AQUIND Limited

AQUIND INTERCONNECTOR

Consultation Report – Appendix 1.7C Marine Specific – Briefing Note of Meeting with Natural England 27 June 2019

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Natural Power Memorandum			
To	Natural England	Date	July 2019
From	Natural Power	Ref.	1199524

Briefing Note for Ongoing Consultation: Responses to PEIR feedback

The following table provides a summary of key items contained within feedback on PEIR, gratefully received from Natural England (NE).

This briefing note is structured in order to provide information to reviewers as to how the applicant proposes to address the comments received as part of the s.42 consultation process. The final column of the table provides record of the outcomes of a teleconference held on 27/06/2019 at 10.30 a.m. which focused on the PEIR comments and how they will be addressed.
Attendees at the teleconference included Richard Morgan, Alex Fawcett and Zara Ziauddin from Natural England, and Ross Hodson, Sarah Lister and Emma Toogood from Natural Power.

Item	Topic	*Comment*	Applicant's Response	Teleconference Outcome
1	**Physical Processes**	We note that the rationale and conclusions of the worst-case design envelope (section 6.6.2) and subsequent impact assessment (section 6.6.3) are descriptive, relying on studies and evidence from other projects. These sections would benefit from the use of more specific analysis relevant to this project and study area. Where other studies are referred to, a description of how and why they are analogous in terms of features such as sediment type, water depth and current speeds would be useful.	The worst-case design parameters presented are specific to the Project and have been provided by the engineering team who has designed the Project. It is acknowledged that certain elements of the assessment are descriptive as it is considered that sufficient evidence already exists from other projects similar in scale and nature to this Project. It should be noted; all descriptive or empirical assessment is considered within the context of the project specific analysis conducted to inform our understanding of baseline conditions. Where evidence is gathered from previous studies, further discussion/analysis regarding the similarities in the local and regional hydrodynamic and sedimentary regime to provide evidence as to the relevance of these data/analysis to the project will be provided. This will be included within the final Environmental Statement (ES) .	Natural England would like further context to the conclusions made and if evidence from other projects has been used then the similarities in project features should be made clear. The approach is agreed but further information is required to be present in the final ES.
2	**Physical Processes**	Table 6.17 (page 6-100) – Worst Case Design Parameters: Natural England requests an understanding of how the figures have been derived for the dredged material. In addition to this, the area of seabed that will be impacted by dredging and disposal should be defined in terms of seabed footprint and not just the volume.	Further consultation via a teleconference (07/05/2019) has been undertaken with Natural England in relation to agreeing an approach to dredge and disposal works (see final meeting minutes in Annex 1 at the end of this note). It is acknowledged that defining the area of seabed impacted by the act of dredging and deposit of dredged material is required alongside consideration of the volume of material to be dredged (and disposed) within these areas and this will be reported within the worst-case design parameters. Furthermore, the method used to determine the predicted volumes of material to be dredged will be reported, either within the ES chapter itself or within the Seabed Characterisation Report that will accompany the chapter.	Natural England are content with this approach.
3	**Physical Processes**	Table 6.17 (page 6-100) – Worst Case Design Parameters: Natural England recommends that for clarity, it would be of benefit to list the Worst Case Scenario (WCS) by impact rather than the activity. For example, several potential impacts are listed as causing increases to nearbed Suspended Sediment Concentration (SSC) but it remains unclear as to which is the worst case for nearbed SSC. Some of the potential impacts may result in higher concentrations of SSC over a small area and others a lower SSC concentration over larger areas.	Further information and clarity relating to worst-case design parameters will be provided within the ES chapter.	Natural England requires further clarity as to what impacts/pressures are relevant to which receptor/s. The PEIR contains a lot of information to assimilate so it would be useful if the Worst Case Scenario was made clear and why it is considered the WCS.
4	**Physical Processes**	Clarity is required on why potential SSC impacts are not included	Further information and clarity relating to worst-case design	The PEIR contains a lot of information to assimilate so it would be

