

07 September 2012

Your ref: TR030001 / Able - 0016  
Our ref: DC9172

### **The Able Marine Energy Park Development Consent Order 2012**

Dear Mr Harris,

Enclosed with this letter is the Marine Management Organisation's (MMO) response to the second round questions as issued by the Planning Inspectorate in their letter dated 17 August 2012. Our response, specifically in relation to questions 68 and 69 of the second written questions, is provided in the following supporting documentation:

- Annex 1: Update to Table 54.1 on the Applicants answers to the first set of Examiners questions in relation to the Environmental Statement and issue of the second round of written questions; and,
- Annex 2: Updates on progress in relation to the MMO's comments made in the Statement of Common Ground on the Environmental Statement, Final Version dated 27 July 2012.

Annex 1 has been included in our submission to the Examining Authority as many of the outstanding issues are related to those identified in the Statement of Common Ground on the Environmental Statement, and as such are related to questions 68 and 69. As such, it is felt pertinent to include an updated Annex 1 in this submission to you at this time.


We are however keen to stress that whilst it may appear that there are a significant number of outstanding concerns, there have been some very productive meetings held between the Applicant, MMO, Natural England and Environment Agency since the last submission was made by the MMO on 03 August 2012. However, given the volume of information to be interpreted and commented upon, it has not been possible for the MMO to agree all points raised in our supporting documents at this time. It is however hoped that it will be possible for agreement to be reached on the majority of these outstanding issues within the coming weeks.

Should you have any questions, please do not hesitate to contact me directly.

Yours sincerely,

**Gregor McNiven**  
**Marine Management Organisation**  
Enc – Annex 1\_120907; Annex 2\_120907

**Annex 1      Update of Table 54.1 since Applicants answers to the first set of  
Examiners' questions in relation to the Environmental Statement  
and issue of second round of written questions**

	<p style="text-align: center;"><b>AMEP</b></p> <p style="text-align: center;"><b>MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES</b></p> <p style="text-align: center;"><b>PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS</b></p>	<p style="text-align: right;"><b>Date: 07-09-2012</b></p>
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Key:

	Query Closed Out
	Action with MMO
	Action with Applicant

No	MMO	Able UK	MMO comments
<b>7. Environmental Statement: Volume 1 Able Marine Energy Park</b>			
<b>Chapter 7, Geology, Hydrology and Ground Conditions</b>			
7.1-7.3	7.1: Paragraph 2.3.5: The definition of 'wider effects' needs to be reconsidered. If the effect is individually significant at a regional level, it is likely to also be significant at the local level.	<p>Informative paragraphs, no action required.</p> <p><u>28-6-12</u></p> <p>In response to 7.1: The definition given in the report is the one adopted for the purposes of the ES. Socio-economic effects can have a wider regional effect without having a significant local effect. Waste disposal may have a regional effect without having any direct local effect.</p>	<p><u>29-5-12</u></p> <p>We would like a response to 7.1. Agree no response required for 7.2 and 7.3</p> <p><u>03-08-12</u></p> <p>The MMO are still considering the Applicants response.</p> <p><u>07-09-12</u></p> <p>Further discussion has been held with the Applicant. Whilst the Applicant accepts the definition in the ES could have been clearer, it is not possible to amend the ES retrospectively. Issue closed.</p>
7.4	The dredging of the reclamation area, anchorage trench, berthing pocket, approach channel and turning area have been considered in Chapter 7. Dredging requirements for the excavation works	<p><u>5-4-12</u></p> <p>The cofferdam for the construction of the pumping station will incorporate the existing flood defence wall which will be</p>	<p><u>29-5-12</u></p> <p>I understand HR Wallingfords work will provide the dredge and disposal estimates required for</p>



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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

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No	MMO	Able UK	MMO comments
	at the pumping station, the south back channel, of Stone Creek (mentioned in previous draft chapters of the ES but not the current one) and of plough dredging have not been included. In addition, it is not clear if the over-dredge of the berthing pocket has been accounted for in the values provided.	<p>removed to allow outfall pipes to be laid; the wall will then be reinstated. The invert of the outfall pipes will be at +3.9mCD. A channel up to 20m wide will be excavated through the intertidal area at a shallow gradient to direct flows initially.</p> <p>Plough dredging is mentioned in Annex 7.6 as possible mitigation for the Centrica outfall. Work undertaken post submission is presented in HRW Technical Note DHR 4808-1 shows only the E-ON outfall is likely to be smothered and will need to be diverted. The frequency of plough dredging at the Centrica outfall is difficult to estimate; it should be subject to an agreed monitoring programme.</p> <p>The impact of the scheme on sedimentation in Stone Creek is assessed in Annex 32.4, Section 4.5 of the ES. Siltation is not expected to change as a consequence of the scheme. Nevertheless, an effect cannot be excluded due to the uncertainty attached to hydrodynamic modelling. Accordingly paragraph 4.5.5 recommends monitoring of sediment</p>	<p>the deemed marine licence. As such I provide no further comment on this until that report is received.</p> <p>The level of detail required is contained in our relevant representations.</p> <p>I understand you are not now seeking permission to dredge Stone Creek.</p> <p><u>03-08-12</u></p> <p>The Applicant has confirmed the volumes of material they wish to dredge and dispose of to sea in the Statement of Common Ground (SOCG) between the Applicant, the MMO, Natural England and the Environment Agency submitted to the Examining Authority on 27 July 2012.</p> <p>Proposed volumes for capital dredge and disposal are provided in Table 12.2 of the SOCG and proposed volumes for</p>



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		<p>levels. Routine maintenance dredging is currently undertaken by the EA with (we understand) contributions from landowners and we would expect this to continue. It is considered that there is only a slight risk that the frequency of dredging operations increases due to the scheme. Any possible increase in maintenance dredging would be miniscule compared to the annual maintenance dredging on the Humber and is not be considered to give rise to a likely significant effect that needs specific assessment.</p> <p>Dredging volumes are being reviewed against more recent site investigation data.</p> <p><u>28-6-12</u> We are not seeking consent to dredge Stone creek</p> <p>Maintenance dredge variability is detailed in Report EX8.6 included in the volume of supplementary environmental information (SEI).</p>	<p>maintenance dredge and disposal are provided in Table 12.3 of the SOCG.</p> <p>The MMO is currently undertaking an assessment of the dredge and disposal elements based on these proposed figures and the additional documentation provided in EX8.6 and EX8.7. The MMO has already raised several questions with regards to these reports to the Applicant.</p> <p>Outstanding questions include:</p> <p><b>Disposal site capacity</b> The MMO has started to review EX8.6 and EX8.7 and it is not clear how the Applicant has calculated disposal site capacity. The Applicant has provided bathymetry data as requested by the MMO but further information is required. The reports state that modelling of the full amount of material was modelled to 5.3m below chart datum but the reports do not state the level used for the modelling of half</p>

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			<p>disposal. The MMO requests that the Applicant provide this information. The MMO also requests that the Applicant provides the equivalent of Figure 4.4 in EX8.7 for the half disposal scenario. The Applicant needs to provide calculations in order to provide the evidence to the conclusions they have drawn from their impact assessment.</p> <p>The MMO also requests clarification of how the Applicant has taken into consideration other licences and applications in calculation of disposal site capacity. The Applicant has stated that the material for other applications is going to HU081. However, Immingham Oil Terminal and Grimsby Ro-RO are permitted to dispose of to both HU081 and HU082. The Applicant must assess the worst case scenario otherwise the cumulative impact assessment is not sufficient. Evidence of this must be provided.</p>



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No	MMO	Able UK	MMO comments
			<p><u>07-09-12</u></p> <p><b>Disposal site capacity:</b> Further information has been received from the Applicant on 23-08-12 and 06-09-12. The MMO is currently considering whether this information adequately addresses our concerns.<b>Disposal of gravel to HU080</b></p> <p>Clarification on the gravel component of capital dredged material. Gravel is not permitted to be disposed of to HU080 as this disposal site is characterised for erodible material. The Applicant referred the MMO to the Immingham Oil Terminal Environmental Statement as an example of where gravel had been permitted to be disposed of to this site previously. The graph quoted is a representation of material sampled. It is only the eastern channel representing 170,000m<sup>3</sup> of material that is in question. The minimum samples contained material entirely below the 1mm fraction, so does not include gravel. The worst case has some particles above the</p>



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			<p>2mm fraction, but this worst case represents at the worst 20% of the material. Therefore the worst case amount of gravel that may be found in the sandier samples is at the most 34,000m<sup>3</sup> of material. This is considerably less than the 130,000m<sup>3</sup> material the Applicant is proposing to dispose of to HU080.</p> <p>Gravel material will not disperse will remain local to the disposal site.</p> <p>The MMO requests that the Applicant provide a similar analysis to that referenced to show the proportion of gravel material. Furthermore, the MMO requests that any modelling of the movement and fate of the gravel undertaken by the Applicant, and results demonstrating the impact this may have be provided in order to assist with assessing the impacts of this proposal. At present, the Applicant is seeking to dispose of a far greater amount of gravel</p>





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			<p>than the site has received previously therefore this impact must be assessed.</p> <p><u>07-09-12</u>  <b>Disposal of gravel to HU080:</b>  The Applicant provided a further Technical Note on this issue on 05-09-12. The MMO is currently considering whether this information adequately addresses our concerns.</p> <p><b>E.ON and Centrica outfalls</b>  The MMO request clarification from the Applicant with regard to their intention on whether they intend to dredge either one or both of the E.ON and Centrica outfalls. The MMO understands it is likely that one or both of the outfalls may be relocated. Clarification is sought in order to be able to undertake a full assessment of the Project.</p> <p>Estimates have been made for the changes to annual infill at the Centrica/E.ON intake/outfall lines of an increase of 94,000 to</p>



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			<p>234,000 dry tonnes/year (EX8.6, Table 3, page 2). This is much greater than the quantities provided in the SOCG of 5000 wet tonnes/year. The Applicant is requested to comment on this.</p> <p>Furthermore, the MMO do not wish to licence activities that the Applicant do not intend to undertake.</p> <p><u>07-09-12</u></p> <p>Further discussions with the Applicant have been undertaken. The MMO awaits clarification from the Applicant in relation to meetings they have arranged with the owners of the outfalls. The MMO is currently investigating the implications of licensing both options (i.e. dredge and relocation), however it is stressed that this is not the MMO's preferred option.</p> <p><b>Location of south bank channel</b> The MMO request clarification of</p>



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			<p>the location of the "south bank channel" in order to confirm if contamination analysis is required. The coordinates provided in the deemed marine licence are on land.</p> <p><u>07-09-12</u></p> <p>Further information has been received from the Applicant both in recent meetings via email. Works plans were supplied on 06-09-12. The MMO is currently considering whether this information adequately addresses our concerns.</p>
7.5	<p>These additional dredging and disposal operations are licensable activities under the 2009 Act. The MMO would prefer for these activities to be deemed within the DCO alongside the other marine licences in order for the project to be considered as a whole. However, the Applicant will need to undertake an impact assessment of these activities to do so.</p>	<p><u>5-4-12</u></p> <p>Excavation within the cofferdam will be undertaken in dry conditions when there is no hydraulic connection with the estuary. Material will be disposed of on the land.</p> <p>The requirement to excavate a channel for the pumping station outfall is noted in Annex 8.3, Section 4. The potential requirement for maintenance dredging of the channel is also highlighted. It was agreed with Natural England that a</p>	<p><u>29-5-12</u></p> <p>See comments for 7.4</p> <p><u>03-08-12</u></p> <p>See comments for 7.4</p> <p><u>07-09-12</u></p> <p>Issue closed.</p>



