The Lake Lothing (Lowestoft) Third Crossing Order 201[*]

Document SCC/LLTC/EX/107: Response to ABP's Deadline 8 Submissions

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Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rule 2010

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1 Response to ABP's Deadline 8 Submissions[1]

Reference	Topic	Extract / Summary	Applicant's response
ABP Response to SWQ 1.12 (REP 8-010)	Permitted Development Rights	The permitted development rights relied upon by ABP in its capacity as statutory port undertaker can only be conferred by way of a parliamentary process involving: (i) a local or private Act; (ii) an order approved by both Houses of Parliament; or (ii) an order under section 14 or 16 of the Harbours Act 1964 (i.e. a Harbour Revision Order or a Harbour Empowerment Order), which specifically designates the nature of the development authorised and the land upon which it may be carried out. Given that obtaining such Acts or Orders involve a lengthy and complex process, and having regard to the small parcels of land that will subject to the extinguishment of permitted development rights, ABP considers that it would be difficult to obtain the necessary Act or Order to reinstate permitted development rights of those parcels of land impacted by the Scheme at a future date.	As noted in the Applicant's deadline 8 submissions (REP8-007), the question of permitted development rights relates only to the question of operational land. When the Applicant acquires the relevant land and dedicates it as highway, it will no longer form part of ABP's operational land and so PD rights will not apply. If the position arose that the bridge was decommissioned and the land was returned to ABP, it could then form part of its operational land again, as it would be land in which it holds and interest and forming part of its undertaking. The Applicant notes that there is no proposal within the Applicant's DCO to amend the harbour limits for the Port of Lowestoft, as such ABP's concerns expressed here will not apply, as the question will simply be whether the Port has an interest in the land, which it would upon any return of the land to it.
ABP Response to SWQ 1.13 (REP 8-010)	Commercial Road	As a subsidiary point, ABP cannot see how it can access Plots 2-32 and 2-33, amongst others, if it is denied access along Commercial Road and over Plot 2-22, which is an outcome envisaged under the powers sought by the Applicant. Moreover, in its summary of oral submissions at the hearings held on 7th and 8th March 2019, the Applicant makes the point, at page 23, that: "The Applicant considers that it was the correct approach not to impose a set diversion route within the Order limits, as to do so and to facilitate such flexibility would have required a larger swathe of the Port's land to be included within the proposed temporary land take, causing more concern to ABP." This is an extraordinary statement by the Applicant on a number of levels, in particular as: (a) This appears to be an admission by the Applicant that it has not sought to acquire by compulsion all the land it needs in order to	As the Applicant has stated both in its oral and written submission, the Applicant is <u>required</u> to ensure that Port access is maintained to the west of the construction compound. Paragraph 2.4.7 of the interim CoCP sets out that '*Access must be maintained for port operations at all times along Commercial Road, alternative arrangements are subject to the protective provisions of the harbour authority. This access must allow all likely plant and vehicle movements to take place'*. Compliance with this is secured through the DCO. As such, the Applicant <u>must</u> reach an arrangement with ABP to facilitate this continued access. As ABP has pointed out previously, the Applicant is required to justify its proposal for both temporary and compulsory land take. The Applicant could not have justified including the vast majority of the North Quay within the Order limits to facilitate a diversion route that is not yet known – i.e. in that scenario, that the land 'might be'

[1] This table does not respond to every point made in ABP's submissions, as these are mainly already dealt with in the Applicant's Deadline 7 and 8 submissions. This table seeks only to respond to points not already covered by those previous submissions.