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		under dredging and disposal in Table 6.17 (page 6-100). In addition, Natural England notes that the use of Mass Flow Excavation (MFE) for sandwave clearance is not mentioned in Table 6.17, and requests clarification if this represents the WCS.	parameters will be provided within the ES chapter.	useful if the Worst Case Scenario was made clear and why it is considered the WCS. It was discussed that both methods of clearance may be used (MFE/Dredging). It needs to be clear which method is being used as WCS and explain why it is WCS.
5	**Physical Processes**	Paragraph 6.6.3.3: clarification is required on how the NEMO Link Interconnector study translates to this area in terms of water depth, sediment type and other relevant features. This study has yet to be validated by monitoring. Monitoring data from the Race Bank Offshore Wind Farm has indicated that whilst some recovery from sandwave clearance can be seen in a timescale of a few months, full recovery is likely to take years.	This will be considered further, and relevant detail provided in the final ES.	A discussion was had that the sand banks at Race Bank are features of a SAC and as such, were under more rigorous assessment due to the legislative requirements of the HRA (and what was deemed "full recovery" was set in a HRA context). Although the sandwaves being cleared in the Channel are not designated features Natural England advised that their ecological recovery does need to be considered and assessed. Natural Power advised that they can use the recovery information from other projects to contextualise and assess them impacts on recovery of the sandwaves for the AQUIND works, however the results of this assessment should be viewed proportionately. Natural England advised that they consider this further and provide further clarification.
6	**Physical Processes**	Paragraph 6.6.3.5: Natural England welcomes further information on potential disposal plumes and areas likely to be affected by deposition.	Plume dispersion modelling to assess the temporal and spatial extent of sediment plumes generated during dredge disposal operations, associated suspended sediment concentrations and thickness of deposits on the seabed is currently being undertaken. The results of the modelling will be presented within the ES.	Agreed. Natural England welcomes this information.
7	**Physical Processes**	Paragraph 6.6.3.6: flotation pits have a greater impact on near-field flow and this should be considered and assessed if this approach is intended to be used.	The use of flotation pits for construction/installation of the cables is no longer proposed and will not be included in the ES project description.	Natural England asked whether this is removed from the Project Description and whether these works will be undertaken and consented through a separate marine licence. Although Natural Power could not confirm that flotation pits would never be an option, they explained that the project engineers have been engaging with potential contractors regarding this method and it is now considered unlikely that this method would be required to build out the scheme.
8	**Physical Processes**	Paragraph 6.6.3.14: we note that the effects of MFE are assessed as the WCS for cable installation operations.	Further information and clarity relating to worst-case design parameters will be provided within the ES chapter.	Agreed. Further clarity on WCS will be provided within the ES.
9	**Physical Processes**	Paragraphs 6.6.3.15 – 6.6.3.19: whilst reference to other studies are useful, they should be put into context by stating where similarities in seabed are between the studies. In this case, consideration should be given to what the WCS increase would be for SSC (over a given area and for how long). This should be presented in the context of background SSC in the relevant area, which may or may not be analogous to other projects. Consideration should also be given to SSC increases and subsequent deposition from sandwave clearance.	Further information regarding suspended sediments mobilised during construction and or during the operational lifecycle of the cable will be provided within the final ES. Where information from other projects is utilised greater consideration of seabed conditions and the environmental setting will be provided to assess/provide evidence as to the relevance of the data to the current project.	Natural England would like further context to the conclusions made and if evidence from other projects has been used then the similarities in projects should be made clear. The approach is agreed but further information is required to be present in the final ES.
10	**Physical Processes**	Paragraph 6.6.3.24: further detail is required on any change in seabed height due to cable protection and this should be documented in the WCS. Evidence should be provided on the potential impact upon sediment transport processes, rather than defining the impacts as negligible within the scale of natural variability of the local seabed topography.	Further information and clarity relating to worst-case design parameters, and the resultant effects will be provided within the ES chapter.	Agreed. Further clarity on WCS will be provided within the ES.
11	**Physical Processes**	Paragraph 6.6.4.4: Natural England requests further information	The need to consider the decommissioning at the early stages of the	Natural England advised that this comment was more about

