulation work that has been undertaken, the Applicant's clear position remains that the installation of such impact protection measures is not required for the safe operation of the

IERRT. What is more the Applicant has already volunteered enhanced control measures that go beyond what is required which further reinforce this position.

1.8 As far as safety of navigation is concerned, the Applicant stands by the conclusions that were reached in the originally submitted NRA which has been updated at the request of the ExA in terms of clarification of the documentation. Those updates and all further work that has been undertaken have not altered the conclusion and recommendations upon which the IERRT application is based. The two alternative NRA documents submitted by DFDS and the IOT Operators – although adopting some differences in methodology which the Applicant has addressed elsewhere – in fact arrive at similar conclusions regarding risks and controls, but with the only difference being that the alternative NRAs assert that impact protection measures are required but where such judgments are not supported by ABP in its capacity as the statutory harbour authority, nor by those who have endorsed the Applicant's assessment such as the Humber Harbour Master.

1.9 The Applicant remains firmly of the view that impact protection measures are not required in light of the risks that have been fully considered. That view is endorsed by the HMH. It is founded on a comprehensive assessment of navigation risks, supplemented by numerous navigational simulations undertaken in all states of the tide, testing currents and extreme weather conditions and based on sound engineering specification and criteria.

1.10 The Applicant considers that the concerns that have been expressed by the IOT Operators in this regard in terms of risk and the approach to tolerability and ALARP have been exaggerated and the assessment undertaken by the Applicant seriously mischaracterised. The Applicant has always recognised the potential at some time in the future that the HMH or the Dock Master could request the installation of impact protection measures given the ongoing process of assessment set out above, but in circumstances where all simulations and assessments to date do not justify their provision. It is for that reason that the ability to deliver the impact protection measures has been included in the DCO application as Work No. 3 – thereby ensuring that in approving the application, the Secretary of State will also be consenting the impact protection measures and this would enable them to be provided if they were (contrary to the current assessments) considered to be required.

1.11 Without prejudice to all of the points set out above, an alternative version of Requirement 18 which provides for the provision of impact protection measures prior to construction – or as the Applicant suggests would reflect the request – prior to the commencement of operations, is articulated as follows:

"[Prior to the commencement of construction of the authorised development] or [Prior to the commencement of commercial operations at the authorised development] the undertaker must:

a. *notify the Statutory Conservancy and Navigation Authority, the dock master, the MMO and the operator of the Humber Oil*

Terminal of its intention to install the impact protection measures;

b. agree a programme of works with the parties identified in sub-paragraph (1) above; *and*

c. *install the impact protection measures detailed as Work No. 3*"

2) With regard to concerns expressed by IOT Operators in [REP8-057, NS.4.06 and paragraph 22] regarding the Outline Offshore Construction and Environmental Management Plan, what security can be offered through the draft DCO to the IOT Operators:

a) assuring engagement between the Statutory Harbour Authority for Immingham, the SCNA and the IOT Operators in the development of the marine liaison process and tanker berthing protocols during the construction and construction-operation phases

1.12 The Applicant has set out is position on this matter in its response to the IOT Operators at Deadline 9, **[REP9-011]** at paragraphs 4.8 to 4.12. In summary, the Applicant agrees that appropriate liaison with the IOT Operators will be required and this will be addressed by the SCNA and the Port of Immingham SHA at the point of the Tidal Works Approval. This is in fact normal practice and ensures that the SCNA can fulfil its statutory duties towards the ongoing safe and efficient management of vessels.

1.13 As the Applicant has previously explained in its submissions, in practice the Tidal Works Approval is considered by the SCNA and the Port of Immingham SHA working together given the overlap with respect to their duties.

1.14 The development of appropriately detailed processes cannot be meaningfully undertaken, however, until detailed construction information is available. For example, the specific vessels and equipment which will be used and which may well vary during the construction period as well as the scheduling, timing and duration of the individual construction activities.

1.15 The commitment to liaison and tanker berthing protocols is already secured in Table 3.4 of the Outline Offshore CEMP **[REP8-012]** which will be a certified document. Furthermore, the Tidal Works Approval (which introduces the trigger point for the development of detailed liaison and berthing protocols) is secured within the Protective Provisions for the SCNA. On this basis, the Applicant's position is that security is already afforded within the dDCO.

(b) restrictions on the use of Berth 1 of the IERRT in certain conditions to ensure safe arrival and/or departure of coastal tankers to and from IOT berth 8

1.16 The Applicant's response to the IOT Operators' comments relating to the arrival/departure of coastal tankers to/from IOT Berth 8 is contained within [**REP9-011**] at paragraphs 5.39 to 5.49.

1.17 The Applicant's position, which is endorsed by the HMH, is that operations at Berth 1 of the IERRT will neither impede nor constrain the safe operation of coastal tankers to/from IOT Berth 8 and this has been demonstrated by evidence submitted to the Examination **[REP7-033]** and **[REP7-034]**.

1.18 Ultimately it will be for the Dock Master and the SCNA as the statutory bodies with responsibility for navigational safety to determine the specific operating parameters for IERRT Berth 1 – should such be required.

1.19 It should also be recognised that operating procedures for all marine activities in the Port are kept under constant review.