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No	MMO	Able UK	MMO comments
		<p>similar feature that would be created in relation to a proposed pumping station for Able Logistics Park (NLC Planning Application Reference PA/2009/0600) simply represented a functional change to the habitat. It is estimated that the initial channel will be 25m wide, but this will narrow as it moves away from the discharge point. The initial channel dredge will make no difference to the impact assessment undertaken for capital dredging works.</p> <p>Increased dredging of Stone Creek is not anticipated (see above).</p> <p>Plough dredging causes sediment to be suspended in the lower reaches of the water body. Works would be undertaken on an ebb tide so that material resettles within the AMEP berthing pocket and approach channel and removed during maintenance dredging works.</p> <p><u>28-6-12</u> Dredge operations and disposal is assessed in the ES. The MMO will need to define the omissions in the ES more precisely if they require further assessment.</p>	



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7.6	The MMO requests that the Applicant provides details of the location and quantity of material to be capital and maintenance dredged and disposed of the sea from these additional locations. The impact assessment in Chapter 7 and the Dredging Strategy at Annex 7.6 need to be updated to include this information.	<p><u>5-4-12</u>  <i>Capital Dredging</i>  Cofferdam: Approximately 2 000m<sup>3</sup> of material will be excavated from the sea wall and incorporated into the development as fill.  South Bank Channel: Approximately 1000m<sup>3</sup> will be dredged to initiate a channel through the intertidal areas.  Stone Creek: None  Plough Dredging: None  <i>Maintenance Dredging</i>  Cofferdam: None.  South Bank Channel: Allow complete re-dredge every year.  Stone Creek: None  Plough Dredging: Nominal</p>	<p><u>29-5-12</u>  See comments for 7.4</p> <p><u>03-08-12</u>  The Applicant has provided these details in Tables 12.2 and 12.3 of the SOCG. The MMO is currently considering whether the impact assessment made adequately assesses this proposal. Outstanding questions are detailed in comments for 7.4. The DML will need to be updated to reflect the volumes presented in the SOCG.</p> <p><u>07-09-12</u>  Further information has been received from the Applicant both in recent meetings via email. The MMO is currently considering whether this information adequately addresses our concerns.</p>
7.7-7.13		Informative only	<p><u>29-5-12</u>  Agree that 7.7-7.13 are informative. However, it should be noted that full consideration of</p>



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No	MMO	Able UK	MMO comments
			<p>Ospar requirements will need to be undertaken again once the final dredge and disposal qualities are provided. Further sampling and analysis of areas not previously covered may be required and consideration of the Waste Framework Directive and the Waste hierarchy is required (as per my email of 22 May 2012).</p> <p><u>03-08-12</u></p> <p>The MMO seeks clarification of the location of the south bank channel to be dredged, as referred to in the SOCG submitted to the ExA on 27 July 2012. Depending on the confirmed location, this area may require contamination analysis to be undertaken before the MMO would be in a position to advise of its suitability for sea disposal.</p> <p><u>07-09-12</u></p> <p>Further information is awaited from the Applicant. Once</p>



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No	MMO	Able UK	MMO comments
			received the MMO will consider whether this information adequately addresses our concerns.
7.14	The Applicant has provided further information to the MMO on this in the form of a Green Port Hull Cumulative Impacts Screening Assessment. However, this assessment has been made presuming that Green Port Hull is the same as Quay 2005. Whilst the Green Port Hull project does use the existing licences granted for Quay 2005, there is additional work including infilling of part of Queen Alexandra Dock and additional dredging. Therefore the cumulative assessment screening needs to be updated allowing for this work, particularly as most cumulative impacts surround the dredging and changes to suspended sediment and coastal processes.	<p><u>5-4-12</u> Estuary wide modelling to be reviewed</p> <p><u>28-6-12</u> Refer to report EX44.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p><u>29-5-12</u> I understand JBA and ERM are undertaken additional work on the in-combination assessment. As such I provide no further comment on this until that report is received.</p> <p><u>03-08-12</u> See comments for 7.4</p> <p><u>07-09-12</u> Further information has been received from the Applicant both in recent meetings via email. The MMO is currently considering whether this information adequately addresses our concerns.</p>
7.17	To conclude, based on the figures presented in the ES, 954,350m3 of non-erodible capital material is suitable for disposal to HU082 and 981,150m3 of erodible capital material is suitable for disposal to HU080. The deemed marine	<p><u>5-4-12</u> Noted, BDB to consider appropriate drafting of the DML</p> <p><u>28-6-12</u></p>	<p><u>29-5-12</u> This will need to be updated following the findings of HR Wallingfords work. As such I provide no further comment on</p>



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No	MMO	Able UK	MMO comments
	licence at Schedule 8 must be updated to reflect this latest advice.	Refer to reports EX8.5 – 8.10 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	<p>this until that report is received.</p> <p><u>03-08-12</u></p> <p>The Applicant has provided the actual volumes of material they are seeking to dispose of to sea in Tables 12.2 and 12.3 of the SOCG. The MMO is currently considering these proposed volumes to ensure an adequate assessment has been made. See comments for 7.4 regarding outstanding questions. The DML will need to be updated to reflect the volumes presented in the SOCG.</p> <p><u>07-09-12</u></p> <p>It is our understanding that this discrepancy will be rectified by the Applicant in their updated draft DCO and DML. The MMO will continue to work closely with the Applicant on this matter, including provision of our further comments made since the previous submissions to the Examining Authority on 03-08-</p>





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No	MMO	Able UK	MMO comments
7.18-7.20		<p>Informative</p> <p><u>28-6-12</u> Refer to the Applicant's response to the Relevant Representations. Maintenance dredge variability is reported in EX8.6 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p>12.</p> <p><u>29-5-12</u> Paragraphs 7.19 and 7.20 are not informative and require an action on Ables part. See comments for 7.4.</p> <p><u>03-08-12</u> See comments for 7.4 to 7.17.</p> <p><u>07-09-12</u> See comments for 7.4 to 7.17. The MMO requires that names and coordinates used for dredge areas are consistent in all documentation.</p>
7.21	The impact assessment in Chapter 7, the Dredging Strategy at Annex 7.6 and the deemed marine licence need to be updated to reflect the additional dredging requirements from the south bank channel, Stone Creek (if to be undertaken) and the plough dredging around the E.ON and Centrica outfalls.	<p><u>5-4-12</u> Noted. The strategy will be amended and re-issued.</p> <p><u>28-6-12</u> The impact assessment fully takes account of dredging and disposal operations. The Applicant is not seeking consent to dredge at Stone Creek.</p>	<p><u>29-5-12</u> Once the HR Wallingford report is available we will need to ensure an adequate impact assessment of the dredge disposal activities has been undertaken.</p> <p>Following this, the deemed marine licence will need to be updated.</p> <p>I am content for the updating of the Dredging Strategy to be a</p>




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			<p>condition of the deemed marine licence.</p> <p><u>03-08-12</u></p> <p>See comments for 7.4 to 7.17.</p> <p><u>07-09-12</u></p> <p>See comments for 7.4 to 7.17. The MMO requires that names and coordinates used for dredge areas are consistent in all documentation.</p>
7.22-7.24	<p>7.22: HU080 has taken large quantities of material in the past and, given the dispersive nature of the Humber, the MMO considers that the disposal site has capacity to take the material as currently described in the DCO Application. However, the site will need to be monitored to ensure the material is dispersing as predicted and the MMO will require this to be a condition on the deemed marine licence with the Applicant required to agree the scope of the monitoring with the MMO prior to commencement.</p> <p>7.24: The MMO requires that the Humber Baseline Document be updated to incorporate the dredging and disposal of dredged material being consented for this project. The MMO requests that this is provided to the MMO within 12</p>	<p>Informative</p> <p><u>28-6-12</u></p> <p>Revised draft Deemed Marine Licence is included in Appendix B of the Applicant's comments on the Relevant Representations.</p>	<p><u>29-5-12</u></p> <p>7.22 and 7.24 require conditions to be drafted to include in the deemed marine licence.</p> <p><u>03-08-12</u></p> <p>Conditions relating to this comment are not included in the current draft. See comments on the DCO at Annex 2 for further discussion.</p> <p><u>07-09-12</u></p> <p>It is our belief that the Applicant is currently considering the</p>

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	months of this consent being granted. This must be conditioned within the deemed marine licence.		wording of a suitable condition/requirement for update of the baseline document. It is also understood that the Applicant proposes to employ a survey company to undertake (possibly fortnightly) bathymetric surveys at the Sunk Dredged Channel. The MMO will provide guidance to the Applicant on this matter during the ongoing drafting of the DCO and DML.
<b>Annex 7.6 Dredging Strategy</b>			
7.25	The dredging plan produced by Westminster Dredging has not been amended to reflect the correct disposal sites mentioned in the rest of the document and in the DCO Application.	<u>5-4-12</u> The deposit locations are consistent with those reported elsewhere in the ES. The document will be amended to reflect the current advice from MMO.	<u>29-5-12</u> I am content for the updating of the Dredging Strategy to be a condition of the deemed marine licence.
7.26	The MMO requires that this Dredging Strategy be updated to reflect previous changes and the comments in these written representations.	<u>5-4-12</u> Noted. Strategy to be revised	<u>29-5-12</u> see comments for 7.25
7.27	The Dredging Strategy must also be updated to include all dredging and disposal activities to be undertaken as part of this project including the turning area, approach channel, berthing pocket, south bank channel, plough dredging, dredging for land reclamation, excavation at the pumping station and maintenance of Stone Creek, as well as any other dredge or disposal activities to take	<u>5-4-12</u> Noted. Strategy to be revised.	<u>29-5-12</u> see comments for 7.25

	<p style="text-align: center;"><b>AMEP</b></p> <p style="text-align: center;"><b>MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES</b></p> <p style="text-align: center;"><b>PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS</b></p>	<p style="text-align: right;"><b>Date: 07-09-2012</b></p>
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No	MMO	Able UK	MMO comments
7.28	place which have not been mentioned in the DCO Application documents.		
	The Dredging Strategy must be updated and be approved in writing by the MMO prior to any dredging operations commencing. This must be conditioned in the deemed marine licence.	<u>5-4-12</u> Noted. Strategy to be revised.	<u>29-5-12</u> see comments for 7.25
<b>Chapter 8 Hydrodynamic and Sedimentary Regime</b>			
7.29-7.34		Informative  <u>28-6-12</u> Refer to reports EX8.5 – 8.10 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	<u>29-5-12</u> Agree 7.29 is information only, however 7.30-7.34 require further clarification. Information required to satisfy 7.30-7.32 should be provided in the HR Wallingford and JBA reports. The information requested in 7.34 should be provided.  <u>03-08-12</u>  The MMO are still considering this point.  <u>07-09-12</u>  The MMO has again (22-08-12 via email) requested that the Applicant provide a 'signposting' document to provide clarity on where impacts have been



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No	MMO	Able UK	MMO comments
			assessed. It is our understanding that this document is currently in progress and the MMO will provide further comment on its receipt.
7.35	It would appear that the drainage channels of the currently terrestrial side of the compensation site are not represented in the model. Please comment on the significance of this.	<u>5-4-12</u> B&V to respond  <u>29-5-12</u> The drainage channels are not part of the tidal system.	<u>29-5-12</u> I provide no further comment on this until the Black and Veatch comments are received.  <u>8-6-12</u> Accepted
7.39	The increase in suspended material at the intake valves of the E.ON and Centrica power stations is also of some concern. Real-time monitoring of suspended sediment concentration is proposed near the power station intakes by the Applicant. A monitoring and mitigation strategy to assess, and where required mitigate, these changes must be agreed in writing with the MMO prior to any works commencing. The MMO requires a condition to this effect on the deemed marine licence (see paragraphs 5.16 to 5.18 for further discussion on conditions for the deemed marine licence). Consultation with the power station operators (Centrica and E.ON) will be required in designing an effective monitoring programme with suitable management trigger thresholds.	<u>5-4-12</u> Both parties are being consulted  <u>28-6-12</u> Meeting held with E.ON 19 <sup>th</sup> June and meeting with Centrica on 21 <sup>st</sup> June. Discussions ongoing.	<u>29-5-12</u> It is likely that any mitigation or monitoring agreed with E.ON and or Centrica would need to be conditioned in the deemed marine licence. As such, I request that you keep the MMO informed of the progress of these discussions.  <u>03-08-12</u>  No update has been provided.  <u>07-09-12</u> Further discussions with the Applicant have been undertaken. The MMO awaits clarification from the Applicant in relation to