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		with respect to whether cable protection will be removed upon decommissioning.	consenting process is acknowledged. Decommissioning activities will be determined by the relevant legislation and guidance available at the time of decommissioning. In addition, a decommissioning plan will be developed and agreed with The Crown Estate. It is anticipated that a separate Marine Licence application for decommissioning works may be required closer to the time, and the decommissioning plan would support this application and provide the level of detail that cannot be provided at this current time. At the time of decommissioning, the options for decommissioning the cable will be evaluated and could include consideration of leaving the marine cable in situ, removal of the entire marine cable or removal of sections of the marine cable. These options will be evaluated against the environmental implications, safe navigability of the area for other sea users and liability risks and will consider the most current and / or relevant decommissioning guidance that is available at the time.	whether we are considering the impacts of cable protection as permanent or not. Natural Power explained that the protection placed at the cable crossings, the HDD exit pit (long term) and when used for remedial non-burial will be assessed as if the protection is permanent and does not consider removal at decommissioning (as this is considered to the worst case).
12	**Physical Processes**	Paragraphs 6.10.1.1 and 6.10.1.2: Natural England welcomes furthermore detailed assessment.	Acknowledged.	Modelling will only be undertaken for plume dispersion modelling for disposal activities. Other activities such as cable installation, HDD pit excavation will not be modelled in terms of increased SSC. Natural Power explained that Partrac are comfortable that the information that they can present within the ES relating to assessment of other activities should be sufficient and is considered proportionate given the nature and scale of the Project.
13	**Marine Water and Sediment Quality**	Paragraph 7.6.1.2: Natural England agrees that the impacts of operation and maintenance activities will be smaller in scale than construction works, however, if they are of any concern then they should be flagged and assessed accordingly.	It should be noted that many maintenance activities do not require a deemed marine licence including: • the removal and replacement of defective cable sections • removal of sediment to undertake repairs • the removal / replacement of cable protection to access the cable However, where appropriate, further detail on operations and maintenance activities such as in-service inspection surveys and potential repairs will be provided within the project description. Any potential significant environmental effects will be assessed accordingly.	Natural England requested that these activities are detailed and assessed. Natural Power explained that although these activities are exempt, they are assessed as part of the application and further information to be included in the ES may include; • Number of repairs • Length of cable de-buried • Duration of a repair. Natural England agreed that this was an acceptable level of information for assessment.
14	**Marine Water and Sediment Quality**	Paragraph 7.6.3.6 states that marine water and sediments of the Channel (beyond 1nm) demonstrate high recoverability to the impact, and while the sediment plume may extend over a large area, its magnitude (in this instance considered to be the degree of change from baseline) is predicted to be low and the impact will be temporary. It is concluded therefore, that no significant effects will occur as a result of this impact. Natural England is likely to agree with this conclusion, however, it is recommended that this statement should be better evidenced.	Sediment plume modelling is currently being undertaken to investigate the spatial extent of the passive plume and area likely to be affected by deposition, as a result of depositing dredged material. The results of the modelling will be presented within the ES and the potential impacts assessed accordingly.	Agreed. Further information will be presented within the final ES.
15	**Marine Water and**	Paragraph 7.6.3.10: Natural England requires further clarification	Further information can be provided within the assessment as	Natural Power to provide more information on the relevance of