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		deliver the Scheme. (b) ABP does not know how much land the Applicant needs to acquire for the diversionary route. Given the apparent lack of any safety or risk assessments, ABP suggests that the Applicant does not know how much land the Applicant needs to acquire rights over in order to deliver the proposed Scheme. (c) The Applicant appears to have understated its requirements, seemingly in order to avoid "causing more concern to ABP". This inevitable raises the question – what else has the Applicant failed to mention that may cause concern to ABP?	required. Further discussions are required, and the results of any safety or risk assessments will be part and parcel of the Applicant being able to obtain such consent.
Comment on the Applicant Response to ABP's DL5 and Oral Submissions at 7 & 8 March 2019 Hearings (REP8-012)	Effects of land subject to Temporary Possession	The scale of cranage, temporary supports and temporary jetty the Applicant anticipates is required to support the construction of the Scheme will make port operations difficult to plan. It is imperative that suitable compensation is agreed for any losses associated with interruption to Port operations. It is unclear why Plots 3-01 and 3-10 are materially different in size; however this suggests that the Applicant has not sufficiently assessed their temporary possession space requirements required for the construction of the Scheme.	The Applicant notes that Article 32(6) provides that the Applicant must compensate affected landowners for any loss or damage arising from the exercise of the temporary possession powers given by that article. This will enable ABP to be compensated for any losses caused by any interruption consequential to the use of these powers. The Applicant fully considered its temporary possession space requirements in developing its application. As can be seen on Sheet 3 of the Land Plans, the Applicant is seeking temporary possession of plots 3-14 and 3-16 on the south side of Lake Lothing. Plot 3-01 therefore corresponds with the east-west limits of these plots as the area of the Lake in which operations relating to the construction of the Scheme will be undertaken. East of the bridge, a similar principle applies with plot 3-10 having a similar east-west extent to plot 2-22 on north quay (save for the slightly misshapen nature of this plot to accommodate the construction of the pontoon).
Summary of oral submissions made by ABP at the examination hearing held on Monday 1 April 2019 (REP8-11) Paras 3.1 – 3.2 and 3-11-3.14	Effect on Berths 1, 2 and 4E	In summary, Captain Horton described the following future berthing scenarios: **Scenario 1 – 60m and 45m vessels**: This scenario is not feasible due to the geography of the area, in particular, operational factors such as the lack of available mooring points and lack of manoeuvring space. It would also be further impacted by adverse weather conditions. Captain Horton explained that he cannot moor a vessel	The Applicant considers that with the Scheme in place there remains at least 120m of usable quay east of the Scheme, and west of the knuckle, comprising North Quay 1 and North Quay 2. These berths could accommodate a range of berthing scenarios, including 100m vessels that may be required associated with a dedicated aggregates operation. As the Applicant noted in its Deadline 8 submissions, there does appear to be an anomaly between the suggested mooring scenarios in relation to the impact of the

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and Annex 1 and 2 (REP8-13 to 17)		directly against the fenders of the LLTC, and there is not enough space along the quay, between the fenders and the knuckle, to fit both vessels. Although Captain Horton acknowledged that some vessels are particularly manoeuvrable, it is still unlikely they would fit in this space. **Scenario 2 – 2 x 50m vessels**: This scenario is not a viable option, due to operational factors such as lack of mooring availability and manoeuvrability, and insufficient space between the vessels along the quayside. **Scenario 3 – 1 x 100m vessel:** Depending on factors such as favourable weather conditions, vessel manoeuvrability and imposition of a safe distance between vessel and adjacent knuckle or LLTC fenders, this scenario represents the largest single vessel that ABP could potentially fit in the quay space between the knuckle and the LLTC fenders. **Scenario 4 – 2 x 45m vessels (or alternatively, a 60m vessel and 30m vessel)**: Subject to favourable weather conditions, vessel manoeuvrability and imposition of a safe distance between vessels, there is the potential to moor 2 x 45m vessels along the quayside. This scenario may not be viable for certain vessels, however, due to the requirement for one vessel to come into close proximity to the LLTC whilst manoeuvring into the berth, which may not represent a safe manoeuvre. Once a 60m vessel is moored at the quay, only the smallest vessels would fit in the remaining space. Captain Horton considers this could potentially be a 30m vessel at a push, depending on factors such as weather conditions and subject to the relevant vessel Master's discretion.	Scheme on berths NQ1 and NQ2 that need to be considered and ABP's submission in relation to the future of those same berths, as set out in the Berth Utilisation Report, which suggests they would become a dedicated aggregates facility, in which case it would appear that only scenario 3 would be relevant. The Applicant does however recognise that the loss of North Quay 3 would have some effect on the range of berthing scenarios that may be accommodated on north quay, though as both North Quay 1 and 2 are unaffected by the Scheme, their collective utility is not significantly affected by the Scheme – i.e. what can currently be berthed exclusively on these berths will continue to be able to berthed there with the Scheme in place. Scenarios 1 and 2 (which centre around vessels of 40 to 60m in length) appear to indicate that these combinations of vessels would not be able to use only berths 1 and 2 at present. From the vessel survey only 2% of commercial vessels using the Inner Harbour were between 40 and 60m LOA. The Applicant acknowledges it is possible that the number of vessels of this length may increase particularly given the vessels associated with Petersons operations, however this particular operation is associated with a dedicated berth (currently NQ6, according to the Berth Utilisation Report – with a potential relocation to Town Quay) and therefore would not contribute to vessels needing to use NQ1 and 2. The Applicant agrees that Scenarios 3 & 4 generally work with the Scheme in place. On the basis of Scenario 4, it is clear that any combination of vessels less than 45m LOA would be able to use the berths and equally, subject to bollard locations, vessel combinations at 55/35 or 50/40.
Summary of oral submissions made by ABP at the examination hearing held on Monday 1 April 2019 (REP8-11) Paras 3-11-3.14	Effect on Berths 1, 2 and 4E	Conversely, the Applicant considers that vessels are able to moor within the blue 'rights strip' surrounding the fenders of the LLTC. As such, it considers that North Quay 2 increases to 69m and North Quay 4E is 34m, and the whole of these lengths can be utilised by ABP for vessel mooring. The Applicant asserts that there are a significant number of vessels that can still utilise North Quay 4E. In addition, accommodation works, such as moving the fence and investigating whether bollards could be moved, could be undertaken by the Applicant to assist with vessel berthing on this quay. The Applicant also considers that the presence of the bridge on North Quay 3	To clarify the Applicant has indicated that there is no impediment to ABP laying lines over the rights strips during mooring and has, like ABP, not assumed that vessels would be berthed hard up to the fenders, in commenting in the previous response. Again to clarify in respect of berth 4E the Applicant has not implied that ABP are gaining 'additional' quay as a result of the scheme, rather that this berth is not entirely lost. Rather, a proportion of it could remain in use or be reassigned to berth 4W, thus reducing the direct loss that ABP has calculated.