No	MMO	Able UK	MMO comments
			meetings they have arranged with the owners of the outfalls. The MMO is currently investigating the implications of licensing both options (i.e. dredge and relocation), however it is stressed that this is not the MMO's preferred option.
7.40	Construction of a new outfall structure is discussed as potential mitigation for the potential increase in suspended material at the intake valves of the power stations. The Applicant will require a licence under the 2009 Act for construction of a new outfall. The MMO would prefer for this to be deemed within the DCO alongside the other marine licences in order for the project to be considered as a whole. However, the MMO has not found any assessment of this activity in the ES which would be required for the licence to be deemed within the DCO.	<p><u>5-4-12</u> Annex 9.6 of the ES assesses the temperature change in the water column above ambient. The temperature changes are too small to have an impact on any receptors and that finding is reported in paragraphs 9.8.32-9.8.34 of the ES.</p> <p><u>28-6-12</u> Refer to report EX9.7 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p><u>29-5-12</u> Adequate assessment of the impact of moving the outfalls does not appear to be made in Annex 9.6 of the ES. The Annex concludes (page 3) by saying that "...the horizontal extent of the [Centrica discharge] plume for a particular excess temperature at any time is <i>likely to be</i> no greater than <i>about</i> twice that shown in the Technical Note. Similarly, <i>it is considered likely</i> that the peak surface excess temperature near the E.ON intake <i>will probably</i> be no greater than <i>about twice</i> that shown in this Technical Note."</p> <p>This opinion is unsupported by additional modelling at the present time and should be confirmed by additional modelling</p>



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**MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES**  
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No	MMO	Able UK	MMO comments
			<p>if the option of moving the Centrica outfall is to be pursued further.</p> <p>We also require clarification on whether one or both of the outfalls will be moved such that a proper assessment of the works can be undertaken.</p> <p>It is not clear whether any consideration been given to the new Killingholme Power Station being proposed by CGen.</p> <p><u>03-08-12</u></p> <p>The MMO are still considering the additional information provided in EX9.7.</p> <p><u>07-09-12</u></p> <p>The Applicant has confirmed that the Centrica outfall would not be moved in isolation. Other scenarios are fully assessed in EX9.7. Issue closed.</p>
7.41-		Informative	<u>29-5-12</u>



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No	MMO	Able UK	MMO comments
7.43			<p>A condition relating to the requirement for monitoring plans should be drafted for inclusion on the deemed marine licence. We will provide further comments on this in due course.</p> <p><u>03-08-12</u></p> <p>See comments on the DCO at Annex 2.</p> <p><u>07-09-12</u></p> <p>It is our understanding that this will be rectified by the Applicant in their updated draft DCO and DML, in particular in relation to inclusion of the EMMP's. The MMO will continue to work closely with the Applicant on this matter, including provision of our further comments made since the previous submissions to the Examining Authority on 03-08-12.</p>
<b>Chapter 10 Aquatic Ecology</b>			
7.44	With regards to table 10.13, the distance at which injuries, including Temporary Threshold	<u>5-4-12</u> ERM to comment	<u>29-5-12</u> I provide no further comment on





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	Shift, could occur is more useful than the 'accumulation of energy' distance. Potentially, a marine mammal may only have to be within a certain distance of the piling once to have some auditory damage such as a Temporary Threshold Shift in their hearing.	<u>28-6-12</u> Refer to report EX10.5 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	this until the ERM comments are received.  <u>03-08-12</u> TTS and PTS thresholds are still not provided, however, a measure of auditory damage is now given (200 dB re 1 µPa, up to 116m). The Applicant has agreed to using soft start procedures for percussive piling and to the presence of a marine mammal observer as mitigation. This must be secured through the deemed marine licence at Schedule 8 to the DCO in a manner the MMO is content with. Should this be achieved, the MMO have no further comments on this.  <u>07-09-12</u>  Piling conditions have now been agreed with and accepted by the Applicant. DCO and DML to be updated accordingly. Issue closed.
7.45	Paragraph 10.6.46 states that " <i>in a worst case scenario, harbour porpoises may display</i>	<u>5-4-12</u> ERM to comment	<u>29-5-12</u> I provide no further comment on



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	<i>behavioural responses within a distance of 1.7km from the piling due to the maximum rms noise during a pulse". It then goes on to say that "they would only suffer potential auditory damage if they regularly approach within approximately 25.0 to 38.6km of the piling". Previous drafts of the ES stated "in a worst case scenario, harbour porpoises may display behavioural responses over a wide area (40.4 km from the piling)". The Applicant should clarify the position and ensure that the impact has been correctly assessed citing relevant studies where appropriate.</i>	<u>28-6-12</u> Refer to report EX10.5 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	this until the ERM comments are received.  <u>03-08-12</u> Clarification with regards referencing the Lucke (2009) paper is now provided. The MMO make no further comment on this.
7.46	The impact of piling on migratory fish populations, including Atlantic salmon and lamprey species, during the construction period is of some concern. The impacts of piling on these species will need to be mitigated. As such, the MMO requests that the Applicant submits a piling mitigation strategy. This must be developed in consultation with other relevant bodies, in particular the Environment Agency, and be agreed in writing with the MMO prior to works commencing. The mitigation must be detailed within the deemed marine licence for monitoring and enforcement purposes.	<u>5-3-12</u> Discussions on-going with EA.  <u>28-6-12</u> The Applicant received details of the MMO's proposals for piling restrictions on 19 <sup>th</sup> June and is currently reviewing them.	<u>29-5-12</u> The MMO has received a copy of the latest proposal for mitigation that Able have submitted to the EA on this matter. We are still considering our position on this mitigation and propose the addition of three conditions to the deemed marine licence to mitigate for the impact of piling noise on fish, as detailed in comments for 7.48.  <u>03-08-12</u> The MMO have been in continuing discussions with the Applicant,



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No	MMO	Able UK	MMO comments
			<p>the Environment Agency and Natural England with regards to this issue. The Environment Agency set out the EA', NE's and MMO's position in a letter to the Applicant, dated 31 July 2012 and included at Annex 3 of this representation.</p> <p><u>07-09-12</u></p> <p>Piling conditions have now been agreed with and accepted by the Applicant. DCO and DML to be updated accordingly. Issue closed.</p>
7.47	<p>The construction of the Project could cause a barrier to the migration of lamprey species along the intertidal zone as the area is reclaimed. The impact has been mentioned in Table 10.10 and in paragraphs 10.6.59 and 10.6.62, stating that the lamprey could move through other parts of the estuary. However, the MMO does not consider that this is sufficient justification for the conclusion of no significant effect.</p>	<p><u>5-4-12</u></p> <p>What evidence exists for the premise that lamprey migrate preferentially along the intertidal zone?</p> <p>Able procured a report from the Institute of Estuarine and Coastal Studies on Lamprey and it is included in the ES at Annex 10.2. Paragraph 70 records that intertidal areas are not essential habitat for Lamprey.</p> <p><u>28-6-12</u></p> <p>The Applicant received details of the MMO's proposals for piling restrictions</p>	<p><u>29-5-12</u></p> <p>We have reviewed Annex 10.2 in more detail and agree with the assessment made. We therefore request no further information on this. We propose the addition of three conditions to the deemed marine licence to mitigate for the impact of piling noise on fish, as detailed in comments for 7.48.</p> <p><u>6-8-12</u></p> <p>The MMO are currently discussing mitigation for the impact of piling</p>



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		on 19 <sup>th</sup> June and is currently reviewing them.	on marine species with NE and EA. A draft was sent to Peter Stephenson on 8/6/12 from Annette Hewitson (EA). We will provide further comment in due course.  <u>03-08-12</u>  See comments for 7.46.  <u>07-09-12</u>  Piling conditions have now been agreed with and accepted by the Applicant. DCO and DML to be updated accordingly. Issue closed.
7.48	Paragraph 10.8.6 states that “a significant impact to local resident fish populations beyond those that would succumb to the loss of subtidal habitat is possible”. The only point at which any impact is mentioned is in paragraph 10.6.56. However other than to state there may be a locally significant effect, the impact is never described or quantified. Whilst the paragraph goes on to state that the conservation designations of the Humber Estuary SAC may not be affected, this is not to say the fish populations would not be affected either. A	<u>5-4-12</u> ERM to respond  <u>28-6-12</u> Refer to report EX10.4 in the Volume of SEI accompanying the Applicant’s comments on the Relevant Representations.	<u>29-5-12</u> The MMO has undertaken a thorough review of the fisheries information, including commercial fisheries as well as migratory populations and proposes the following mitigation for the impacts of noise from piling activities.  The Licence Holder must ensure that soft-start procedures are



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No	MMO	Able UK	MMO comments
	full description of the potential impact on resident fish populations should be provided.		<p>used to ensure incremental increase in pile power over a set time period until full operational power is achieved. The soft-start duration should be a period of not less than 20 minutes. Should piling cease for a period greater than 10 minutes, then the soft start procedure must be repeated.</p> <p><i>To allow mobile sensitive receptors to move away from the noise source, and reduce the likelihood of exposing the animal to sounds which can cause injury.</i></p> <p>Piling is not permitted during the period of between the 1<sup>st</sup> - 31<sup>st</sup> May to minimise the impact on smolt and elver migration.</p> <p><i>May is the peak smolt run period and peak migration period for Elvers coming into the estuary, this condition will minimise the impact on smolt and Elvers migration.</i></p> <p>Piling between 1<sup>st</sup> August and the</p>



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			<p>31<sup>st</sup> October must take place only during low tide and during daylight hours to further minimise the impacts on salmon migration.</p> <p><i>This is to mitigate the impacts on the remaining salmon migration period and any juvenile herring present, as most of the piling noise will travel through the air rather than the water.</i></p> <p><u>6-8-12</u> The MMO are currently discussing mitigation for the impact of piling on marine species with NE and EA. A draft was sent to Peter Stephenson on 8/6/12 from Annette Hewitson (EA). We will provide further comment in due course.</p> <p><u>03-08-12</u> Only impacts of dredged material and piling have been assessed, and the original comment hasn't been answered.</p> <p>For comments on mitigation for</p>

No	MMO	Able UK	MMO comments
			piling see comments for 7.46.  <u>07-09-12</u>  The MMO are currently awaiting clarification from the Applicant in relation to their text in Paragraph 10.8.6.
7.49	In general, many statements of impact are made but are not evidenced or backed up by appropriate references (for example, paragraphs 10.6.44, 10.6.47, 10.6.49 and 10.6.56). While there are references within paragraph 10.6 as a whole, all statements of impact need to be evidenced. Worked examples of how significance was calculated would assist interpretation.	<u>5-4-12</u> ERM to respond  <u>28-6-12</u> Environmental impacts cannot always be assessed quantitatively.  Refer to report EX10.4 – 10.6 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations for further impact assessment.	<u>29-5-12</u> I provide no further comment on this until the ERM comments are received.  <u>03-08-12</u> Reports EX10.4-10.6 appear to be referenced properly.
7.50	An auditable methodology of significance assessment is not provided in this Chapter; there are only statements as to whether an impact is significant, in many cases, not backed up by any references. The Applicant needs to provide these methodologies for consideration. Impact tables or matrices of significance, as provided in Chapter 12, would also aid interpretation.	<u>5-4-12</u> ERM to respond  <u>28-6-12</u> Refer to report EX10.4 – 10.6 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations for further impact assessment.	<u>29-5-12</u> I provide no further comment on this until the ERM comments are received.  <u>03-08-12</u>  The MMO is still considering this point.