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	Sediment Quality	with regards to the survey data for the cited cable routes IFA 2 and Rampion OWF; and how spatially close this survey data is, to demonstrate they are applicable for AQUIND.	justification to our approach.	these developments on our assessment of contaminated sediments. Natural England does not consider Rampion as close so would appreciate further information presented within the ES.
16	**Marine Water and Sediment Quality**	Paragraph 7.6.4.1 states that temporary and localised increases in SSC are anticipated to occur within the study area during cable repair. Natural England requests that further information is provided to quantify this temporary increase in SSC.	Further high-level detail on operations and maintenance activities such as potential repairs will be provided within the project description. An assumption has been made that an indicative worst-case failure rate of the marine cables (including internal and external failures) would be one repair every 10-12 years. However, it is important to note that most O and M activities including the removal / replacement of defective cable sections, removal of sediment to undertake repairs and the removal / replacement of cable protection to access the cable are exempt activities, and do not require a deemed marine licence. It is possible to provide indicative high-level worst-case parameters relating to potential lengths of cable to be recovered for repair over the lifetime of the project. This information can be compared to the potential impacts from temporary increase in SSC during installation and assessed. It is still likely that the assessment will conclude that the impacts of operation and maintenance activities will be smaller in scale than construction works.	Natural England advised that repair activities should be considered as additional impacts. Natural England advised that repair impacts are similar to cable installation, but these additional impacts from repair should be considered and presented.
17	**Intertidal and Benthic Ecology**	Natural England welcomes the application of Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines to inform the assessment methodology. We have reviewed this methodology and agree with the approach taken to identify whether an effect is of ecological significance.	Acknowledged.	Agreed.
18	**Intertidal and Benthic Ecology**	We note that assessments for Intertidal and Benthic Ecology do not consider the following methods, as described in Chapter 3 – Description of the Proposed Development: · Use of flotation pits to enable installation vessels to approach closer to shore; · Grounding of installation vessels on the seabed at low tide; · Use of a Trailing Suction Hopper Dredger (TSHD) vessel to create the trench for pre-lay installation; and · Potential driving of four ducts into the seabed at Horizontal Direct Drilling (HDD) marine exit/entry at Eastney Landfall (approx. 1-1.6 km off the coast at Eastney). It is understood that a more detailed assessment of potential significant impacts on sensitive receptors will be undertaken and presented in the Environmental Statement (ES); and a Habitats Regulations Assessment (HRA) Report will also be provided as part of the final application. Given the proximity of some of these activities to the Solent Maritime Special Area of Conservation (SAC), we would highlight the importance of thoroughly assessing potential impacts on intertidal and benthic ecology. Particular focus should be placed on direct seabed disturbance (including HDD pit excavation, temporary cable protection and boulder removal/re-location) and temporary increases in SSC.	The use of flotation pits for construction/installation of the cables is no longer proposed and will not be included in the project description within the ES. Further information relating to the other methods proposed is currently under investigation and will be presented, along with their associated impacts and effects, within the ES if the methods remain part of the final design. A Habitats Regulations Assessment Report will be produced and will support the DCO application. This assessment and the EIA will evaluate the activities associated with the HDD works in detail. The excavated material taken from the HDD pit will be deposited further offshore (at approx. KP 21) and any temporary increase in SSC caused by the excavation of the pit/placement of rock (as well as from direct disturbance resulting from excavation) will be assessed using analogous empirical evidence to support the conclusions.	Natural Power advised that use of TSHD for trenching will not be proposed within the Project Description as there is too limited information available regarding this method that it can be assessed. Natural Power explained that the material at the HDD pit will be excavated, then grout bags will be used as temporary infill prior to cable pull. After cable pull, it is most likely that gravel/rock placement or mattressing will be used as permanent infill. Natural England advised that their preference is infill with soft sediments in order to maintain the substrate type if possible. However, they appreciate that the excavated material, disposed of at KP21 will unlikely be available for re-use.
19	**Intertidal and Benthic Ecology**	In response to Natural England's previous recommendation to consider effects arising from heat emission from the burial of the	Acknowledged.	Agreed. This information will be presented within the final ES/HRA.

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		cable, Natural England welcomes the inclusion of this assessment in the ES and the accompanying information for the Habitats Regulations Assessment Report.		
20	**Intertidal and Benthic Ecology**	Natural England notes that the proposed marine cable corridor route falls through the designated sites; Solent Maritime SAC and Solent Dorset Coast potential Special Protection Area (pSPA), as set out in the Red Line Boundary (RLB) Overview document (Section 10 – Eastney (landfall)). We understand that cable installation within the Solent Maritime SAC will be undertaken using Horizontal Direct Drilling (HDD) and welcome this approach as a means of minimising environmental impacts upon this site.	Acknowledged.	Agreed.
21	**Intertidal and Benthic Ecology**	Table 8.7 (page 8-50) outlines the worst-case design parameters relevant to benthic ecology during the construction (and decommissioning) and operational stages. In order to further inform the assessment of potential impacts, Natural England requests additional information with respect to the following: · Direct seabed disturbance: we note that there will be direct impacts from the removal and re-location of boulders. It is currently unclear whether this aspect of construction has been included in the worst-case disturbance scenario within the marine cable corridor. · Deposition of sediment (smothering): more information is required as to the likely depth of deposition over the affected areas within the marine cable corridor. This information could be presented in the form of different scenarios. · Habitat loss: it would be helpful to refine these figures by habitat type impacted where possible. We note that Table 8.7 does not include the worst-case scenario for habitat loss during construction. Clarification should also be provided as to whether non-burial cable protection will be removed upon decommissioning; and if so, whether this will be permitted under a Deemed Marine Licence (DML). Maintenance (O&M) activity: any maintenance works that are to be permitted as part of a DML should be clearly defined; including the estimated length of cable, frequency of works and anticipated impacts.	Boulder clearance is included in the worst-case disturbance scenario identified within Table 8.7 (as part of direct seabed disturbance). Sediment plume modelling for the deposit of dredged material is currently being undertaken to investigate the extent and sediment concentrations of the passive plume and area likely to be affected by deposition. The results of the modelling will be presented within the ES and the potential impacts assessed accordingly. The % of each habitat type affected from habitat loss is reported within the text in paragraphs 8.6.4.4 to 8.6.4.17. This can be presented in table format if this is clearer? The impact of habitat loss during construction was provided in Table 8.7 with the worst case considering temporary loss due to impact of direct seabed disturbance as the result of temporary mattressing/protection required for the HDD exit, and the footprints of the jack-up legs and trestles. Habitat loss as a result of cable protection measures is considered as operational impacts in Table 8.7. We are unable to advise if cable protection will be removed at this stage (this will be determined much closer to the decommissioning stage) and a separate marine licence will be sought to cover any possible licensable activities at a later date. It is possible to provide indicative high-level detail on operations and maintenance activities such as in-service inspection surveys and potential repairs will be provided within the project description. However, as commented previously (item 13), the majority of maintenance activities are exempt from requiring a marine licence. An assumption has been made that an indicative worst-case failure rate of the marine cables (including internal and external failures) would be one repair every 10-12 years. Further worst-case parameters can be provided for assessment relating to potential lengths of cable to be recovered for repair over the lifetime of the project and the requirement for additional non-burial protection.	Natural England welcomed any attempt at making the information clearer within the final ES.
22	**Intertidal and Benthic Ecology**	Additionally, we note that the potential impacts of habitat loss from construction (and decommissioning) has not been included in Table 8.8 – Summary of effects (page 8-67). Natural England therefore recommends that that this aspect is clarified in the ES and Habitats Regulations Assessment Report.	The impact of habitat loss was included in the construction phase and was considered to included direct seabed disturbance from the temporary mattressing/protection required for the HDD exit and the footprints of the jack-up legs and trestles. This can be separated out in the table if this is helpful.	Agreed. Natural England welcomed any attempt at making the information clearer within the final ES.