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		provides the same constraint as a vessel permanently berthed on North Quay 3, which is a situation that can be dealt with by ABP, as it does not differ from normal port operations. Captain Horton totally rejected these propositions because they fail to take into account the actual practicalities of both port operations and the complexity of berthing. The position is in fact completely different. A 60m vessel typically has a beam of 12m, whereas the fenders surrounding the bridge pillars are closer to 35m in width, protruding into the navigational channel. Vessels intending to moor at the quayside must approach at an angle, and consequently, require additional water space to manoeuvre in correctly. They are unable to do so with the bridge in place, as the waterside to one side of the vacant berth will be lost, and the vessel will be unable to safely manoeuvre into the remaining berth space. ABP also clarified the LLTC impacts on the ability of the Port to use this quayside area within the vicinity of the LLTC efficiently, due to the reduction of space. Vessels are directed to particular berths with regard to best fit and best location, based on factors such as length of vessel, cargo, operational requirements, and duration of stay at the Port, etc. This operational flexibility is materially inhibited by the introduction of the bridge structure. As such, ABP considers that the Applicant's proposition that North Quay 2 will gain a notional benefit due to additional quay is fanciful – it does not allow for flexible use and certain vessels cannot be located there. Further, North Quay 4E cannot accommodate certain types of smaller vessels, due to the suspended quay. Even if the fence separating North Quay 4E and 4W were to be relocated, this does not provide ABP with any additional quay space – it would merely result in the reallocation of space between these adjoining berths.	
Annex 4 - Justification of Assumptions of Future Development at the Port of Lowestoft (REP8-20) and updated Berth Utilisation Report (REP8 -019)	Justification of Assumptions of Future Development	The Crown Estate has called for proposals to extend existing Round 2 OWF's; several OWF operators in this region are going through the application process at the moment, with approvals expected to be announced during 2019. So rather than dismissing the Port's potential, as the Applicant's	The Applicant has not sought to dismiss the Port's potential for CTV growth, we have simply taken the BVG report and looked at the figures contained and how they have been allocated. The Applicants figure of 36 has been derived from the CTV requirements per turbine as stated in the BVG report combined with the turbine numbers for each windfarm, again from the BVG report, then assigning those vessels to the port in closest proximity to the

<table>
<tr><th>Reference</th><th>Topic</th><th>Extract / Summary</th><th>Applicant's response</th></tr>
<tr><td></td><td>Paras 1.5-1.7</td><td>appraisal of future demand would seek to do, it should be considered that the future demand could indeed be greater than that predicted within the BVG Report.