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No	MMO	Able UK	MMO comments
			<u>07-09-12</u> As per previous comment made on 03-08-12.
<b>Chapter 14 Navigation</b>			
7.51-7.53		Informative, noted.	<u>29-5-12</u> Conditions relating to 7.51-7.53 should be drafted for inclusion on the deemed marine licence. We will provide further comments on this in due course.  <u>03-08-12</u> Conditions relating to these comments are not included in the draft DML. See Annex 2 for further comment.  <u>07-09-12</u> The MMO will work with the Applicant to obtain suitable conditions/requirements for inclusion in the DCO and DML.
7.54	The Applicant will require a licence under the 2009 Act for the construction, deposit and/or removal of any permanent or temporary pilings or mooring dolphins. The MMO would prefer for this to be deemed within the DCO in order for the	<u>5-4-12</u> The impact of installing temporary dolphins is covered by the piling assessment.	<u>29-5-12</u> We are currently still considering this point.  <u>03-08-12</u>





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	project to be considered as a whole. However, the MMO has not found any environmental impact assessment of this activity in the Environmental Statement which would be required for the licence to be deemed within the DCO as discussed at paragraphs 4.9 to 4.11.		<p>The Applicant has provided a clearer indication of the works they intend to undertake in the marine area in the SOCG. The MMO is currently considering these works to ensure an adequate assessment of the impacts has been undertaken. The MMO has requested the Applicant to produce a signposting document directing the reader to where the impact assessment has been made in the ES and supplementary information to assist in this, but is yet to receive it.</p> <p><u>07-09-12</u></p> <p>The MMO has again (22-08-12 via email) requested that the Applicant provide a 'signposting' document to provide clarity on where impacts have been assessed. It is our understanding that this document is currently in progress and the MMO will provide further comment on its receipt.</p>



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<b>8. Environmental Statement: Volume 2 Compensation Site</b>			
Chapter 28 Description of Development			
8.1-8.2		Informative	<u>29-5-12</u> Agree.
8.3	Erosion protection may be required, for example concrete blocks or rockfill. The Applicant may require a licence under the 2009 Act for this activity if the activity is taking place below mean high water springs. The MMO would prefer for this to be deemed within the DCO alongside the other marine licences in order for the project to be considered as a whole. However, the MMO has not found any environmental impact assessment of this activity in the Environmental Statement which would be required for the licence to be deemed within the DCO.	<u>5-4-12</u> Rock armour is proposed at the northern and southern revetments. The rock armour will be imported by road and placed by land based plant. What likely significant effect is anticipated and has not been assessed in the ES?	<u>29-5-12</u> We are currently still considering this point.  <u>03-08-12</u> See comments for 7.54.  <u>07-09-12</u> T The MMO has again (22-08-12 via email) requested that the Applicant provide a 'signposting' document to provide clarity on where impacts have been assessed. It is our understanding that this document is currently in progress and the MMO will provide further comment on its receipt.
8.4	It is not clear whether the final resulting areas of expected salt marsh, mud flat and subtidal habitat will compensate for lost habitat at the main site in a "like for like" fashion. This needs to be clarified by the Applicant.	<u>5-4-12</u> Annex 1 of the EC Directive 92/43/EEC does not identify subtidal habitat per se, as a specific habitat type. Three habitat types in the marine environment are affected by the works:	<u>29-5-12</u> I understand you are producing a table of habitat loss and habitat creation. We request a copy of this note and will provide further comments on this point once that



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No	MMO	Able UK	MMO comments
		<p>mudflat (1140), estuary (1130) and annuals colonising mud and sand (1310). These specific habitat types are being compensated on a 'like for like' basis.</p> <p><u>28-6-12</u> Refer to reports EX11.23 - 11.24 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p>has been received.</p> <p><u>03-08-12</u> Reports EX 11.23 and 11.24 provide detailed information on the losses and gains at the AMEP site. However, these reports do not provide estimates of amount of habitat type created and lost at the compensation site.</p> <p>The MMO understands that the Applicant is currently re-designing the compensation site and would request that this information is provided once the final compensation site design is agreed.</p> <p><u>07-09-12</u> The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12 submission ('Cherry Cobb Sands Compensation Site: 2<sup>nd</sup> Interim Report on detailed modelling, August 2012').</p>




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8.5	The anticipated areas of mud flat and salt marsh (after five years) alongside the areas of mud flat and salt marsh lost as a result of the development have not been provided. This is required to assess the effectiveness of the proposed Compensation Site (CS).	<p><u>5-4-12</u> Black and Veatch provided professional opinion to Natural England before the application was submitted. They are now undertaking the detailed design.</p> <p><u>28-6-12</u> Refer to reports EX28.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p><u>29-5-12</u> The MMO requests a copy of this report. As such I provide no further comment on this until that report is received.</p> <p><u>03-08-12</u> Regarding predicted accretion and erosion at the compensation site, the modelling reported appears plausible and valid and the review of information from Paull Holme Strays as a relatively local comparison site is welcomed.</p> <p>The modelling methodology is not described in any detail, but the MMO acknowledge that the compensation site is currently being re-designed and so EX 28.1 is presented as an interim report. The MMO request that a detailed modelling report describing the modelling work in detail and presenting the results for the finalised design is provided for comment once available.</p>

	<p style="text-align: center;"><b>AMEP</b></p> <p style="text-align: center;"><b>MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES</b></p> <p style="text-align: center;"><b>PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS</b></p>	<p style="text-align: right;"><b>Date: 07-09-2012</b></p>
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No	MMO	Able UK	MMO comments
			<p><u>07-09-12</u></p> <p>The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12 submission ('Cherry Cobb Sands Compensation Site: 2<sup>nd</sup> Interim Report on detailed modelling, August 2012').</p>
8.6		Informative	<p><u>29-5-12</u></p> <p>A condition relating to the requirement for monitoring plans should be drafted for inclusion on the deemed marine licence. We will provide further comments on this in due course.</p> <p><u>07-09-12</u> <u>Issue closed.</u></p>
<b>Chapter 32 Hydrodynamic and Sedimentary Regime</b>			
8.7	Annex 32.2, paragraph 3.1: The model performance could be tested using the adjacent coastal realignment (i.e. Paull Holme Strays). As the forcing conditions are the same, such a test would give an indication of the reliability of the model as compared to the current situation in which there are no calibration data for the area of interest.	<p><u>5-4-12</u> B&amp;V to respond</p> <p><u>29-5-12</u> Attempting a test using Paull Holme Strays as suggested would add another set of uncertainties without necessarily demonstrating that the Cherry Cobb Sands Model was reliable.</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>8-6-12</u> Accepted</p>

No	MMO	Able UK	MMO comments
		It is important to note that the Tuflow modelling software used is standard software routinely used by the Environment Agency for modelling inundation of tidal and fluvial floodplains.	
8.8	Annex 32.2, paragraph 3.3.6: The suggestion that the large differences between the two models is due to model resolution (and a more uneven surface in the higher resolution model) appears speculative. Evidence for this suggestion and reasoning as to why field measurements were not taken to validate the model (in Cherry Cobb Creek, for example) should be provided.	<p><u>5-4-12</u> B&amp;V to respond</p> <p><u>29-5-12</u> The detailed model has a 10m grid compared to the 100m grid used in the model of the whole Humber, hence there is much greater bathymetry detail in the detailed model than in the whole Humber model. The detailed model was nested within the Humber model and boundary conditions from the Humber model used to drive the detailed model. The whole Humber model was validated against levels and velocities within the estuary and the detailed model verified against output from the Humber model at the same grid location. Unfortunately we do not know the bed levels in the Humber model at the locations chosen, but because of differing grid resolution there are likely to be some differences in bed level in the two models at the point where comparisons are made.</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>8-6-12</u> Validation of one model using another model always adds uncertainty to conclusions. Measurements in intertidal areas can be difficult but are achievable (especially on the lower intertidal area where water depths are greater at high water) and would provide greater confidence in the conclusions of the modelling study. It needs to be demonstrated that there are no gross errors in the model thereby making its predictions unreliable. We request that you provide some figures for the range of velocities predicted in the intertidal areas by the model, and</p>



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No	MMO	Able UK	MMO comments
		Field measurements would have been desirable, but are difficult in intertidal conditions such as on top of Foulholme Sand and in Cherry Cobb Sands Creek. The operation of this particular model in the area of interest is almost totally determined by the bathymetry, so the potential increase in reliability and confidence in the model results was not considered sufficient to justify the investment.	<p>a brief assessment of whether these velocities are realistic. Ideally the assessment should make reference to measurement of velocity taken somewhere comparable within the estuary. Making this assessment would give some reassurance that the model predictions are valid, and need not be an onerous task.</p> <p><u>03-08-12</u></p> <p>The sensitivity analysis in EX28.1 highlights the level of uncertainty in the modelled data, in particular the sensitivity associated with changes in the modelled values for sediment concentration. By carrying out the sensitivity analysis and incorporating information gained from Paull Holme Strays the Applicant has endeavoured to reduce the uncertainty in the modelled predictions as far as is practical. Field measurements are unlikely to further reduce this uncertainty and therefore no further action is required on this point.</p>

No	MMO	Able UK	MMO comments
8.9	Annex 32.2, paragraph 3.3.7: A potential issue with the wetting and drying of surfaces in the model is cited for spikes at points 1 and 2. However, if this were the case one might reasonably expect to observe the same behaviour at all intertidal sites. However, this is not the case. Further discussion and justification is required to identify the likely causes and whether or not the model performance is acceptable.	<p><u>5-4-12</u> B&amp;V to respond</p> <p><u>29-5-12</u> The cause of some spikes is certainly due to wetting and drying process. This can also be seen on tide levels and flow direction plots (i.e. Figure 6 and 7 respectively). TufLOW manual warns that "... high velocities can briefly occur during the wetting process, and are not particularly representative of the peak velocity".</p> <p>Spikes at sites 1 and 2 are linked to wetting and drying. Spikes after HW time at sites 3, 5 and 7 are thought to be due to some instability in the model.</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>8-6-12</u> Accepted</p>
8.10	Annex 32.2, paragraph 3.3.10: The model results/performance should be compared statistically using an objective approach. On a number of the plots in Figure 7, the velocity, magnitude and phase are incorrect. For example, sites 2, 5 and 7 show significant magnitude or phase deviations between the two models.	<p><u>5-4-12</u> B&amp;V to respond</p> <p><u>29-5-12</u> It is important to remember that we are comparing one model against another, either/ both of which could be in error. Such an 'objective approach' may not help in the assessment of model reliability. Major differences at sites are considered in the preceding paragraphs. Hence in this instance we considered</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>8-6-12</u> This uncertainty adds weight to the comments in point 8.8 above.</p> <p>We agree that the differences are most likely to arise from differences in the model grids.</p>