3) With regard to the comments made by the IOT Operators [REP8-057], including paragraphs 1, 11, 13, 18, 21, 22 and 58] about the December 2023 navigational simulations and precedent for impact protection at the Immingham West Jetty:

a) What would the most likely consequences be following allision between a RoRo vessel and infrastructure or another vessel berthed at the Proposed Development and the consequent damage or disablement to vessels and/or attendant tugs?

1.20 The Applicant's position is that the many simulations undertaken confirm that a 50T BP ASD tug is sufficient to arrest a T Class vessel in the most extreme conditions. In addition, it has been demonstrated that two 70T BP ASD tugs are capable of fully arresting a vessel of 50,000 tonne displacement.

1.21 The ExA should note, however, that this response is provided within a context whereby the Applicant is firmly of the view that such an emergency situation is extremely unlikely to occur. As has been explained **[REP8-022],** an allision event is considered to be highly improbable and in any event can be completely avoided through the use of operational controls in the most extreme conditions.

1.22 As part of the Navigational Risk Assessment (NRA) **[REP7-011]**, subject matter experts and local port users in attendance at the HAZID workshop(s) contributed to the formation of the hazard scenarios. For each scenario, a 'most likely' scenario is described (as well as a 'worst credible' scenario). Risk ID O5 considers allision of a Ro-Ro vessel with the IERRT infrastructure. The description of the 'most likely' scenario determined in the NRA for this risk is a Ro-Ro vessel has a slow speed impact with pier during berthing leading to minor damage to vessel and pier, no injuries, no pollution, and a minor delay to operations. The consequences if such an event were to occur was considered to be:

i) negligible for 'people' (i.e., no injury), 'property' (i.e., £0 to £10,000), and 'planet' (i.e., no incident, or potential incident/near miss); and

ii) minor for ‘port’ (i.e., little local publicity, minor damage to reputation, minor loss of revenue, £0 - £750,000).

1.23 It should in addition be noted that this scenario is evidenced through the Port’s incident records and listed as ‘impact with structure’. ABP‘s robust reporting system ensures that all vessel impacts, no matter how minor, are recorded and tracked. An ‘Allision’ however (defined as a violent contact between a vessel and a fixed structure) rarely happens and is identified as the worst-case scenario in Risk IDO5.

1.24 Risk ID O6 considers collision of a Ro-Ro vessel on passage to/from the IERRT with another vessel. The description of the ‘most likely’ scenario determined in the NRA for this risk is a low-speed glancing collision with bridge crew taking avoiding action, minor injuries, minor impact to property, no appreciable consequence to the environment or to the port's business/reputation. The consequences if this were to occur was considered to be:

i) minor for ‘people’ (i.e., minor injuries) and ‘property’ (i.e., £10,000 to £750,000); and

ii) negligible for ‘planet’ (i.e., no incident, or potential incident/near miss) and ‘port’ (i.e., none).

1.25 As far as the additional simulations are concerned, both the Applicant and HR Wallingford have pointed out **[REP8-029]** that the simulations were deliberately conducted in extremely unlikely scenarios where a series of improbable events are assumed to occur. It must be recognised that simulations are only one step in the navigational safety process. One of the principal objectives of the many simulations that have been undertaken has been to establish, even if such an improbable event were to occur, what measures by way of use of tugs alone would arrest a “dead ship” i.e., a vessel with complete loss of both separate engines, loss of backup generators and inability to deploy anchors (which of itself is a highly improbable scenario) from contacting the IOT infrastructure.

1.26 As has been pointed out, **[REP9-011]** there is in any case, a difference between ‘contact’ and ‘allision’. In the improbable scenarios where the effects of a “dead ship” are being simulated in extreme conditions, bringing a ship under control may involve controlled contact with IERRT infrastructure as part of the arresting strategy adopted by the Master. In each and every case where the simulations showed contact, the speed and nature of the contact were within the design parameters for the IERRT infrastructure itself.

1.27 As a consequence of the above, the Applicant and HR Wallingford strongly reject the IOT Operators’ characterisation of the simulations that were carried out, as they do not recognise the purpose of the simulations nor the difference between contact and allision and contact between IERRT infrastructure and IOT infrastructure.

1.28 The simulations undertaken were not intended to and, therefore, did not seek to simulate any incidental damage that might occur in the scenarios

referenced above. As noted, the purpose of the simulations was to identify the measures that would be required to arrest a ship from hazarding any IOT Infrastructure. It should also be noted in this context that the models are assessing 2d scenarios whereas allision is a 3d consideration which needs to take account of the properties of the vessel and the infrastructure.

1.29 As explained in the Navigational Study of Enhanced Control Measures report submitted at Deadline 8 **[REP8-029]** (at section 2.5.2), it is not appropriate to use the simulator to identify the consequences of a vessel making contact with the IERRT infrastructure. This would be entirely speculative and HR Wallingford and the Applicant would strongly challenge the evidence presented by the IOT Operators noting that the contacts were entirely within the design parameters for the infrastructure and the pilot was attempting to maintain the vessel as parallel as possible at the time of contact.

1.30 The Applicant is of the view that case made by the IOT Operators is highly speculative and is not supported by any evidence. The exercise of determining the most likely consequence requires expert judgement and experience. The Applicant's response above is, therefore, provided in the context of the evidence submitted, notably the simulation outputs **[REP8-029],** the Design Basis Report **[REP7-025]** and Concept Design Report **[REP8-032].** The speed, angle and mode of the vessel contact with the IERRT infrastructure was able to be determined from the simulators and these have been reviewed by the Applicant in the context of the design parameters for the IERRT infrastructure.