ABP goes on to note EA 1N, 2 and 3 and the two Norfolk OWFs as unconsented projects but in the pipeline.</td><td>plan centre of each windfarm.
<table>
<tr><th>Windfarm</th><th>Power</th><th>Turbine size</th><th>Turbines</th><th>CTV's per turbine</th><th>CTV's</th><th>Using Lowest oft</th></tr>
<tr><td>Greater Gabbard</td><td>504</td><td>3.6</td><td>140</td><td>0.08</td><td>11</td><td>0</td></tr>
<tr><td>Galloper</td><td>336</td><td>6</td><td>56</td><td>0.08</td><td>4</td><td>0</td></tr>
<tr><td>East Anglia 1</td><td>1200</td><td>7</td><td>171</td><td>0.08</td><td>14</td><td>14</td></tr>
<tr><td>East Anglia 2</td><td>900</td><td>14</td><td>64</td><td>0.08</td><td>5</td><td>5</td></tr>
<tr><td>East Anglia 3</td><td>1200</td><td>12</td><td>100</td><td>SOV</td><td>0</td><td>0</td></tr>
<tr><td>Round 4</td><td>2100</td><td>18</td><td>117</td><td>0.11</td><td>13</td><td>13</td></tr>
<tr><td>East Anglia 1 North</td><td>800</td><td>14.5</td><td>55</td><td>0.08</td><td>4</td><td>4</td></tr>
<tr><td>Norfolk Vanguard</td><td>1800</td><td>13</td><td>138</td><td>SOV</td><td>0</td><td>0</td></tr>
<tr><td>Norfolk Boreas</td><td>1800</td><td>13.5</td><td>133</td><td>SOV</td><td>0</td><td>0</td></tr>
<tr><td>Totals</td><td>10640</td><td></td><td>974</td><td></td><td>51</td><td>36</td></tr>
</table></td></tr>
<tr><td></td><td>Dedicated Berths

Paras 2.3-2.6</td><td>Section 2.3 of the Berth Utilisation Assessment describes the berthing practices used by the Port to manage their operations. The Port employs the practice of assigning dedicated berths to operators and commercial users in order to service their operations. This means that selected berths are allocated to specific operators, which give priority use to those operators and effectively removes them from use by general commercial traffic. Although other vessels may be placed at a</td><td></td></tr>
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		dedicated berth, it is not pre-planned and is generally managed at the specific point in time it is required. The practice of assigning dedicated berths means that those berths are effectively 100% utilised as they are removed from common use, and they are therefore reflected in the analysis as such. In addition, the potential operations associated with the dedicated berths relates to a large number of vessel calls, described in Section 5.4.1 of the Berth Utilisation Assessment. For example, these include daily visits each associated with the other offshore energy and marine aggregate opportunities, with the vessels staying at berth for up to 12-hours. The large number of vessel calls and the potential berth occupation time further supports the applied utilisation estimate in the absence of actual utilisation time. The future opportunities identified in the Berth Utilisation Assessment would all necessitate the provision of dedicated berths either for operational reasons or for the provision of dedicated quayside infrastructure, which would limit any other vessels using the berth. For this reason, the majority of the future opportunities are applied as dedicated berths within the analysis. However as stated in Section 5.4.1, there is generally assessed to be a no greater than 50% probability of success associated with the different opportunities. As such, this demonstrates that ABPmer have adopted a conservative approach to its assessment of ABP's ability to win the future opportunities identified in the Berth Utilisation Assessment. The reduction in utilisation of Shell Quay in the Berth Utilisation Assessment in a "with bridge" scenario reflects ABP's belief that primary O&M activity will be deterred from using any quay west of the LLTC, whereas we believe there may be some use for it supporting second and third level suppliers to OWF who may be less risk averse. This has the potential to result in a lower commercial return being achieved for this quay space.	For reasons explained its Deadline 8 submissions, the Applicant does not agree with how dedicated berths have been used in calculating berth occupancy averages, and therefore presented alternative analysis in those Deadline 8 submissions. The Applicant has reviewed the Berth Utilisation Report submitted by ABP to Deadline 8 and notes the principle changes relate to increased berth occupancy in the Outer Harbour (the Inner Harbour is unchanged) and that it is specified that up to 14 CTV vessels would be lost as result of the Scheme, as of the 18 that would otherwise be located west of the Scheme, only 4 could be accommodated at Talisman's Quay. In view of the Applicant's previous submissions in particular in section 3 of document REP8 -005 on which it awaits clarification from ABP it does not comment further at this time. As the Applicant noted in its Deadline 8 submissions, while ABPmer state a 50% chance of the certain opportunities being realised there is no reflection of this in the figures as all are shown to happen. The Applicant notes that the reduction in utilisation is based on ABP's belief that operators will be significantly deterred from using Shell Quay, as stated in previous submissions the Applicant does not share this view for the reasons explained in its Deadline 8 submissions.
	Future Customer	There were concerns expressed over the potential costs and	As set out in the Applicant's Deadline 7 submissions (REP7-005) (p18), "*the Applicant's*