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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
		<p>statistical methods were not helpful.</p> <p>We agree that there are differences at the cited points. The specific cause is not known, and which is closer to field conditions is also not known. Important to remember that the detailed model contains a much better representation of bathymetry than the whole Humber model, including a full representation of Cherry Cobb Sands Creek which takes drainage from the landward half of Foulholme Sands. Site 2 is in this part of the sandbank.</p> <p>We concluded that given the difference in model grid the differences were quite small.</p>	<p><u>03-08-12</u></p> <p>See comments for 8.8. No further action is required on this point.</p>
8.11	Annex 32.3, paragraph 3.4.5 and 3.4.11: The CS is predicted to give an increase in the maximum average current of 44% from 0.67 m/s to 0.97 m/s between the outlet and Stone Creek. It is stated that there will be increased erosion in this area, but no formal assessment is made to show whether this is correct and, if erosion is to occur, to what levels. As significant deepening is a highly likely impact of the proposed compensation site, it should be quantified in the assessment.	<p><u>5-4-12</u> B&amp;V to respond</p> <p><u>29-5-12</u> No assessment of the likelihood of erosion is included in Annex 32.2. This issue is covered in Annex 32.4 (section 4.4) and Annex 32.6 (section 3.3).</p> <p>These annexes do not quantify the deepening that will occur. The detailed modelling of the compensation site currently underway will be extended to</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>8-6-12</u> We welcome the extension of the detailed modelling work and will provide further comment on this once that report is received.</p> <p><u>03-08-12</u></p>



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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
		<p>assess the enlargement of Cherry Cobb Sands that is likely to occur because of the higher velocities.</p> <p><u>28-6-12</u> Refer to reports EX28.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p>Quantitative assessments of erosion and accretion for both compensation schemes and the enlargement of Cherry Cobb Sands Creek are made in EX28.1. No further information is required on this point but see comments for 8.5 regarding detail required for finalised design.</p> <p><u>07-09-12</u></p> <p>The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12 submission ('Cherry Cobb Sands Compensation Site: 2<sup>nd</sup> Interim Report on detailed modelling, August 2012').</p>
8.12	The MMO understands that further modelling work is being undertaken by the Applicant to predict the development of the realignment site for the first 10 years. The MMO would wish to see the results of this modelling and would need to have sight of any new design for the compensation site, along with a detailed method statement which would need to be agreed prior to works commencing.	<p><u>5-4-12</u> Noted, the design is currently being undertaken.</p> <p><u>28-6-12</u> Refer to reports EX28.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>03-08-12</u> Further modelling work has been completed for two proposed scheme layouts. The</p>



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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
			<p>development of the site over 5 years (rather than 10 years, as requested by the MMO) has been assessed for both schemes. No further information is required at this time but see comments for 8.5 regarding detail required for finalised design.</p> <p><u>07-09-12</u></p> <p>The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12 submission ('Cherry Cobb Sands Compensation Site: 2<sup>nd</sup> Interim Report on detailed modelling, August 2012').</p>
8.13	Annex 32.4: It has been stated that there are no data available for calibration and validation of the model. The Applicant should consider what evidence there is that this model has correctly predicted the effects of a coastal realignment, or how this may be assessed if no evidence readily exists. Although the CS under consideration here does not presently exist, there are other sites in and near the Humber estuary where similar activities have occurred. These sites would make an ideal blind-test of the model – that is the	<p><u>5-4-12</u> B&amp;V to respond, telecom on 10-5.</p> <p><u>29-5-12</u> Please see earlier response at point 8.7 on the value of a blind test. This particular model has not been used for previous Humber managed realignment sites. Previous realignment schemes have used MIKE 21 and Delft3D software in 2D mode. Model</p>	<p><u>29-5-12</u> I provide no further comment on this until the B&amp;V comments are received.</p> <p><u>8-6-12</u> The difficulty of validating the modelling predictions is acknowledged and accepted, and the use of knowledge gained from Paull Holme Strays is welcomed.</p>

No	MMO	Able UK	MMO comments
	model could be run without calibration/validation and compared afterwards with field data from an established re-alignment site. This would give confidence in the model results. It would be useful to know if the model was used previously with any of the Humber sites and, if so, how well it performed.	performance of water levels and inundation extent has been good. Siltation predictions were less reliable, especially at Paull Holme Strays. For this study we have taken advantage of experience at PHS reported in Annex 32.5 and Annex 32.4 (section 4.1) to 'calibrate' accretion and erosion predictions.	<u>03-08-12</u> No further comments.
8.14	Annex 32.4, paragraph 3.5.7: At point 16 there is a considerable change in flow speed. This is likely to scour a deeper channel and result in a slower speed. This model does not assess changes in bed level, which is a limitation. However, one could make predictions of the scour in the channel and use this information to model an anticipated 'equilibrium' channel configuration. At present the model only investigates the initial conditions rather than the hydrodynamic conditions that are likely to persist.	<u>5-4-12</u> B&V to respond, telecom on 10-5.  <u>29-5-12</u> We agree and as indicated in 8.12 new modelling work will include reporting on scour in the creek.  <u>28-6-12</u> Refer to reports EX28.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	<u>29-5-12</u> I provide no further comment on this until the B&V comments are received.  <u>8-6-12</u> We welcome the extension of the detailed modelling work and will provide further comment on this once that report is received.  <u>03-08-12</u> See comments for 8.12.  <u>07-09-12</u> The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12

No	MMO	Able UK	MMO comments
			submission ('Cherry Cobb Sands Compensation Site: 2 <sup>nd</sup> Interim Report on detailed modelling, August 2012').
8.15	Annex 32.4, paragraph 4.3: This paragraph is important, but it is only briefly documented and reported. The time-series of bed shear stress, plotted along with the critical deposition and erosion values, would be informative and should be included. Likewise, an explanation of why the increased velocities at point 19 (Figure 14b) result in a reduction (rather than the expected increase) in the annual erosion estimate (Table 12) would also be useful.	<p>5-4-12 B&amp;V to respond, telecom on 10-5.</p> <p>29-5-12 The time series of bed shear stress will be provided in the report of detailed modelling of the 100ha compensation site currently in progress.</p> <p>28-6-12 Refer to reports EX28.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p>29-5-12 I provide no further comment on this until the B&amp;V comments are received.</p> <p>8-6-12 We welcome the extension of the detailed modelling work and will provide further comment on this once that report is received.</p> <p>03-08-12 Time series of bed shear stress are shown (Figures 11 and 20). No further information is required on this point at this time.</p>
8.16	Annex 32.4, paragraphs 5.1.2 and 5.1.3: The qualitatively forecast " <i>high erosion levels</i> " in the Cherry Cobb Sands Creek should be quantified (i.e. erosion/accretion estimates) as for other parts of the study area. This should be done upstream and downstream of the breach where accretion and erosion (respectively) are expected.	<p>5-4-12 B&amp;V to respond, telecom on 10-5.</p> <p>29-5-12 As indicated in 8.12 and 8.14, erosion and accretion estimates for Cherry Cobb Sands Creek will be made as part of the detailed modelling studies underway.</p>	<p>29-5-12 I provide no further comment on this until the B&amp;V comments are received.</p> <p>8-6-12 We welcome the extension of the detailed modelling work and will provide further comment on this</p>

No	MMO	Able UK	MMO comments
		<u>28-6-12</u> Refer to report EX28.1 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	once that report is received.  <u>03-08-12</u> See comments for 8.11.  <u>07-09-12</u> The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12 submission ('Cherry Cobb Sands Compensation Site: 2 <sup>nd</sup> Interim Report on detailed modelling, August 2012').
<b>Chapter 33 Water Quality and Sediment Quality</b>			
8.17 – 8.18		Informative	<u>29-5-12</u> Agree
8.19	The results from locations TH11 and TH12 are higher than Cefas Action Level 2 for copper, mercury, lead and zinc; however it is unclear whether the methods are comparable to those used to determine the Cefas Action Levels. The MMO requests that details of the analytical methodologies used are provided in order to assess the comparability of this data. If it is not possible to compare the results with MMO criteria, the MMO may require re-sampling and testing using Cefas methods to ensure the direct	<u>5-4-12</u> These trial pit locations lie outside the realignment site.	<u>29-5-12</u> We have been provided with the trial pit location sites and confirm that, since these sites are outside of the realignment site, we have no further comment to make on this.



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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
	comparison of TH11 and 12.		
8.20	TH11 and TH12 also showed higher levels of pyrene and flouranthene than background levels in the Humber. The methods for these analyses also need to be provided to the MMO to determine the suitability of the data for a direct comparison to Cefas Action Levels.	<u>5-4-12</u> These trial pit locations lie outside the realignment site.	<u>29-5-12</u> We have been provided with the trial pit location sites and confirm that, since these sites are outside of the realignment site, we have no further comment to make on this.
8.21	Some sites were also tested for dichlorodiphenyldichloroethylene (DDE) and dieldrin however the limits of detection are several orders of magnitude above Cefas Action Level 1 (0.2 PPM and 0.001 PPM respectively). DDE and dieldrin concentrations have not, therefore, been adequately assessed for risk assessment purposes and will require further sampling and analysis.	<u>5-4-12</u> A second stage SI has commenced.  <u>28-6-12</u> Refer to report EX31.5 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	<u>29-5-12</u> Able have provided the MMO with the methodologies used for the additional site investigation works have the following comments: <ul style="list-style-type: none"> <li>• DDT and it's derivatives will need to be tested by a laboratory who can achieve an LOD below Cefas action level 1 (for example, the cefas laboratory);</li> <li>• Analysis of TBT and PCBs is also required;</li> <li>• Samples at depths for all contaminants is also required. It may be sensible to wait for the final design of the compensation site to be agreed to ensure that the sampling at depth is appropriate;</li> <li>• The MMO would need to</li> </ul>



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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
			<p>approve any remediation work undertaken. Full advice was provided to Jenn Dawes on 29/05/12.</p> <p><u>03-08-12</u></p> <p>Previous comments on methodologies still stand.</p> <p>Although TBT and PCBs have not been tested to Cefas limits of detection (LOD), the results are comparable and the MMO are content with the results provided that re-use of materials on site would be acceptable. No further assessment of TBT and PCBs is therefore required at present.</p> <p>Metals have been shown to be below Cefas Action Level (AL) 2, therefore no further analysis of metals is required at present.</p> <p>DDT – The LOD used was above Cefas AL 1. However, the MMO are content with the results with the exception of one sample (TP1) which showed significantly</p>





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Date: 07-09-2012

No	MMO	Able UK	MMO comments
			<p>elevated levels. TP1 at the surface showed levels five times that of Cefas AL 1 and there is currently no upper action level limit. DDD and DDD were below their limit of detection, so comparisons of ratios is impossible. However given the levels of DDT are higher than the breakdown products this suggests the DDT is from a fresh input. The Applicant is requested to provide further information with regards to the fate of the material in this area. If the material is to be excavated it should be removed from site. If the material is to remain details of how this material is to be used is required. Further analysis may be required to define the extent of this contamination and to identify the source of the contamination.</p> <p>Results for Dieldrin still need to be provided.</p> <p>PAHs – due to the methods used by the Applicant, these may be underestimates and the MMO</p>



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Date: 07-09-2012

No	MMO	Able UK	MMO comments
			<p>may require some re-analysis using more comparable methods.</p> <p>Once the final site design of the compensation site is agreed, the Applicant will need to provide full details of exact locations and depths of samples taken to date (and associated analysis results). The MMO will then advise if further contamination analysis is required. It is likely that it will be and the MMO is content for the above concerns to be addressed at that time.</p> <p><u>07-09-12</u> The MMO is content that any Requirements regarding contaminated land, as provided by the Environment Agency, will be sufficient to adequately address any concerns in relation to contamination currently present on site, and its treatment/removal prior to breaching and hence the area becoming part of the tidal marine environment. Issue closed.</p>
8.22	The MMO understands that the Applicant is	<u>5-4-12</u>	<u>29-5-12</u>