1.31 The responses below consider the consequences to the IERRT Finger Pier Infrastructure, the IERRT Pontoon Infrastructure and the IERRT Vessel in berth. The Applicant again draws particular attention to the extreme conditions in which the simulations were undertaken and the fact that such events are considered to be extremely unlikely. The results should, therefore, be interpreted withal of these caveats.

1.32 If such an improbable event were to occur, the response procedures, which are in fact already in place across the Port, would then be put into effect. The "dead ship", having been arrested, would be secured in a location deemed appropriate by the SHA. There would then be assessment of any damage to the ship or the IERRT infrastructure and all necessary processes of investigation in relation to the incident would be undertaken. This would identify the reason(s) for the event and identify any necessary measures, which could be put in place to avoid such an incident being repeated.

IERRT Finger Pier Infrastructure

1.33 The outputs from **[REP8-029]** show that the speed at which a vessel impacted the IERRT in any of the simulations range from 0.56-0.93 knots (0.29-0.48 m/s). The directional approach of the vessel to the finger pier was longitudinal, meaning the governing direction and momentum is towards the IERRT pontoon. When designing the finger pier fendering and resulting berthing load on the structure, the relevant design standard (BS 6349-4 2014) requires that both a longitudinal vessel approach (known as Mode b) and a parallel vessel

approach (where the governing direction and momentum is towards the fenders/finger pier – known as Mode a) is considered.

1.34 The berthing energy and fender design is governed by the parallel vessel approach (Moda a). The fender design and, therefore, the finger pier's ability to resist berthing loads from vessels making a longitudinal approach is higher and exceeds the vessel speeds/angle of approach yielded from the December 2023 navigation simulations **[REP7-011]**, specifically run ID's 3, 4, 6a, 6c, 6d, 7a & 9a.

1.35 As a consequence, the most likely consequence following allision between a RoRo vessel and the finger pier is no damage. The most likely sequence of events would be:

- Vessel makes contact with an IERRT finger pier fender unit;
- The energy in the perpendicular direction (towards the finger pier) would be absorbed;
- The vessel would rotate about that fender (or contact point);
- The energy in the longitudinal direction would remain and the vessel would continue to track towards the pontoon; and
- The stern of the vessel would impact the IERRT pontoon.

IERRT Pontoon – Infrastructure

1.36 As described above, the governing direction and momentum demonstrated in the December 2023 navigation simulations **[REP7-011]** is longitudinal and the sequence of events would result in an impact with the IERRT pontoon. The consequence of this impact would vary depending on the speed.

1.37 The most likely consequence of the lower bound vessel approach speed (noting the extreme conditions simulated) of 0.29 m/s would be a marginal exceedance of the pontoon fendering capacity resulting in fender overloading, fender damage and likely replacement being necessary for ongoing safe operation. The residual energy (not absorbed by the fendering) would be absorbed by a combination of displacement in the pontoon restraint dolphin guides and absorption within the piles - with no permanent damage, as well a localised deformation of the pontoon itself. In summary, permanent damage to fenders requiring replacement, damage to the pontoon restraint dolphin guide requiring replacement, localised deformation to the pontoon which, depending on exact location/extent, would be repaired in situ/in dock. The berth would most likely be out of operation until the repairs were made.

1.38 The other berth that the pontoon serves would, however, remain operational throughout until (if required) the pontoon was taken out of its operational position to undertake repairs in dock.

1.39 The most likely consequence of the upper bound vessel approach speed (0.48 m/s) would be the same as the lower bound, however the deformation of the pontoon itself would be greater in magnitude to absorb the greater

energy, leading to more extensive localised repairs and increasing the risk of in dock repairs being necessitated.

Consequences to Vessels and Tugs

1.40 The Applicant would note that ascertaining the exact consequences to a vessel at berth involves conjecture and judgement. It is the Applicant's position that it is entirely inappropriate to speculate and attempt to prejudge the exact outcome of such an occurrence. This would require highly sophisticated predictive modelling which – to the best of the Applicant's understanding – simply does not exist. The Applicant again reiterates that the response to an extreme emergency such as a total controls failure in extreme conditions would take into consideration all controls available to the Master, such as the deployment of anchors.

1.41 Determining the most likely consequence of damage to the vessel itself or another vessel in berth is challenging to isolate since it depends on the stern, bow and hull characteristics (stiffness) and the mode of impact.

1.42 Where bow impacts are made, some of the energy will be absorbed by the pontoon fendering. The residual energy would be absorbed through a combination of bow/stern/hull deformation and therefore some vessel damage may be expected. Where hull to hull allision occurs damage to belting (if present) and localised hull deformation can be expected.

1.43 Regarding the consequences for tugs, the Applicant would note that the tug operators are highly skilled and trained in emergency procedures. The tug master was present at the simulations and did not raise any concerns of the nature that the IOT Operators raise, which are extremely alarmist and unjustified. Generally, tugs are equipped with quick release functions and some residual engine power is left in reserve (as noted by the tug master in the simulations). This enables the tug to release lines and move away in an emergency.

1.44 In conclusion, the IERRT is structurally able to accommodate the vessel impact speeds recorded in the December 2023 navigation simulations **[REP7-011]** which were conducted to test the most extreme conditions in which a controls failure (which is highly unlikely in itself) might occur, and in the absence of other control measures being used such as postponing the manoeuvre or deploying anchors.

