IMMINGHAM EASTERN RO-RO TERMINAL DEVELOPMENT CONSENT ORDER APPLICATION

PINS REFERENCE TR030007

DFDS' ANSWERS TO THE EXAMINING AUTHORITY'S FIRST WRITTEN QUESTIONS

Question reference	Asked of	Question	Answer
NS.1.1	DFDS and Immingham Oil Terminal (IOT) Operators	**Stakeholder consensus in NRA** Expand on the views made at ISH2 that the Applicant is required to produce a Navigational Risk Assessment (NRA) with stakeholder consensus. (If not already included in written note following representations made at ISH)	The Port Marine Safety Code, Guide to Good Practice states *"4.2.5 Safety is the business of everyone concerned in the provision and support of marine operations, whether commercial or leisure, and is no longer just the responsibility of the statutory harbour authority or navigational authority.* *4.2.6 It is essential to Involve those working in and using the port and others in the risk assessment process and subsequent reviews and development, utilising their specialist knowledge and skills. Harbour authorities are required to identify hazards and to develop or refine procedures and defences to mitigate those risks. It is good practice to establish channels of consultation which can be used for this purpose. In addition, especially for those ports with only a regulatory function, it is also very important to involve port users, practitioners, operators and those with an interest in the operation of the port, as necessary. They too have a significant contribution to make to the development and maintenance of the safety management system."*

			This is underlined by the second comment about achieving a consensus made by the Maritime and Coastguard Agency in its response to ISH1 and ISH2 [**REP1-021**]. Whilst attending the HAZID workshop there were occasions when there was disagreement between the attending stakeholders and the ABP/ABPmer project team. On these occasions the stakeholder group largely agreed with each other and disagreed with ABP/ABPmer. When this happened ABP/ABPmer appeared to ignore the views of the stakeholders and set out their own views as the record of the meeting. For example the Applicant was repeatedly told that the current flow was wrong in the simulations, but this was not taken into account. At the first HAZID meeting DFDS were invited to, the mix of relevant stakeholders in each workshop was not aligned with the stakeholder area of expertise. e.g. master mariners in the construction phase workshop and engineers in the operational phase workshop. This meant that stakeholders with the appropriate knowledge were not used effectively at that workshop. The second workshop had a better allocation of participants.
NS.1.14	Applicant, DFDS and IOT Operators	**Consequences of decision to abort berthing manoeuvre** If a pilot or ship's master with a pilot exemption certificate for Immingham decides dynamically that conditions would make it unsafe to continue with a berthing manoeuvre or entry into the Port's lock, what are the consequences for that physically and administratively?	It depends on when the decision to abort occurs and the proximity of hazards. A manoeuvre to these berths is like traveling down a funnel with the options becoming more and more limited the closer the vessel gets to the berth. If it is appreciated at an early stage that the manoeuvre is not going to plan it is a simple matter of 'driving out' and trying again. However, if it only becomes apparent at a later stage that the manoeuvre isn't going to plan the ability to 'drive out' of danger becomes severely limited and the possibility of a successful abort is less likely. In this eventuality the most likely outcome in this confined area would be an allision with terminal

			infrastructure (both existing and proposed) or an allision with a vessel moored thereon. The ability to abort is also compromised when using tugs as they limit the amount of power a vessel can safely use to 'drive out' of the situation and the enclosed nature of the proposed development. In this eventuality the most likely outcome in this confined area would therefore be an allision with terminal infrastructure (both existing and proposed) or an allision with a vessel moored thereon.
NS.1.19	DFDS	**Vessel types and manoeuvrability** With regard to paragraph 3.1.9 of DFDS' Relevant Representation [RR-008], provide elaboration of what vessel types and sizes DFDS understands would use the Proposed Development, together with an explanation of their manoeuvrability in comparison with the vessels used in the simulation runs that have informed the Applicant's NRA.	The Applicant has so far failed to identify the types of vessels that are to use the terminal. It is normal practice when conducting simulations – and common sense – to develop models of the types, sizes and exact configuration of vessels that will visit the terminal in practice in order to accurately gauge the risks involved which the applicant has again failed to do. It is a matter for the Applicant rather than DFDS to set out what vessels will use the terminal and that those used in the simulation are appropriate. DFDS are also seriously concerned that the Applicant may also have plans to utilise the berth for Pure Car Carriers. These vessels are huge cumbersome vessels that are much less manoeuvrable than a standard RO-RO vessel and we would assume that, if it is in the Applicant's plan to utilise the terminal for these vessels, they would utilise berth 1 which is in close proximity (<95m) to the IOT finger pier and present a whole new level of risk that has not been considered so far.
NS.1.20	DFDS	**Use of bow thrusters, tugs and pilots** With regard to paragraph 3.1.10 of DFDS' Relevant Representation [RR-008], provide evidence to support the observation that	DFDS has serious concerns about the machinery use in many of the Applicant's simulation exercises. Bow thrusters are designed as the fine-tuning units that allow for the latter stages of a manoeuvre to control the position and heading of the vessel. They are 'finessing' devices that allow