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	Risk Paras 3.3- 3.4	associated risks of delays to CTV operations. However, the overall main theme was the prospect of adding a second point of failure arising as a result of having a second opening bridge into their due diligence scoping of the Port, as part of their pre- decision comparative assessment of potential operational bases. The assertion by the Applicant, that the LLTC Scheme will become "some part of the furniture" and will be factored into OWF developers and operators calculations, is strongly rebutted by ABP. An impediment of this magnitude will always be an impediment, however familiar port users become with its presence within the Port. ABP considers it is unreasonable to expect OWF developers and operators to tailor their future operational models to a constrained future Port situation, rather than look to locate elsewhere.	*contractor has estimated a 1 in 5,000 failure rate of the bridge mechanical system. As noted in the Applicant's previous submissions there is no 'database' as such which catalogues observed failures however it is the professional opinion of the Applicant's contractor that this is a reasonable assumption to make, having regards to the modern design standards being adopted for the Scheme*". As such the likelihood of a failure of the Scheme as a deterrent to potential CTV operators should be seen in that context. The applicant considers that operators will assess all options and make decisions based on commercial factors, this would include operational equipment and locations, all operators have to tailor their operations based on the facilities available.
Comment on the Applicant Response to ABP's DL5 and Oral Submissions at 7 & 8 March 2019 Hearings (REP8-012)	Bridge Lifts	The explanation given by the Harbour Master at the ISH supports ABP's view that the frequency, rather than the length, of bridge lifts is likely to increase to accommodate increased marine traffic movements at the Port. • The Applicant asserts that "shorter duration bridge lifts could take longer as more CTV vessels transited on a single lift". For the reasons previously explained, ABP remains of the view that 'shorter duration bridge lifts' would not, on average, take longer. • The Applicant's assumption does not appear to take into consideration the additional Scheme bridge lifts that may consequently be required for vessels requiring a transit to the west of the Scheme bridge, that cannot pass the under the Scheme bridge without a bridge lift.	The Applicant notes the Harbour Master's views on this matter. The Applicant has explained in its Deadline 7 submissions (see p2 -3) the significance of whether there are more frequent, or simply longer bridge openings as a result of increased port activity to its transport assessments. To summarise: *With a single lift in the hour the journey time variability is confined to a single period in that hour. While a 5 minute lift has less of an impact than a 10 minute lift, repeating that event in the same hour would evidently double the likelihood of a journey being affected by a bridge lift. Furthermore, as can be seen above, the effect of a 10 minute lift is not simply a doubling of that of a 5 minute lift, a 5 minute lift is proportionately worse as congestion takes longer to dissipate, meaning therefore the total delay to all journeys being made is likely to be greater with two bridge lifts in an hour than one* It is also important to note that any assumptions applied to the opening regime of the Bascule bridge in the no-Scheme world are similarly then applied to the Scheme world – this was explained in section 4 of the *Justification and Traffic Effects of draft Scheme of Operation*, which stated at paragraph 4.3.2: *Any other variable that could be considered relevant would need to be applied to both the DM and DS scenarios, meaning that if one wanted to test a higher level of port activity in the DS scenario, i.e. the Scheme bridge lifted more frequently, that same*