1.45 The most likely consequences are damage to fenders (requiring replacement) as well as damage to the pontoon, requiring repair. The berth may be brought out of service whilst repairs are undertaken but the neighbouring berth is likely to remain usable. The SHA would initiate emergency procedures to ensure that the vessel is appropriately secured and arrested in a safe manner and would initiate all necessary investigations.

b) Why were requests by the stakeholders to simulate the use of an arrest tug for the entirety of the berthing manoeuvre denied, and why

would that "open a can of worms" as noted by the IOT Operators [paragraph 11(b) in REP8-057]?

1.46 The Applicant is disappointed by, and rejects, the mischaracterisation that is given by the IOT Operators to the discussion on this point and the simple and obvious explanation as to why it was not necessary to run the simulations from any earlier point in the manoeuvres (which incidentally has not addressed by the IOT Operators even though it was part of the discussion). The provision of selective information does nothing to assist the examination.

1.47 Standing Notice to Mariners SH 34 published by the Harbour Master Humber sets out the requirements for vessels passing the Immingham Jetties. This specifically notes that RoRo ferries berthing under normal circumstances at other Immingham berths do not require a tug whilst passing the IOT Jetties. This includes, for example, ships berthing at the IOH which will be both passing the IOT jetties and manoeuvring in the immediately adjacent area and doing so without tugs in any tidal conditions, including full ebb tides as well as ships heading to or leaving the lock.

1.48 IERRT vessels, like all Ro-Ro vessels that currently use existing berths, will commence their manoeuvres in the main navigation channel. It cannot sensibly be suggested that there are issues with such manoeuvres which have been taking place on a daily basis for many years without tugs.

1.49 The simulations themselves focus on what has always been understood to be the main area of concern to the IOT Operators, namely the berthing of vessels at IERRT Berth 1 on an ebb tide. The IOT Operators have been concerned that a total controls failure immediately prior to berthing at IERRT Berth 1 (the improbability of which is already addressed elsewhere) could lead to an unarrested vessel alliding with the IOT finger pier or trunkway.

1.50 The Applicant has already provided evidence as to the remoteness of a complete controls failure ever occurring, as indeed have Stena **[REP9-029]** and the even greater remoteness of such an event occurring without a vessel being able to rely upon any other control measures such as anchors. Such points apply with particular force to the type of Ro-Ro vessels that would be using IERRT (two separate engines, back-up generators, anchors etc).

1.51 The simulations correctly focus on the point of the manoeuvre where there is notionally the least time to respond to a controls failure. They do not focus on those manoeuvring areas where all vessels already manoeuvre on a daily basis without a requirement for a tug to address a notional risk of a vessel becoming a "dead vessel", even for single-engined vessels.

1.52 Starting the simulations earlier to address those existing and normal manoeuvres would not add to the picture, save to demonstrate that in the conditions identified, the IERRT vessels would have tug(s) in attendance (noting they would attach after the 'swing and stem' to reach a steady position), whereas existing vessels do not.

1.53 No evidence has been put forward by any party to suggest that the manoeuvring of vessels that already occurs on a daily basis needs to be

reassessed, or that the existence of a “dead ship” in that location would create an intolerable risk or risk that requires further measures to make it ALARP.

1.54 This explains why the approach that is being proposed for IERRT is extremely robust. To accept the logic now put forward by the IOT Operators that this area also needs to be simulated and that tugs might also be required to arrest a “dead ship” in the main channel whilst passing IOT Berth 1, prior to commencing the berthing manoeuvre, would be to suggest that normal operations in the Humber Estuary already performed daily over many years are not safe and that tugs should also be applied to other vessels of similar specification unrelated to IERRT.

1.55 Tugs have not been required in this scenario since the start of operating the IOT and there are no grounds for suggesting that they are now so required. This simply underlines how precautionary the assessments being undertaken for IERRT are in circumstances where the remote prospect of a “dead ship” that is unable to be controlled is even being simulated.

1.56 ***c) Comment on the alleged refusal of one of Stena Line masters in attendance to continue with the simulation runs as noted by the IOT Operators “During the course of the simulations in December a Stena Master refused to continue with the runs as he stated that he would never operate in greater than 20 knots of wind or 2.5 knots of tide …” [paragraph 18 in REP8-057]***

1.57 The Applicant has responded to this assertion by the IOT Operators in **[REP8-057]**. The Applicant’s response is provided at paragraphs 5.36 - 5.38 of **[REP9-011]**. The assertion is misleading and fails to reflect the point that the Stena Master was making.

1.58 The Applicant does not intend to repeat evidence already before the examination and it is noted that a similar question has been directed to the HMH and Stena.

1.59 The Stena Master was simply making a compelling and obvious point. Any theoretical compounding of multiple human and mechanical failures coinciding with extreme tidal and meteorological conditions (and the improbability of all such events) is clearly preventable altogether by delaying the manoeuvre altogether. The cooperation by the Masters in undertaking two full days of consistent simulations in such extreme conditions should not be overlooked and there was what is considered natural and understandable frustration being expressed at this point by the Master in terms of practical reality.