		"the Applicant over-relies on use of bow thrusters, tugs and pilots to achieve successful simulations".	for very fine control. However, in many of the Applicant's simulations the bow thruster is running at 100% for up to 14 minutes continuously in order to achieve a manoeuvre their report considers to be a 'success'. This is not and can never be considered a 'safe manoeuvre' but the signs of a manoeuvre on the very edge of failure. In DFDS's experience in other leading European simulation centres (MARIN in the Netherlands and FORCE Technology in Denmark) such excessive use of the bow thruster beyond a few minutes would be classed as a failed manoeuvre – it is simply not safe as they allow no back-up or reserve if further power is needed for elements such as wind gusts or a slight change in the angle to the tide. The Applicant's simulations also rely heavily on high powered (70t Bollard Pull), compact tugs (<25m) of which there are only 4 on the Humber belonging to two separate towage companies that would not work together on a vessel so the chances of being able to secure similar tugs as frequently as indicated (whenever the wind is greater than 15kts) is remote. Additionally when employing these tugs in the simulations it is frequently combined with excessive bow thruster and propeller thrust. The use of large amounts of bow thruster and propeller power drastically reduces the tugs' ability to maintain station and apply the desired power. This is also a highly dangerous practice which endangers the safety of the tug and her crew. There have been countless incidents in which tugs have lost control or have been swamped in such situations. Such reckless manoeuvres should never be endorsed or encouraged due to the potential for damage to the tug, her tow, port infrastructure and of safety to life.

NS.1.21	DFDS	**Direction of current** Explain the implications of the contention that the current direction north of the Proposed Development is different to that modelled in the navigation simulations presented by the Applicant.	DFDS has had concerns about the tide around the IOT and bellmouth areas for some time and is reflected in our numerous emails and letters in which we spell out our concerns dating back more than 12 months. The daily experience of our masters and the content of numerous publications by the Harbour Authority (and apparently conceded by the Applicant's expert Mr Parr at ISH2) demonstrate that the tide does not, nor ever has, run parallel to the IOT nor parallel to the east and west jetties in the bellmouth area. We cannot, and never would seek to comment about the tidal flow in the vicinity of the proposed development as we, nor any mariner has experience in manoeuvring in this area but the fact that the tide is incorrect around the IOT and bellmouth gives us concerns about the validity of the tide in all areas in the simulated model. Most importantly of all it means the task of manoeuvring around the IOT to get into a position to manoeuvre safely onto the proposed terminal is made significantly easier in the simulations, since if the current is parallel to the berth then it is much easier to dock or leave the berth, but if it is at an angle, even a small one of 20 degrees or so, the manoeuvre is more difficult as the current is pulling the vessel away from the desired path. See also answer to NS.1.23 below.
NS.1.22	DFDS	**Potential congestion of navigation** Expand on the argument made at ISH2 that the operation of the Proposed Development would cause shipping movement congestion in and around the Port of Immingham. (If not already included in any post ISH2 submissions)	This is covered in detail in the penultimate section of DFDS' Written Representation.

NS.1.23	DFDS	**Admiralty Chart data on current direction** With regard to paragraph 3.23 of DFDS' Relevant Representation [RR-008], submit a copy of the cited Admiralty Chart data and provide a commentary on how the direction of tidal current in the vicinity of the western end of the IOT jetty and pontoons might affect the safety of berthing manoeuvres for the Proposed Development and the IOT's berths. (If not already fully answered in written submission following ISH2)	DFDS ordered the Admiralty Chart and it has just been received. It is of A0 size and so difficult to scan or photograph. It will be sent to the case team by post and should arrive by Deadline 3. As will be able to be seen from the chart and the appended ABP Humber Estuary Services published document (see **Appendix 1** of this document) the tide runs at an angle to the line of the IOT. The IOT berth is oriented at 292º/112º whereas the tide runs at 315º/135º; the effect of this is that vessels are pushed strongly off the berth on a flood tide and strongly onto the berth on an ebb tide. The ebb tide is stronger than the flood tide due to the fact that the Humber Estuary drains over 25% of Great Britain's fresh water. The effect of this is that in the simulations carried out by Applicant the vessels commence their manoeuvre north of the IOT and need to navigate around the end of the berth and into a good position prior to commencing their 'reverse parking' manoeuvre. As the tide in the simulations is, by admission of their own simulation consultants at the hearing, wrong in the area north of the IOT the simulations fail to recreate the complexity of achieving the first manoeuvre. In doing so they give an unduly favourable impression of the complexity of the manoeuvre and the challenges that vessels will face in safely navigating to and from the proposed development.
NS.1.24	DFDS	**Relationship of project lifetime to risk assessment** With regard to paragraph 3.68 of DFDS' Relevant Representation [RR-008], expand on the contention as to why the lifetime of the project "serves to downplay risk".	The lifetime of the terminal has been decided at 50 years. However, this does not seem to be backed up by any relevant supporting evidence. Marine terminals usually have a life much greater than this. The dock at Immingham being an excellent example having opened in 1912; the IOT opened in 1969 and Immingham Bulk Terminal opened in 1970, none of which show any signs of reaching the end of their lives.

			It is commonly accepted that since the presence of fatalities are a reliable barometer to a risk becoming intolerable, by the Applicant choosing to only assess the risk based on this 50-year timeline will give a distorted view of the risks involved because the likelihood of a fatality will be lower when considered over a shorter time, as is illustrated in the NRA commissioned by DFDS. Indeed, as noted in that NRA (paragraph 4.2.1), the Applicant intends the project to be used for more than 50 years (see paragraph 3.2.25 in [**APP-039**])