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			change would need to be applied to the DM scenario. That would mean that in the DM scenario the A47 Bascule Bridge would similarly need to be modelled to open more frequently. The potential for a future increase in the number of Scheme openings required has been considered in the traffic and economic assessments. As noted in Table 4-1 of the transport assessment (REP3 -056), it was anticipated that, based on the vessel survey there would be an average of 14 bascule bridge lifts and 5 scheme bridge lifts in a given day. As explained previously in the Justification and Traffic Effects of the draft Scheme of Operation (REP4 -016) in section 4, however, the economic modelling assumed the Scheme bridge would open once in every modelled hour (those being 8am to 6pm) and the Bascule Bridge similarly. In any event, given that the frequency of Scheme bridge openings has, for the purposes of the analysis, been given parity with that of the A47 Bascule Bridge, an increased frequency of openings of the Scheme bridge would need to be matched with an increase in the frequency of openings of the Bascule Bridge as it is highly unlikely that the Scheme bridge would open and the Bascule Bridge would not. As section 4 of that report sets out in Table 4 doubling the frequency of bridge lifts on both bridges has a negligible impact on the economic assessment of the Scheme.
Comment on the Applicant Response to ABP's DL5 and Oral Submissions at 7 & 8 March 2019 Hearings (REP8-012)	Air Draft and CTV sizes – Current and Future Trends	It should also be noted that the Applicant has not offered any mitigation measure that calculates in real time the air draft of a vessels as it approaches the LLTC crossing (whether from the east or west). Thus, as currently formulated, there is no system proposed that would assess a vessel's actual air draft in relation to the air draft restriction that would be imposed by the LLTC with the bascule leaf in a 'down' position. The bridge operator will be entirely reliant on the accuracy of the assessment by the Ship's Master of the vessel's air draft and would have to assess – in real time – whether a particular ship will be able to pass under the proposed LLTC at that particular state of the tide. This would place a very onerous responsibility on individual bridge operators to dynamically assess each vessel's ability to pass the LLTC without a bridge lift. ABP strongly suggests that, with the best will in the world; increased risk of a bridge strike will exist, absent a form of "magic eye" to measure available headroom relative to tide levels in Lake Lothing.	The DCO through Requirement 11 requires the approval of an NRA for the Scheme by the harbour authority prior to its construction. That NRA would specify the necessary mitigation measures that may be required, for example in relation to air draft indicators. Similarly, the Protective Provisions for the harbour authority at paragraph 59 also provide that the undertaker "should exhibit such lights, lay down such buoys, display such navigational markings and take such other steps for preventing danger to navigation as the harbour authority may from time to time reasonably require". The preliminary NRA identified the requirement for a real-time air draft monitor to mitigate the risk of collision of vessels with the structure. This was also a matter discussed at the Navigation Working Group and there were similar suggestions that an indicator of some description should be provided on the bridge. As such the Applicant agrees in principle with this point and the provision of the necessary equipment to ABP's approval is secured via the DCO, though does not consider the nature of such equipment needs to be specified at this juncture.