1.60 The Applicant is particularly disappointed that, despite the Applicant’s agreement to proceed with simulating such conditions on this without prejudice basis, the IOT Operators’ submission misrepresents the conclusions that were reached and presented in the simulation report [**REP8-**

029] and hence mischaracterises the nature of the frustration being articulated by one Stena Line Master.

d) Confirm whether any of the simulation runs led to "hard landings" or approach speeds or angles for IOT vessels that exceeded IOT's operating limits or safety guidelines.

1.61 During the simulations, it was agreed that 0.5 knots or above was an appropriate lateral landing speed to be considered 'a hard landing'. Run 22 was therefore assessed as marginal as the lateral speed during landing was 0.6 knots. The Applicant notes that IOT Operators have subsequently claimed that a landing speed of 0.4 knots is hard which does not reflect what was agreed.

1.62 The Applicant is unaware of any specific generic guidance or detailed guidance with respect to the safe lateral landing speed at IOT 8. It is clear from the IOT Operators' own operating guidance, however, that berthing will not be normally permitted in situations where the mean on berth wind is above 30mph (26 knots). It is, therefore, unsurprising that in conditions exceeding this limit, the simulations recorded berthing operations for which the lateral vessel speed exceeded the ideal situation.

1.63 The Applicant has in this context reviewed the 2019 APT (Immingham) Terminal Information and Jetty Regulations Manual for the Immingham Oil Terminal. As far as the Applicant is aware, there is no additional guidance on speed or angles of approach for IOT Berth 8.

e) Provide an explanation for why impact protection was installed at Western Jetty Berth 4 and the process for how the requirement for that protection was triggered and pursued.

1.64 The Applicant provided an initial response regarding the IOT Operator's comment at paragraphs 6.24 to 6.26 of [**REP9-011**] and provides further clarification below.

1.65 The IOT Operators' response frames this structure (comprising four small singular piles and connecting chains) as 'impact protection' at the Western Jetty and suggests this was installed following an allision between a tug and the pipe track and walkway. The IOT Operators have not provided evidence of this incident and the Applicant, despite searching its records, has similarly been unable to locate any formal details of such an incident occurring but the IOT Operators' description does not reflect the position summarised below.

1.66 The Applicant's understanding, however, is that this structure was in fact installed following a small coastal tanker berthing at West Jetty Berth 4 *circa* 20 years ago. This resulted in the ship's bulbous bow making contact with a submerged concrete structure at the end of the berth. The Applicant understands that piles were actually installed at this location to mark this underwater obstruction with a view to preventing a future recurrence.

Records relating to this pre-date those which are easily accessible via MARNIS and unfortunately it has not been possible to locate further details relating to the process.

1.67 In looking at the location of the piles, the ExA will see that it is clear that the structure is positioned immediately at the end of Berth 4 of the West Jetty, which the Applicant notes is highly comparable to the structures that are present between the IOT finger pier berths and the IOT trunkway and pipe track (highlighted in Red in Figure 1, below).

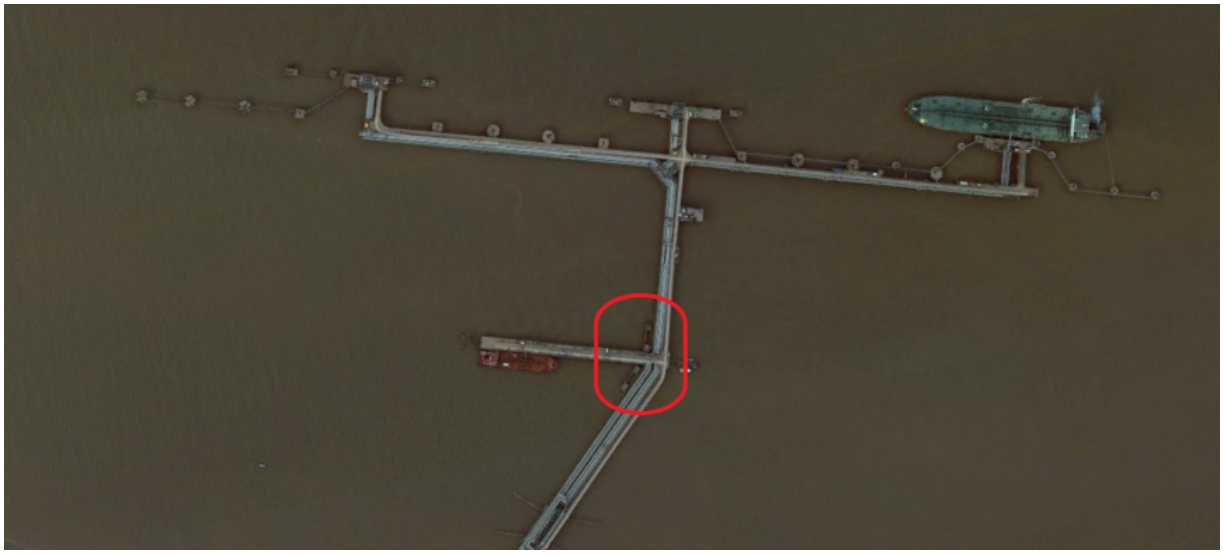


Figure 1 Structure between end of IOT Finger Pier Berths 7 and 9 and IOT trunkway

1.68 It is unfortunate that the IOT Operators' submission seems to have been based on an anecdotal assumption without verification. The presence of the structure at the Western Jetty does not set any precedent as the IOT Operators wrongly suggest in its submission.