No	MMO	Able UK	MMO comments
	intending to undertake additional site investigation works. The MMO strongly recommend that the MMO are consulted on the scope of these works and the methodologies to be used to ensure that the results can adequately describe the contamination and pollution risk for the marine environment.	Noted, consultation has commenced.  <u>28-6-12</u> Refer to report EX31.5 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.	see comments for 8.21  <u>07-09-12</u>  <u>As 8.21 above. Issue closed.</u>
8.23	The MMO would require that works are not allowed to commence at the compensation site until the information requested in paragraphs 8.17 to 8.22 is provided to the MMO and the MMO has agreed in writing that the works should commence. Should the methodologies used be insufficient to be able to assess the risk of pollution to the marine environment, the MMO would require additional sampling and analysis of sediments to be undertaken place prior to works commencing. The MMO would require that this is made a condition of the deemed marine licence.	<u>5-4-12</u> Noted, BDB to consider appropriate drafting of the DML  <u>28-6-12</u> Revised draft Deemed Marine Licence is included in Appendix B of the Applicant's comments on the Relevant Representations.	<u>29-5-12</u> see comments for 7.25  <u>03-08-12</u>  See comments for 8.21.  <u>07-09-12</u>  <u>As 8.21 above. Issue closed.</u>
8.24	Paragraph 33.6.3 states " <i>the sensitivity of the receiving estuarine waters to contaminants is considered to be medium and the magnitude of effect to be medium, resulting in a moderate negative significant effect</i> ". Evidence of this statement has not been provided. Where possible, appropriate mitigation should be proposed and be detailed in the deemed marine licence.	<u>5-4-12</u> B&V to respond, telecom on 10-5.  <u>29-5-12</u> If the second stage SI shows contaminated land is present within the proposed managed realignment site, a mitigation strategy will be proposed in line with the risk assessment of Annex	<u>29-5-12</u> I provide no further comment on this until the B&V comments are received.  <u>8-6-12</u> We welcome the additional SI work and will provide further comment on the SI work and the



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Date: 07-09-2012

No	MMO	Able UK	MMO comments
		<p>31.4.</p> <p>We will advise MMO on testing procedures.</p> <p><u>28-6-12</u> Refer to report EX31.5 in the Volume of SEI accompanying the Applicant's comments on the Relevant Representations.</p>	<p>mitigation strategy once this information is received. Please see email to Jenn Dawes (Able UK) dated 29/05/2012 regarding our position on sampling and analysis requirements.</p> <p><u>03-08-12</u></p> <p>See comments for 8.21.</p> <p><u>07-09-12</u></p> <p><u>As 8.21 above. Issue closed.</u></p>
8.25	Paragraph 33.6.7 mentions that a soke dyke will need to be relocated. It is unclear whether this is below mean high water springs, but there is mention that the waters are saline, which implies that it is. Depending on its current and proposed location, this may require a licence under the 2009 Act. Details of the current and proposed location of the soke dyke should be provided to the MMO, as well as a brief intended method statement in order to clarify this point. Should this activity require a licence under the 2009 Act, the MMO would prefer for this to be deemed within the DCO in order for the project to be considered as a whole. However, the MMO has not found any assessment of this activity in the ES which would be required for the licence to be	<p><u>5-4-12</u> Plan AME-02016 shows the diverted position of the soke dyke behind the new flood defence. The existing feature is behind the existing defence. Neither the existing nor diverted drain lie within the marine environment.</p>	<p><u>29-5-12</u> We are currently still considering this point.</p> <p><u>03-08-12</u></p> <p>Accepted. No further comment.</p>



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Date: 07-09-2012

No	MMO	Able UK	MMO comments
	deemed within the DCO.		
<b>Chapter 34 Aquatic Ecology and Nature Conservation</b>			
8.26	Paragraph 34.6.2 states that while there will be damage to the salt marsh due to construction vehicles, but it will recover quickly. There is no evidence or references for this statement and further clarification is required.	<u>5-4-12</u> The paragraph needs to be read in the context of the previous paragraph. There should be no permanent or significant indirect effect on saltmarsh beyond the excavated channel.	<u>29-5-12</u> We are currently still considering this point.  <u>03-08-12</u> The MMO is still considering this point.  <u>07-09-12</u> Whilst recognising that impacts will occur as a result of the requirement to excavate a channel through the existing saltmarsh adjacent to the proposed breach site, impacts will be adequately managed through the production of the Code of Construction Practice (CoCP) and Ecological Mitigation and Monitoring Plan's (EMMP's) (e.g. fenced areas, rubber tyred plant etc). Issue closed.
8.27	Previous drafts of this chapter have mentioned that the removal of salt marsh and placement of any protective matting for vehicles tracking across salt marsh will be required during construction. There is no reference to this in the	<u>5-4-12</u> Paragraph 34.6.1 notes that approximately 2ha saltmarsh will be removed to create a drainage channel into the site. This is being compensated	<u>29-5-12</u> We are currently still considering this point.  <u>03-08-12</u>



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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
	final ES; however, the applicant has agreed that there will be some excavation of the foreshore during construction. Clarification is sought from the Applicant on whether this will form part of the construction methodology. If these activities are due to occur an impact assessment should be made of them in this DCO Application for the project to be considered as a whole.	for within the realignment site. Vehicles will use bog mats if required but this will not have any additive effect since the machines will operate within the channel that is being created. The bog mats will be recovered on completion of the works.	<p>The MMO understands that the Applicant is currently re-designing the compensation site. Once the final design has been agreed, the MMO requests the Applicant undertakes as assessment of the impact on saltmarsh of the final design.</p> <p><u>07-09-12</u></p> <p><u>The MMO will work with the Applicant to provide a revised sentence for DML Conditions to adequately address the temporary deposit of construction related materials (e.g. bog matting).</u></p>
8.28	The removal of salt marsh and placement of protective matting below mean high water springs are licensable activities under the 2009 Act. Should they be taking place, the MMO would prefer for this to be deemed within the DCO alongside the other marine licences in order for the project to be considered as a whole. However, the MMO has not found any assessment of this activity in the ES which would be required for the licence to be deemed within the DCO (as discussed in paragraphs 4.9 to	<p><u>5-4-12</u> The loss of saltmarsh is covered in the ES, is compensated for (refer to Table 11.16 and 11.17). The use of bog mats will not give rise to any likely significant effects.</p> <p><u>28-6-12</u> Refer to report EX11.23 – 11.24 in the Volume of SEI accompanying the Applicant's comments on the Relevant</p>	<p><u>29-5-12</u> We are currently still considering this point.</p> <p>We expect losses and gains of saltmarsh to be covered in the note mentioned at 8.4</p> <p><u>03-08-12</u> There does not appear to be any</p>



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Date: 07-09-2012

No	MMO	Able UK	MMO comments
	4.11). This would need to include describe the maximum envisaged extent of matting and the impact of the matting on the marine environment. This should also be included in the in-combination and cumulative impacts assessment for salt marsh habitat.	Representations.	<p>assessment of the impact or amount of matting required in EX11.23 or 11.24.</p> <p>Evidence to show that the use of bog mats will not cause environmental impact (Able comment 5-4-12) needs to be provided.</p> <p>Again, that Applicant will be required to supply this information for the final design of the compensation site.</p> <p><u>07-09-12</u></p> <p><u>As 8.27 above.</u></p>
8.29		Informative	<p><u>29-5-12</u></p> <p>A condition relating to the requirement for monitoring plans should be drafted for inclusion on the deemed marine licence. We will provide further comments on this in due course.</p> <p><u>07-09-12</u></p> <p>Issue closed.</p>
<b>Chapter 36 Drainage and Flood Risk</b>			



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### MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
8.30	Previous drafts of this chapter mentioned possible dredging of Stone Creek if siltation levels rise. Any specific reference to dredging has been removed but there is now mention of a monitoring and maintenance plan which will identify mitigation works (see paragraph 7.41).	<p><u>5-4-12</u> See response to 7.4</p> <p><u>28-6-12</u> The Applicant will undertake monitoring of siltation levels in Stone Creek.</p>	<p><u>29-5-12</u> See comments for 7.4</p> <p><u>03-08-12</u> Accepted. No further comment.</p>
8.31	The MMO requests that the Applicant clarifies whether additional dredging is likely to be required. If there is potential for additional dredging, the environmental impacts of this should be assessed in this DCO Application for the project to be considered as a whole.	<p><u>5-4-12</u> The impact of the scheme on sedimentation in Stone creek is assessed in Annex 32.4, Section 4.5 of the ES. Siltation is not expected to change as a consequence of the scheme. Nevertheless as an effect cannot be excluded due the uncertainty attached to hydrodynamic modelling. Accordingly paragraph 4.5.5 recommends monitoring of sediment levels. Routine maintenance dredging is currently undertaken by the EA with contributions from landowners and will have to continue. It is considered that there is only a slight risk that the frequency of dredging operations increases due to the scheme. Any possible increase in maintenance dredging would be miniscule compared to the annual maintenance dredging on the Humber and could not be considered to give rise to a likely significant effect.</p>	<p><u>29-5-12</u> I understand you are not now seeking permission to dredge Stone Creek.</p>





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## MMO RELEVANT RESPONSE – DRAFT ABLE RESPONSES PROGRESS UPDATE AND RESPONSES TO 2<sup>ND</sup> WRITTEN QUESTIONS

Date: 07-09-2012

No	MMO	Able UK	MMO comments
8.32	Any dredging or disposal would require a licence under the 2009 Act. The MMO would prefer for all licences under the 2009 Act to be deemed within the DCO alongside the other marine licences in order for the project to be considered as a whole. However, the MMO has not found any environmental impact assessment of this activity in the ES which would be required for the licence to be deemed within the DCO.	<u>5-4-12</u> No dredging is anticipated	<u>29-5-12</u> I understand you are not now seeking permission to dredge Stone Creek.

**Annex 2: Updates on progress in relation to the MMO's comments made in the Statement of Common Ground on the Environmental Statement, Final Version dated 27 July 2012**

**11. Chapters 4 and 28 Description of the Development**

**11.4 Activities requiring a Marine Licence**

11.4.2 The MMO considers that the activities licensable under the 2009 Act are close to being agreed. However, outstanding issues include:

- Coordinates for the location of all of the works activities need to be provided and agreed. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding inclusion of all necessary coordinates and plans for works areas in Schedule 8 of the DCO.
- Confirmation of the maximum quantity of capital dredged material to be disposed of to sea or to be incorporated into the works must be provided so that the DML properly reflects the proposals. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding inclusion of all necessary quantities in Schedule 8 of the DCO.
- Clarification on how the backfilling of the berthing pocket will be undertaken is required, in particular, the phase "following or during". **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding drafting of the DCO.
- Additional information on the dredge and disposal elements of the project are required, including, final locations volumes and methods. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding inclusion of all necessary quantities in Schedule 8 of the DCO.
- The MMO will not agree to "approximations" of dredged material, only maximum. **MMO 07-09-12:** Applicant has amended quantities to maximums only. Issue closed.
- Clarification is sought as to what the Applicant intends to do with regards to the EON and Centrica outfalls. The MMO understands that either the outfalls will be re-located or they will require dredging; the deemed marine licence must accurately reflect the works to take place. **MMO 07-09-12:** Further discussions with the Applicant have been undertaken. The MMO awaits clarification from the Applicant in relation to meetings they have arranged with the owners of the outfalls. The MMO is currently investigating the implications of licensing both options (i.e. dredge and relocation), however it is stressed that this is not the MMO's preferred option.