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Annex 5 - Assessment of Trends in the European CTV Market, 4C Offshore Limited (5 April 2019) and Annex 6 - Njord Offshore Crew Transfer Vessels - Future Vessel Development Plans Paper, ABP Lowestoft (REP8-021 and 022) Annex 4 - Justification of Assumptions of Future Development at the Port of Lowestoft (REP8-20) Para 4.3		Annex 5 highlights that: • As offshore wind farms are beginning to be sited further from the coast larger vessels are needed. • During 2018 the average LOA for CTVs deployed on the most recent windfarms was 24m and 27m respectively with Hornsea at times requiring a 39.2m LOA vessel with 13.8m air draft. • From a survey or consideration of 187 current CTVs, the general view is that aerials would not be collapsible and that around 60% of vessels have a maximum air draught less than 12m. • Regulatory and project requirements mean that vessels will need to carry more than 12 passengers, which leads to an air draft above 12m (a point repeated by Annex 4) • For wind farms nearer to Lowestoft, the current mean height range of CTV is 22-25m LOA. • Given the size and distance of wind farms moving forward, it is likely vessel sizes will increase. Annex 6 indicates Njord's plans to build another 2 x 26m Quad IPS CTVs, plus a larger 35m CTV (not for UK use) and that this reflects ABP's previous submissions that there is a demonstrable trend towards larger vessels	Windfarm locations of the coast of the Port of Lowestoft in the southern North Sea are constrained by the limits of territorial waters therefore they will not be more remote from the coast than those currently in the pipeline. Resultantly, the Applicant considers that there is less potential that these larger CTV's will be required on these windfarms. While there may be some consideration for operation of windfarms in other territorial waters from the Port this circumstance does not feature in the BVG report and is therefore not considered to be under active consideration. The Vessel assessments carried out shows variability in response to ability to lower aerials and masts, this shows that it is possible and, therefore it is reasonable to consider that if it would provide the operator with the most economical solution, it can be achieved. The vessel assessment indicates that 60% of identified CTV's are below 12m air draft, at this height they would be able to transit the scheme bridge on approximately 60% of peak hours without requiring a Scheme bridge lift. It also indicates that 50% of vessels are less than 11.5m which would be able to transit on over 90% of peak hours without a Scheme lift. Notwithstanding this, again, the Applicant would reiterate air draft is only a concern if CTVs are intending to transit during the proposed restricted periods created by the Scheme which do not coincide with those periods of restriction already in place at the Bascule Bridge. Outside of these times, CTVs are already restricted by the Bascule Bridge (thus could not pass the Scheme bridge anyway), or the Scheme bridge would lift on demand.
Comment on the Applicant Response to ABP's DL5 and Oral Submissions at 7 & 8 March 2019 Hearings (REP8-012)	Effect of Restriction	The Applicant considers that vessels would ensure they transited the bascule bridge with sufficient time to enable to Scheme bridge transit. This demonstrates an absence of understanding and knowledge of how shipping movements can be affected by external factors, such as tide and weather. Timings of vessel movements cannot always be scheduled 'to the minute', so the likelihood of getting caught by the extended restriction time cannot be ruled out.	The potential for mistiming already exists under the current operating regime of the Bascule Bridge, and as ABP has evidenced it is still able to operate that Bridge in general accordance with the advertised restrictions, as such that suggests operators are building in the potential for mistimings in the timings of their approach to the bridge and it could be reasonably anticipated this would continue with the Scheme.
Impact of Additional Restrictions Imposed by the Scheme of Operation on Vessel Transit Times (REP 8-024)		This note sets out ABP's view on the effects of the Scheme's peak hour restrictions on the AM and PM periods and concludes that in most future scenarios with the addition of the LLTC, there is a potential additional minimum delay of 18 minutes, rising to 40 minutes delay in one scenario (AM Inwards – no ability to hold station). The overall impact of these additional restrictions would be to impose a	The Applicant has reviewed the note presented by ABP which sets out the theoretical delays that may be experienced by vessels arriving or departing at specific times, i.e. immediately prior to the restricted periods. The Applicant notes that ABP has presented the information in the context of 'delay'

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<tr><td></td><td></td><td>significant additional financial burden on shipping passing to the west of the proposed LLTC – including that part of the Port most likely to receive additional offshore wind related traffic in the future.</td><td>rather than ‘adjustment’. As the Applicant has set out elsewhere the prevailing evidence indicates that vessels adjust their transits to accommodate the existing restrictions at the Bascule Bridge and would similarly adjust for the Scheme if consented.

Consequently the Applicant considers it potentially misleading to provide comparators of delay with and without the Scheme because the Applicant does not consider it likely that vessels are currently incurring the delays outlined in section 3 of the report with any regularity; i.e. with full knowledge of the existing restrictions, there are clear incentives and opportunities for a vessel operator not to expose its journey to the stated 56 minute delay, which theoretically could currently arise in association with both the AM and PM restricted periods (sections 2.3 and 2.4).

Therefore the Applicant does not consider that evaluating the effect of the Scheme in a similar manner, i.e. on the basis that there is an unequivocal delay caused by the Scheme is likely to reflect the reality of how vessel operators will be affected by the Scheme restrictions.

Indeed, given the potential hypothetical delay is calculated to be longer with the Scheme in place, there is an even greater incentive to adjust a journey time, than suffer a delay.

The Applicant also notes that ABP has calculated some very large delays which arise from very specific scenarios – for example in paragraph 3.8 a vessel needs to arrive in the 3 minutes of 16:39 to 16:41 to incur the stated 95 minute delay. Given the knowledge that operators will have this does not seem a very likely scenario to prevail and therefore a reasonable scenario to evaluate the Scheme effects.