4) In relation to the HMH's alternate wording for Requirement 18, suggested in response to ExQ4 DCO.04.05 on a non-preferred basis [REP8-052], does the Applicant have any observations to make about that alternate wording for Requirement 18, most particularly sub-paragraph (1)? The HMH's wording for the alternate version of Requirement 18 is set out below with some amendments to the text that the ExA considers should be made in the interests of precision.

"18.-(1) In the event that the Statutory Conservancy and Navigation Authority determines~~, at its discretion,~~ that impact protection measures are required ~~in the interests of navigational safety in the River Humber~~, and upon receiving notification of that decision from the Statutory Conservancy and Navigation Authority, the undertaker must construct the impact protection measures as determined by the Statutory Conservancy and Navigation Authority.

…

(3) No works for the construction of the impact protection measures may commence until the undertaker has obtained the written consent of the Statutory Conservancy and Navigation Authority ~~(such consent not to be unreasonably withheld)~~.

(4) Upon receiving notification of the Statutory Conservancy and Navigation Authority's determination referred to in sub-paragraph (1):

(a) the undertaker must — within 10 business days, notify the operator of the Humber Oil Terminal and the MMO of that determination; and

(b) within 30 business days, notify the operator of the Humber Oil Terminal and the MMO as to the steps it intends to take as a result of the Statutory Conservancy and Navigation Authority's notification.

[Note: the ExA remains of the view that in sequencing terms this subparagraph should follow sub-paragraph (1)]

(5) The detailed design referred to in sub-paragraph (2) [or sub-paragraph (3) if the running order of sub-paragraphs is altered in line with the ExA's comment above] must be:

(a) within the limits of deviation shown on the relevant plans of the works plans;

(b) in general accordance with the detail shown on the relevant engineering sections drawings and plans; and

(c) in general accordance with the detail shown on the relevant general arrangement plans."

1.69 The Applicant notes that the wording proposed by the HMH is very much "alternate" wording which the HMH has only put forward on a non-preferred basis and the need for such wording is similarly not supported by the Applicant.

1.70 Nevertheless, if the ExA is of the view that the wording should be incorporated, the Applicant would only query the deletion of the words – "*in the interests of navigational safety in the River Humber*" in that those words do in fact define and limit the remit of the HMH's statutory functions in this regard.

1.71 The Applicant agrees with the ExA's other proposed amendments.

5) With respect to new Requirement 19 (introduced as an alternative to the ExA's suggested Requirement 18A) included in the Deadline 8 version of the draft DCO [REP8-005]

a) The Applicant should submit a copy of the extant version of the "Port of Immingham Operations Manual".

1.72 A copy of the Port of Immingham Operations Manual is submitted by the Applicant at Deadline 10 (**document reference 10.2.7**).

b) The Applicant must review the wording of Requirement 19 and/or other parts of the dDCO and submit appropriate amendments because this requirement as currently drafted abruptly introduces the incorporation of "Enhanced Operational Measures" in sub-paragraph 1, apparently with no other reference(s) to Enhanced Operational Measures in either Requirement 19 or any other part of the dDCO, for example in paragraph 2 Interpretation, in the Schedule 3 (deemed Marine Licence) and in Schedule 6 (Plans and Documents to be certified). Accordingly, the ExA considers the reference to Enhanced Operational Measures in Requirement 19 lacks precision, thereby affecting the enforceability of this requirement.

1.73 A definition for Enhanced Operational Controls has been added in the updated version of the dDCO submitted by the Applicant at Deadline 10 (document reference 3.1 – Development Consent Order).

c) The Applicant must clarify whether the document titled "Immingham Eastern Ro-Ro Terminal Enhanced Operation Controls", included as Appendix 1 in [REP8-020], has been correctly titled or should instead be titled "Immingham Eastern Ro-Ro Terminal Enhanced Operational Measures", as per the wording used in Requirement 19 of the dDCO?

1.74 The Applicant thanks the ExA for drawing this inconsistency to its attention and will adopt the words "Enhanced Operational Controls" throughout.

d) With respect to the drafting of the document currently titled "Immingham Eastern Ro-Ro Terminal Enhanced Operation Controls" (the controls/measures document):

i. What is meant by "large" and "small" inbound vessels? The ExA considers definitions for large and small vessels should be included in the wording of the controls/measures document.

1.75 A large vessel is defined as Tidally Restricted Vessel which is defined in the extant version of the Port of Immingham Marine Operations Manual. A small vessel is defined as any other vessel which can sail on any state of tide.

1.76 The Applicant has added definitions for 'large' and 'small' vessels to the Immingham Eastern Ro-Ro Terminal Enhanced Operational Controls document (**document reference 10.2.109**) submitted at Deadline 10.

ii. The controls/measures document includes various abbreviations (VTS, PPVs, IERRT, ADM, AHM, PEC). Some of those abbreviations from the application documents and Examination evidence will be/are familiar to all parties participating in the Examination and the ExA. PPV is an entirely new abbreviation. In the interests of precision and enforceability the ExA considers that the controls/measures document should include text defining all of the abbreviations included in it. Accordingly, the Applicant should submit an amended version of the

controls/measures document that clarifies its title and defines any abbreviations included in it.

1.77 The Applicant has submitted an updated version of the document, which is now titled "Immingham Eastern Ro-Ro Terminal Enhanced Operational Controls" (**document reference 10.2.109**) at Deadline 10.