11.4.3 The MMO has commented in relevant representations, written representations and at the issue specific hearing on the DCO, that there are

outstanding questions with regards to whether an adequate assessment of the works has been undertaken through the EIA process. These comments are not repeated here but remain relevant. Agreement on the licensable activities and drafting of the deemed marine licence will not be possible if the activities licensed thereunder have not been properly assessed. Further comments are provided in the relevant chapters of this SoCG where appropriate. **MMO 07-09-12: No further comment at this time.**

## **12. Chapter 7 Geology, hydrogeology and ground conditions (including Annexes 7.1 to 7.6)**

### **12.5 Disposal of Capital Dredge material and Compliance with the Waste Framework Directive**

12.5.5 The MMO is not yet satisfied that an adequate assessment of capital dredging and disposal of capital dredged material has been undertaken. Outstanding issues include:

- Calculation of disposal site capacity. The MMO is not yet satisfied that an adequate assessment of disposal site capacity has been undertaken and has requested further information from the Applicant on this matter. This must include how the Applicant has undertaken an incombination assessment with other licences and applications that are either permitted to or seek to dispose of to these sites. A worst case scenario must be considered. Without this clarification, the MMO is not in a position to agree to the disposal of capital dredged material as detailed in Table 12.2. **MMO 07-09-12: Further information has been received from the Applicant on 23-08-12 and 06-09-12. The MMO is currently considering whether this information adequately addresses our concerns.**
- The MMO is not in a position to agree to the bed level to be maintained until calculations for disposal site capacity have been provided. **MMO 07-09-12: As comment above.**
- Gravel is not permitted to be disposed of to HU080. **MMO 07-09-12: The Applicant provided a further Technical Note on this issue on 05-09-12. The MMO is currently considering whether this information adequately addresses our concerns.**
- Confirmation of the maximum quantity of capital dredged material to be disposed of to sea or to be incorporated into the works must be provided so that the DML properly reflects the proposals. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding inclusion of all necessary quantities in Schedule 8 of the DCO.**
- With regard to paragraph 12.5.3, the information provided by the Applicant in the ES was not adequate to assess contamination of

dredged materials at Cherry Cobb Sands. Further comments are provided in Chapter 31. **MMO 07-09-12: This issue is now closed.**

- Correct coordinates for each site have not yet been provided for the pumping station channel. As such, the MMO has not had the opportunity to determine whether an adequate assessment of contamination has been made for this site. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding inclusion of all necessary coordinates and plans for works areas in Schedule 8 of the DCO.**

12.5.6 The Applicant will need to submit reports twice yearly in order to comply with the Ospar Convention. This will be made a condition of the deemed marine licence at Schedule 8.

- A number of additional conditions will be required for the deemed marine licence which are yet to be agreed with the Applicant. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.**
- Methodologies also need to be supplied. **MMO 07-09-12: as comment above.**

## **12.6 Maintenance Dredging of the AMEP Development and Disposal**

12.6.6 Additional information on the calculation of disposal of dredged material has been provided in EX8.6 The MMO has not had sufficient time to review these documents and provides no comments here on the values provided in Table 12.3 with regards to disposal of maintenance dredged material. Previous comments made in relevant and written representations remain relevant. **MMO 07-09-12: Further information has been received from the Applicant on 23-08-12 and 06-09-12. The MMO is currently considering whether this information adequately addresses our concerns.**

12.6.7 With regards to compliance with the Ospar Convention, the sampling reported in the ES and referred to above relates to capital dredged material. Additional sampling and contamination analysis is likely to be required for maintenance dredged activities and will be made a condition of the deemed marine licence. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.**

12.6.8 Coordinates for some of the dredged locations are yet to be agreed. These need to be agreed in order for the MMO to be capable of undertaking a thorough assessment of the dredge and disposal activities. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding inclusion of all necessary coordinates and plans for works areas in Schedule 8 of the DCO.**

12.6.9 The MMO requests that the applicant clarify whether the EON and Centrica outfalls will be re-located or managed through dredging. **MMO 07-09-12: Further discussions with the Applicant have been undertaken. The MMO**

awaits clarification from the Applicant in relation to meetings they have arranged with the owners of the outfalls. The MMO is currently investigating the implications of licensing both options (i.e. dredge and relocation), however it is stressed that this is not the MMO's preferred option.

- 12.6.10 The applicant will need to submit reports twice yearly in order to comply with the Ospar Convention. This will be made a condition of the deemed marine licence at Schedule 8. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.
- 12.6.11 Additional conditions for the deemed marine licence will be required and are yet to be agreed. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.
- 12.6.12 Methodologies also need to be supplied. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.

## **12.7 Compliance with the OSPAR Convention**

- 12.7.7 With regards to compliance with the Ospar Convention, the sampling reported in the ES and referred to above relates to capital dredged material. Additional sampling and contamination analysis is likely to be required for maintenance dredged activities and will be made a condition of the deemed marine licence. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.
- 12.7.8 Coordinates for some of the dredged locations are yet to be agreed. These need to be agreed in order for the MMO to be capable of undertaking a thorough assessment of the dredge and disposal activities. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding inclusion of all necessary coordinates and plans for works areas in Schedule 8 of the DCO.
- 12.7.9 The applicant will need to submit reports twice yearly in order to comply with the Ospar Convention. This will be made a condition of the deemed marine licence at Schedule 8. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.
- 12.7.10 Additional conditions for the deemed marine licence will be required and are yet to be agreed. **MMO 07-09-12:** Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.

## **13. Chapter 8 Hydrodynamic and Sedimentary Regime (including Annexes 8.1 to 8.4)**

### **13.3 Modelling including methods used and input parameters**

13.3.4 The MMO agrees that the modelling undertaken, including the methods used and input parameters are appropriate to assess the Project. However, the MMO will expect the applicant to comment on the significance that any design changes to the compensation site design may have on the assessment undertaken. Further comments on this are made in Section 24 of this SoCG. **MMO 07-09-12: No further comment to those already made.**

#### 13.4 Change in estuary processes

13.4.7 The MMO has some outstanding questions with regards to maintenance dredging. See comments in Section 12 of the SoCG for further detail. **MMO 07-09-12: as comments for Section 12 above.**

#### 13.5 Disposal at HU082

13.5.5 The MMO has some outstanding questions with regards to capital dredging. See comments in Section 12 of the SOCG for further detail. **MMO 07-09-12: as comments for Section 12 above.**

#### 13.6 Monitoring

13.6.2 The MMO agrees that monitoring is required but the period and specification of that monitoring have yet to be discussed and agreed with the applicant. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO, which will include the provision of EMMP's.**

### 14. Chapter 9 Water and sediment quality (including Annexes 9.1 to 9.6)

#### 14.4 Change in thermal plume at CW outfalls

14.4.4 The MMO is still considering the additional information contained in the supplementary report EX9.7 and is not in a position to provide comments at this stage. Previous comments made in the MMOs relevant and written representations remain valid. Comments made in Sections 11 and 12 of this SoCG regarding the EON and Centrica outfalls are also relevant here. **MMO 07-09-12: The Applicant has confirmed that the Centrica outfall would not be moved in isolation. Other scenarios are fully assessed in EX9.7. Issue closed.**

#### 14.6 Compliance with Water Framework Directive

14.6.5 Compliance with the WFD is an integral requirement for licensing under the MCAA. The deemed marine licence at Schedule 8 of the DCO may be the appropriate mechanism for any mitigation required to be secured. The MMO has not had sufficient time to review the additional material provided in EX8.12 and as such are not in a position to comment at this stage. **MMO 07-09-12: The Applicant's report requires updating to reflect comments made by the Environment Agency (e.g. the report should have used the EA's**

'Clearing the Waters' Guidance for assessment of dredging activities). Final MMO sign off will not be possible until the Environment Agency's concerns have been addressed.

## **15. Chapter 10 Aquatic ecology (including Annexes 10.1 to 10.3)**

### **15.5 Migratory salmonid fish**

- 15.5.7 No agreement has yet been reached with the applicant with regards to impacts or mitigation for the impact of piling on migratory salmonids. Previous comments made in the MMOs relevant and written representations remain valid but are not repeated here. Any mitigation would need to be secured through the deemed marine licence at Schedule 8 of the DCO. **MMO 07-09-12:** Licence conditions to be included in Schedule 8 of the DCO in relation to piling activities have been agreed and accepted by the Applicant. It may however be necessary to secure an additional package of compensatory measures to mitigate for residual impacts upon migratory salmonid species – discussions ongoing between Applicant and EA.

### **15.7 River and sea lamprey**

- 15.7.4 The MMO agrees in principal that any mitigation agreed for Atlantic salmon may also be sufficient to mitigate for any impacts on lamprey, however, this will need to be assessed once the mitigation for salmon is agreed. **MMO 07-09-12:** Piling conditions have now been agreed with and accepted by the Applicant. The DCO and DML are to be updated accordingly. Issue closed.

### **15.8 Direct and indirect impacts upon intertidal and subtidal habitats**

- 15.8.1 The MMO has not had sufficient time to review EX11.23 and EX11.24 and so are not in a position to provide further comments at this stage. Previous comments made in the MMOs relevant and written representations remain relevant. The MMO will expect the Applicant to comment on the significance that any changes may have on the assessment undertaken. Further comments on this are made in Section 24 of this SOCG. **MMO 07-09-12:** The quantum of habitats affected by AMEP as reported in Reports EX11.23 and 11.24 has been superseded by the figures presented in the shadow HRA Statement of Common Ground (27/08/12).

### **15.9 Rockfill within the berthing pocket**

- 15.9.5** The MMO has not had sufficient time to review EX10.6 and so are not in a position to provide further comments at this stage. Previous comments made in the MMOs relevant and written representations remain relevant. **MMO 07-09-12:** The MMO is still reviewing the document.

## **16. Chapter 11 Terrestrial ecology and birds (including Annexes 11.1 to 11.13)**

### **16.8 Direct loss of terrestrial feeding and roosting areas for SPA birds**

- 16.8.6 The conservation of protected species and the application of the Habitats and Birds Directives are integral requirements for licensing under the MCAA.



The deemed marine licence at Schedule 8 of the DCO may be the appropriate mechanism for some of the mitigation for the impacts on breeding birds to be secured. The MMO is in ongoing discussions with Natural England and the Applicant with regards to this but agreement is yet to be reached. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.**

## **16.9 Loss of intertidal feeding and roosting areas for SPA birds**

16.9.10 The conservation of protected species and the application of the Habitats and Birds Directives are integral requirements for licensing under the MCAA. The deemed marine licence at Schedule 8 of the DCO may be the appropriate mechanism for some of the mitigation for the impacts on SPA birds to be secured. The MMO is in ongoing discussions with Natural England and the Applicant with regards to this but agreement is yet to be reached. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.**

## **16.10 Disturbance to SPA birds caused by percussive piling noise**

16.10.8 The conservation of protected species and the application of the Habitats and Birds Directives are integral requirements for licensing under the MCAA. The deemed marine licence at Schedule 8 of the DCO may be the appropriate mechanism for some of the mitigation for the impacts on SPA birds to be secured. The MMO is in ongoing discussions with Natural England and the Applicant with regards to this but agreement is yet to be reached. **MMO 07-09-12: Discussions are ongoing with the Applicant regarding the licence conditions to be included in Schedule 8 of the DCO.**

## **24. Chapter 28 Description of the compensation site**

### **24.1 General**

24.1.2 The comments made in this SOCG on Volume 2 of the ES must be considered in the knowledge that the compensation site is currently subject to ongoing design. The three Agencies will expect the Applicant to comment on the significance that any changes to the design of the compensation site may have on the assessment undertaken in the ES and supplementary reports once a final design for the compensation site is agreed. **MMO 07-09-12: The MMO is currently considering the updated compensation site design report as submitted by the Applicant in their 03-08-12 submission ('Cherry Cobb Sands Compensation Site: 2<sup>nd</sup> Interim Report on detailed modelling, August 2012').**

## **27. Chapter 31 Geology and ground conditions (including Annexes 31.1 to 31.4)**

### **27.3 Ground contamination within the development site**

27.3.6 The MMO requested that sampling and analysis was undertaken across the compensation site to ensure that, once the breach was made, there was no significant risk of pollution of the marine environment.



27.3.7 Whilst the Applicant has undertaken some sampling and analysis, a number of outstanding issues remain:

- Some of the methodologies used are not comparable to those the MMO use and so direct comparisons cannot be made;
- The elevated DDT levels are a cause for concern. The MMO require further information on what the material at this location will be used for. Further sampling and analysis may be required to clarify the extent of this contamination.
- Analysis for Dieldrin are required and have not been provided;
- We are not yet satisfied that adequate sampling (e.g. at depth) has been undertaken.