Consequently, the Applicant considers that the effect of the Scheme should be seen in the context of ‘adjustment’ rather than delay. Having regard to the potential concerns of ABP, that being transit time for CTVs to and from Shell Quay, outbound in the AM, and inbound in the PM, the impact of the Scheme would be that: to avoid a delay an 9 minute adjustment in the AM and 11 minute adjustment to PM would be required.

This is based on the same assumptions as applied by ABP in section 1 and additionally, a transit time of 7 minutes from Shell Quay to the Scheme bridge and 16 minutes to the Bascule Bridge.

<table>
<tr><td colspan="2">AM - outbound</td><td colspan="2">PM - inbound</td></tr>
<tr><td>Currently</td><td>Future depart</td><td>current arrive</td><td>Future arrive</td></tr>
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</td></tr>
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Reference	Topic	Extract / Summary	Applicant's response
			<table><tr><td>depart SQ</td><td>SQ</td><td>SQ</td><td>SQ</td></tr><tr><td>07:49 or 08:44</td><td>07:41 or 08:53</td><td>17:06 or 18:03</td><td>16:55 or 18:10</td></tr><tr><td colspan="2">Up to 9 min adjustment</td><td colspan="2">Up to 11 min adjustment</td></tr></table> As a minor point, the Applicant notes that ABP's calculations include additions for both the transit time between the bridges and the opening time of the second bridge, though these would be coincidental (i.e. the second bridge would always be open, and the vessel would have a continuous transit, provided it did not encounter that bridge when its opening is restricted).
Comment on the Applicant Response to ABP's DL5 and Oral Submissions at 7 & 8 March 2019 Hearings (REP8-012)	NRA	ABP remains of the view that the amendments suggested by the Applicant in the draft DCO regarding the NRA are insufficient and do not give ABP, as SHA, the critical assurance that it statutorily requires.	The DCO provides that ABP must approve the navigation risk assessment which is updated once the final design and construction methodology for the Scheme is known. As has previously been explained, it will not be possible for this process to occur prior to the end of the Examination.
Comment on the Applicant Response to ABP's DL5 and Oral Submissions at 7 & 8 March 2019 Hearings (REP8-012)	Navigation Risk	The assessment of unavailability of the Scheme bridge amounting to approximately 8 hours per year is based on failure of the mechanical system. There are, however, numerous other reasons why the bridge would be unavailable apart from mechanical failure, which this assessment has not considered. For example, incidents on the bridge such as RTA's, vehicle breakdowns and distressed persons which would prevent openings would all be unplanned. The Applicant considers that the proportion of unavailability of the Scheme bridge will be planned and can be mitigated for in navigational terms. ABP disagrees, as the majority of reasons for the bridge not being available are not planned and consequently, cannot be mitigated against. The Applicant's comments identify a lack of understanding of NAABSA (i.e. Not Always Afloat But Safely Aground) berths. ABP agree to the provision of the mooring pontoon for recreational vessels and support the position proposed. Relevantly, however, ABP consider that it will be unsuitable for all but the smallest of commercial vessels - hence the need for the emergency berth.	The Applicant recognises that there will be unplanned unavailability of the bridge, in the same way that this situation prevails on the existing A47 Bascule Bridge and the Applicant understands that ABP has risk assessments to manage the associated navigational risks should these situations occur. As understood to be agreed with ABP, the process for the Scheme NRA is for the Applicant to update it and seek approval for it from the harbour authority before commencing construction of the Scheme. ABP will then review its own port-wide NRA in light of the Scheme NRA to ensure the respective documents are integrated. It is through this exercise that risks associated with unplanned (and indeed planned) unavailability will be mitigated. The Applicant has included a control tower (i.e. a permanent presence on the bridge) and byelaws in the DCO application governing conduct on the bridge which further seek to mitigate unavailability of the Scheme. The Applicant is unclear as to why ABP suggests the Applicant does not understand the concept of NAABSA The Applicant notes ABP's agreement on the provision and location of the recreational pontoon and agrees that the facility would only be suitable for small commercial vessels, as previously discussed the Applicant considers that risk associated with larger vessels can be mitigated through operational procedures and an emergency berth is

Reference	Topic	Extract / Summary	Applicant's response
			therefore not required.