6) Given the multiple revisions that have been made to the dDCO the Applicant must undertake a review of the Explanatory Memorandum, which was last updated in November 2023. Further to the undertaking of that review an updated version of the Explanatory Memorandum must be submitted at Deadline 10.

1.78 The Applicant has submitted an updated version of the Explanatory Memorandum (**document reference 3.2**) at Deadline 10.

7) The Navigational Study of Enhanced Control Measures [REP8-029] appears to overlap substantially with the Navigational Simulations document [AS-071]. Provide a clarifying note or document highlighting any changes made to the content of the [AS071] by [REP8-029].

1.79 There is indeed a degree of overlap between the work conducted in **[AS-071]** and **[REP8-029]**. This was, unfortunately, due to the IOT Operators' decision not to attend the initial simulations conducted in November 2023,the Applicant has previously summarised this in **REP8-022** para 3.19-3.25

1.80 The key conclusion from **[AS-071]** was demonstrated again in **[REP8-029]**. Both pieces of work concluded that a 50tBP ASD tug is sufficient to arrest or control a Stena T-class vessel, avoiding hazarding the IOT structure, even in extreme operating conditions and in the event of a complete controls failure (something itself which is highly improbable for reasons already explored in detail in evidence).

1.81 **[REP8-029]** also covers the following additional work that was not included in the first report:

(a) More comprehensive assessment of the towage required to arrest a 50,000t displacement RoRo vessel; and

(b) Assessment of the effect of Vessel Impact Protection (VIP) and revised flow modelling on operations at IOT 8 berth.

8) With regard to the points raised by DFDS in [AS-080] on the selection of a "most challenging day", provide a justification of how and why the day selected was chosen and why it did not include the arrival of a "restricted vessel".

1.81.1 Firstly, the Applicant would note that the wording of ISH5 Action Point 5 from which this question originated required the Applicant to:

Provide, with commentary including temporal and spatial information, graphic representations of the arrival and departure of vessels throughout a day with challenging met-ocean conditions.

1.81.2 DFDS have mischaracterised the action point as being 'the most challenging day' and have incorrectly stated that the Applicant 'has provided no explanation as to why it has chosen this day, other than because it is "a busier than average day"'. That assertion by DFDS is incorrect as clearly explained by the first page of [**REP7-031]**.

1.81.3 To reiterate, the day in question was selected as the best real-life case study to answer the ExA's question. It represents the reasonable worst case because arrivals/departures to and from IERRT coincided with high water thus meaning that passage plan and tidally restricted vessels were being scheduled at the same time as IERRT vessel movements. The day in question was also on a peak spring tide which meets the ExA's request for a day with challenging met-ocean conditions. This is explained in the Applicant's response to DFDS at **[REP8-023]** at paragraphs 15.6 to 15.11.

1.81.4 The explanatory notes provided in **[REP7-031]** and **[REP7-032]** clearly show the other vessel movements occurring at this time, which includes tidally restricted vessel movements as noted below:

(a) Departure of a Passage Plan Vessel (PPV) (tidally restricted) from Immingham Bulk Terminal (around High Water AM);
(b) A tidally restricted vessel changeover (i.e. a vessel departure and immediate arrival) at Humber International Terminal (around High Water PM); and
(c) Tidally restricted vessel arriving In Dock (at High Water PM).

1.81.5 The tide times and a list of all vessel movements are explained in **[REP7-031]** and the graphics in **[REP7-031]** and **[REP7-032]** are presented for every 15-minute time stamp in relation to High Water.

1.81.6 DFDS's submission at [**AS-080**] notes that 'there is no restricted vessel listed for arrival within the morning congested period'. The Applicant would draw attention to the PPV departing Immingham Bulk Terminal around High Water AM. Whilst this is a departure, the vessel still represents a tidally restricted movement that was planned against the other vessel movements occurring at this time.

1.81.7 DFDS's [**AS-080**] submission provides an extensive list of vessel-types and a theoretical scenario for assessment – but provides no evidence that it represents a real-life day or case study. It would, therefore, have been an entirely academic exercise to assess such a scenario which the Applicant considered to be of little value to the IERRT Examination. Instead, the Applicant, in consultation with HES, was able to provide empirical data of a real-life challenging day with high resolution timestamps to demonstrate precisely how the IERRT vessel movements would be accommodated.

1.81.8 As a consequence, the Applicant strongly refutes DFDS's mischaracterisation of what was in fact a comprehensive and evidence-based approach to the response to ISH5 Action Point 5.

9) Further to National Highways' (NH) Deadline 8 responses [REP8-036 and REP8-037] can the Applicant confirm whether it would be content with NH being added to Requirement 13 in respect of approving the final version of the Operational Freight Management Plan (FMP)?

1.82 As confirmed in the Applicant's Response to the Highway Authorities at **[REP9-015]**, the Applicant has held further discussions with National Highways ("NH") and has agreed that all matters that were raised in **[REP7-036** and **REP8-037]** in relation to refinement and finalisation of the FMP (and indeed the CTMP) are appropriately dealt with post-consent. This is recorded in the final Statement of Common Ground with NH **[REP9-005]**.

1.83 The Applicant confirms it is content with NH being added to Requirement 13 of the draft Development Consent Order ("dDCO") as a party that must approve the final version of the FMP, and this position has been agreed with NH as set out in the Statement of Common Ground **[REP9-005]**.