27.3.8 The MMO will require these issues to be resolved prior to any breach of the compensation site. Since the compensation site is currently subject to ongoing design, the MMO will assess further contamination analysis requirements once the design has been finalised and advise the Applicant of additional sampling and analysis requirements. This information could be supplied in a remediation strategy, which would need to be a requirement of the deemed marine licence at Schedule 8 of the DCO. At present, the MMO would not agree to the site being breached. **MMO 07-09-12:** The MMO is content that any Requirements regarding contaminated land, as provided by the Environment Agency, will be sufficient to adequately address any concerns in relation to contamination currently present on site, and its treatment/removal prior to breaching and hence the area becoming part of the tidal marine environment. Issue closed.

## **28. Chapter 32 Hydrodynamic and sedimentary regime (including Annexes 32.1 to 32.6)**

### **28.5 Impacts on estuary wide processes**

**MMO 07-09-12:** No comment was provided by the MMO in Section 28.5 the ES SOCG, through a cross was indicated in Table 28.1 with regards to 'Impacts on estuary wide processes'. The MMO is still considering the additional information as supplied by the applicant in their submission to PINS on 3<sup>rd</sup> August 2012 (including the report 'Cherry Cobb Sands Compensation Site: 2<sup>nd</sup> Interim Report on detailed modelling, August 2012', which superseded earlier versions.

## **29. Chapter 33 Water and sediment quality**

### **29.3 Water Framework Directive Compliance**

**MMO 07-09-12:** As comments at paragraph 14.6.5.

## **35. Chapter 44 In-combination impacts**

## 35.1 General

35.1.12 The MMO has not had sufficient time to review EX44.1. Some comments on incombination assessment are included in Section 12 with regards to dredge and disposal but are not repeated here. **MMO 07-09-12: The MMO is still considering this report. Dialogue is ongoing between the Applicant, MMO, Environment Agency and Natural England.**

### **Q. 69: To what extent does it address the issues raised in your Relevant Representations or Written Representations on the potential impacts on European Sites?**

The joint Statement of Common Ground (SOCG) for the shadow HRA, submitted to PINS on Friday 27<sup>th</sup> August 2012, addresses outstanding concerns in relation to our role as appropriate authority with regards to the enforcement of the DML. As outlined in the SOCG, the MMO is not the Competent Authority with regards to the Habitats Regulations under the DCO process. Therefore, the MMO remains as an interested party in this process.

As outlined in paragraphs 3.8.6 and 4.2.2 of the sHRA SOCG, the effects of capital and maintenance dredging and disposal on sub-tidal habitat and benthic communities are subject to ongoing discussions between the Applicant and the MMO, NE and EA.

As outlined in paragraph 5.1.6 of the sHRA SOCG, *'the MMO is satisfied with the compensation measures required, as outlined in Table 5.1 [of the sHRA SOCG], developed by AHPL in discussion with NE in their role as Statutory nature Conservation Body and that an appropriate EMMP will be incorporated within the DML to require monitoring of the effects of the scheme, and to allow for remedial actions to be taken to ensure the requirements of the Habitats Regulations are fulfilled'*.

**Q. 68: MMO position on Additional Information submitted by Applicant to Planning Inspectorate on 29 June 2012**

Ref.	Report Title	Author	MMO position (7 <sup>th</sup> September 2012)
<b>FILE 17</b>			
	Compensation Agreement for Immingham Outer Harbour and Hull Quay 2005	©Natural England	N/A
EX3.1	Able Humber Port: Northern Area Planning Committee Report February 2012	North Lincolnshire Council	N/A
EX7.7	Materials Management Plan (Commentary and Form)	Shadbolt Environmental	<p>This document requires updating to recognise the presence of contamination at the Cherry Cobb Sands Site compensation site.</p> <p>See Items 8.21 to 8.24 in Annex 1, Table 54.1 for comments related to management of contaminated materials.</p>
EX8.5	Validation of 3D Flow & Sediment Models used for Assessment of Impacts of AMEP on Fine Sediment Transport	HR Wallingford	Final MMO sign off is dependent upon the production of a 'Signposting' document from Applicant (see Items 7.30 to 7.34 in Annex 1, Table 54.1).
EX8.6	Able Marine Energy Park Assessment of Maintenance Dredging Requirements. Technical Note DDR4808-04	HR Wallingford	Final MMO sign off is dependent upon the production of a 'Signposting' document from Applicant (see Items 7.30 to 7.34 in Annex 1, Table 54.1).

Ref.	Report Title	Author	MMO position (7 <sup>th</sup> September 2012)
EX8.7	AMEP Supplementary Report – Modelling of Final Quay Design (Supplement to Annex 8.1 of the ES)	JBA Consulting	Final MMO sign off is dependent upon the production of a 'Signposting' document from Applicant (see Items 7.30 to 7.34 in Annex 1, Table 54.1).
EX8.8	Able Marine Energy Park Update to Longer Term Morphology Predictions in the Region of the Centrica and E.ON intakes and outfalls. Technical Note DHR4808-01	HR Wallingford	Final MMO sign off is dependent upon the production of a 'Signposting' document from Applicant (see Items 7.30 to 7.34 in Annex 1, Table 54.1).
EX8.9	Able Marine Energy Park Assessment of Changes to Morphology (particularly intertidal) between the Humber International Terminal (HIT) and Humber Sea Terminal (HST). Technical Note DDR4808-03	HR Wallingford	Final MMO sign off is dependent upon the production of a 'Signposting' document from Applicant (see Items 7.30 to 7.34 in Annex 1, Table 54.1).
EX8.10	Able Marine Energy Park 3D Mud Modelling. Morphological Assessment of Changes South-east of Development. Technical Note DDR4808-02	HR Wallingford	Final MMO sign off is dependent upon the production of a 'Signposting' document from Applicant (see Items 7.30 to 7.34 in Annex 1, Table 54.1).
EX8.11	Able MEP Habitat Compensation Scheme. Water Framework Directive Assessment. Technical Note DHM6835-01 R1	HR Wallingford	Superseded by Applicants further submission EX8.12.
EX8.12	Able Marine Energy Park and Habitat Compensation Scheme Water Framework Directive Assessment. Technical Note DHM6835-02	HR Wallingford	<p>Report requires updating to reflect Environment Agency comments (e.g. the report should have used the EA's 'Clearing the Waters' Guidance for assessment of dredging activities).</p> <p>Final MMO sign off will not be possible until the Environment Agency's concerns have been addressed.</p>

Ref.	Report Title	Author	MMO position (7 <sup>th</sup> September 2012)
EX8.13	Record of Appropriate Assessment (Under Regulation 61 the Conservation of Habitats and Species Regulations 2010 (The “Habitat Regulations”) (SI NO. 2010/490).  Immingham Oil Terminal Approach Channel Dredge, Humber Estuary.	MMO	N/A
EX9.7	Able Marine Energy Park Assessment of the Effects of Relocations of the E.ON and Centrica outfalls on Thermal Recirculation (EX 6803 R1)	HR Wallingford	Although report EX9.7 does not assess the scenario of moving the Centrica outfall alone, the Applicant has indicated in meetings that this would not happen in isolation.  Accepted
EX10.4	Impact of Dredging and Dredged Material Disposal on 1) Subtidal and Intertidal Features and 2) Aquatic Ecology	ERM	The report is lacking in provision of an auditable methodology of significance.  Dialogue ongoing with Applicant.
EX10.5	Supporting Information on Harbour Porpoises in the Humber Estuary	ERM	The report is lacking in provision of an auditable methodology of significance.  Dialogue ongoing with Applicant.
EX10.6	Impact of Berthing Pocket Construction	Able UK Ltd	The report is lacking in provision of an auditable methodology of significance.  Dialogue ongoing with Applicant.
EX10.7	Effects of Soft Start	ERM	Accepted
EX11.14	Biotopes of the Intertidal and Subtidal Sediments around the AMEP site in the Humber Estuary	IECS	Accepted

Ref.	Report Title	Author	MMO position (7 <sup>th</sup> September 2012)
EX11.16	Able Marine Energy Park Assessment Update for Breeding Birds	Dr. S Percival	N/A
EX11.17	AMEP Vascular Plant Surveys	ERM	N/A
EX11.18	Sensitive Time Periods for Birds at AMEP Compensation Site	ERM	N/A
EX11.19	AMEP Bat Surveys: Supplementary Note	ERM	N/A
EX11.20	Draft Great Crested Newts Licence Application – Acknowledgement of Receipt & Natural England Correspondence	Able UK Ltd	N/A
EX11.22	Impact of the SPMTs and the Cranes on the Operational Buffer, and Operational Noise Effects on Birds at North Killingholme Haven Pits	ERM	N/A
EX11.23	Immediate Habitat Losses within the Designated Site	Able UK Ltd	Superseded by HRA SOCG (24-08-12).
EX11.24	Medium and Long Term Quantum of Habitat Loss	Able UK Ltd	Superseded by HRA SOCG (24-08-12).
<b>FILE 18</b>			
EX11.26	Impact of the Pumping Station	ERM	Superseded by HRA SOCG (24-08-12).
EX11.27	Phase 2 Survey	Just Ecology	N/A
EX11.28	Great Crested Newt Survey	Just Ecology	N/A
EX11.29	Water Vole Survey	Just Ecology	N/A
EX11.30	Able Marine Energy Park (AMEP) – Location of Replacement Ponds for Great Crested Newts	ERM	N/A
EX11.31	M456 Invertebrate Survey	A. Godfrey	N/A

Ref.	Report Title	Author	MMO position (7 <sup>th</sup> September 2012)
EX13.2	Addendum to Flood Risk Assessment	JBA Consulting	N/A
EX14.4	Navigation Simulation Study, March 2012	Able UK Ltd & South Tyneside College	Accepted
EX15.3	A160 Killingholme Humber Port Access, Stage 1 Road Safety Audit	AECOM	N/A
EX15.4	A160 Killingholme Humber Port Access, Stage 1 Road Safety Audit Designer's Response	AECOM	N/A
EX15.5	Able Marine Energy Park Stage 1 Road Safety Audit	JMP	N/A
EX19.1	Lighting Lux Plans	Able UK Ltd	N/A
EX20.3	Additional Landscape Masterplan	ERM	N/A
EX28.1	Cherry Cobb Sands Compensation Site Interim Report on Detailed Modelling	Black & Veatch	Report superseded by Applicants further submission on 3 <sup>rd</sup> August 2012 ('Cherry Cobb Sands Compensation Site: 2 <sup>nd</sup> Interim Report on detailed modelling, August 2012').
EX28.2	Old Little Humber Farm: Wet Grassland Creation, Management and Monitoring Plan	Thomson Ecology	N/A
EX31.5	Cherry Cobb Sands Phase 2 Site Investigation (Draft)	Delta Simons Environmental	Accepted. However see Items 8.21 to 8.24 in Annex 1, Table 54.1 for comments.
EX34.2	An Assessment of Temporal Variation of Benthic Invertebrate Communities in the Humber Estuary	IECS	Accepted

Ref.	Report Title	Author	MMO position (7 <sup>th</sup> September 2012)
EX35.12	Farmland Disturbance at Cherry Cobb Sands	Able UK Ltd	N/A
EX35.13	Potentially Excepted Information: Land at Cherry Cobb Sands, Badger Survey	The Badger Consultancy	N/A
EX36.2	North Bank Flood Defence Crest Height	Black & Veatch	N/A
EX36.3	Change in Flood Risk to Properties on the North Bank	Able UK Ltd	N/A
EX44.1	Cumulative and In-combination Effects	ERM & Able UK Ltd	The MMO is still considering this report. Dialogue is ongoing between the Applicant, MMO, Environment Agency and Natural England.