1.84 The agreed wording is reflected in the updated version of the dDCO submitted by the Applicant at Deadline 10 (document reference 3.1 – Development Consent Order).

10) In preparing the final FMP, can the Applicant confirm that it will consider the comments made by DFDS at paragraphs 122 to 133 in [REP8-045], particularly noting their comments in respect of the need for firm commitments and targets?

1.85 The Applicant's position in respect of DFDS's comments on the FMP are set out in the Applicant's Response to DFDS' Deadline 8 Submissions **[REP9-012]** at paragraphs 5.26 - 5.30.

Appendix 1 – Port Plan

Port of Immingham

HUMBER ESTUARY

IGT
Max. Vessel
Length 280.0m
Beam No restriction
Draft 11.0m (max)
Approx. Dwt 50,000

HIT
Max. Vessel
Length 289.0m
Beam 45.0m
Draft 12.8m - 14.4m
Approx. Dwt 200,000

IBT
Max. Vessel
Length 303.0m
Beam 45.0m
Draft 14m (max)
Approx. Dwt 200,000

IOH
Max. Vessel
Length 240.0m
Beam 55.0m
Draft 11m (max)
Approx. Dwt 18,500

Western Jetty
Max. Vessel
Length 213.0m
Beam No restriction
Draft 10.4m (max)
Approx. Dwt 50,000

Immingham Dock
Lock Dimensions
Length 232.5m
Beam 27.3m
Max. Vessel
Length 220.0m
Beam 26.8m*
Draft 10.36m*
Approx. Dwt 38,000
*With Dock Master's approval

Eastern Jetty
Max. Vessel
Length 213.0m
Beam No restriction
Draft 10.4m (max)
Approx. Dwt 50,000

IOT
Max. Vessel
Length 366.0m
Beam No Restriction
Draft 13.1m (max)
Approx. Dwt 290,000

Immingham Gas Terminal
ABP Humber International Terminal
Berth 2
Berth 1
British Steel
Immingham Outer Harbour
Western Jetty
Tug Berth
Eastern Jetty
Tug Berth
Proposed Stena Line freight terminal 2025
Immingham Oil Terminal
Finger Piers
Marine Control Centre
East Riverside
L.P.G. Storage Cavern
2 x Stacker / Reclaimers
Conveyer System
Immingham Renewable Fuels Terminal
DFDS Seaways Riverside Terminal
24C
24A
24B
DFDS
35
P66
Exolum
Dock Office
TTS
ICT
West Riverside
Henderson Quay
10s x Rubber Tyred Gantry Cranes
4 x STS Gantry Cranes
Rail load out Facilities
Immingham Container Terminal
NW ARM
Stena
Scrap Terminal
Mineral Quay
Global Shipping
Alexandra Road
ABP Immingham Bulk Park
9A
9B
9C
Robinson Road
IOT/HOTT
Security Control Eastern Entrance
Laporte Road
Medical Centre (PAM)
Development Land
Hargreaves
Yara Industrial Ltd
Origin Fertilisers (UK) Ltd
PB Kent
Yara Chafer Ltd
Knauf
Pilgrim House
ABP Fertiliser Terminal
Gresley Way
Seven Quay Road
Border Control Post
Queens Road
British Steel
Humber Road
DFDS Nordic Terminal
Western Access Road
West Haven Way
PAD6
PAD5
PAD4
PAD3
PAD2
PAD1
CPL Industries Ltd
Oxbow Coal Ltd
Southern Way
DFDS Terminal
DFDS Steel Terminal
Security Control Western Entrance
ENGIE FABRICOM
Manby Road
A160
A1173
A160 to A180/M180
A1173 to A180/M180

Immingham Dock
Lock Dimensions Length 232.5m Beam 27.3m

QUAY/TERMINAL	LENGTH
1	199.6m
2 & 3	213.0m
3 Ext.	123.0m
4, 5 & 6	396.0m
Coke Appliance	111.0m
7	220.0m
12	213.0m
11	221.0m
9A, 9B & 9C	381.0m
10	93.0m
ICT	
Scrap Terminal	207.0m
8	178.0m
Henderson Quay	175.0m
Dry Dock	163.0m
N.E. Quay	50.0m
IBT	303.0m
HIT Berth 1	
HIT Berth 2	

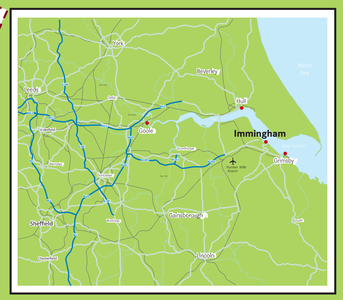
Distances from the Port of Immingham

Road	Leeds	Manchester	Birmingham	London	Cardiff	Glasgow
Miles	72	108	137	180	247	278
Sea	**Antwerp**	**Gothenburg**	**Hamburg**	**Rotterdam**	**Zeebrugge**	**Helsinki**
Nautical Miles	204	495	377	203	200	1506

Time from the Port of Immingham to Spurn Point is 1.5hrs

SCALE (Approximate)
1:5000

0 250 500 750 metres
0 500 1000 1500 2000 2500 feet



For further information, please contact the Humber Commercial Team on 01482 327171.

July 2022