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			Habitat loss during operation, included in Table 8.8, includes the loss of seabed due to cable protection placed during installation and cable crossing protection, and also includes some contingency for cable protection that may be required for repair and maintenance.	
23	**Intertidal and Benthic Ecology**	Natural England advises that for the following figures: 3.3 (UK Landfall), 3.6 (UK Mobile Sediment) and 3.5 (Indicative Seabed Preparation), it would be beneficial to display nationally and international designated conservation sites for ease of reference.	Acknowledged.	Agreed. Changes to the figures will be actioned and presented within the ES.
24	**Fish and Shellfish**	Natural England welcomes the application of Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines to inform the assessment methodology. We have reviewed this methodology and agree with the approach taken to identify and assess potential impacts upon Valued Ecological Receptors (VERs).	Acknowledged.	Agreed.
25	**Fish and Shellfish**	We note that assessments for fish and shellfish do not consider the following methods, as described in Chapter 3 – Description of the Proposed Development: · Use of flotation pits to enable installation vessels to approach closer to shore; · Grounding of installation vessels on the seabed at low tide; · Use of a Trailing Suction Hopper Dredger (TSHD) vessel to create the trench for pre-lay installation; and Potential driving of four ducts into the seabed at HDD marine exit/entry at Eastney Landfall (approx. 1-1.6 km off the coast at Eastney). It is understood that a more detailed assessment of potential significant impacts on sensitive receptors will be undertaken and presented in the ES; and a Habitats Regulations Assessment (HRA) Report will also be provided as part of the final application. Given the proximity of some of these methods to the shoreline, we would highlight the importance of assessing potential noise/vibration and suspended sediment impacts upon fish species which are known to migrate along the coast (i.e. Atlantic salmon and sea trout).	The use of flotation pits for construction/installation of the cables is no longer proposed and will not be included within the project description for the final ES. Further information relating to the other methods proposed is currently under investigation and will be presented within the ES if the methods remain part of the design. A Habitats Regulations Assessment Report will be produced and will support the DCO application. This assessment and the EIA will evaluate the activities associated with the HDD works in more detail. The excavated material taken from the HDD pit will be deposited further offshore (at approx. KP 21) and any temporary increase in SSC caused by the excavation of the pit/placement of rock will be assessed using analogous empirical evidence to support the conclusions. Consideration of the noise effects on sensitive receptors due to landfall work including driving of ducts, will be considered as part of the EIA and HRA process.	Agreed.
26	**Fish and Shellfish**	Similarly, we note that the impact to SAC and Marine Conservation Zone (MCZ) features from increased SSC is not included within the PEIR document due to a lack of suitable resolution in the model outputs in these nearshore areas. The assessment of these features will be undertaken in line with further refinement in the deposit locations of dredged material (paragraph 9.6.3.32). We recommend that the applicant liaises with the Environment Agency to determine the importance of these nearshore areas to migratory species which are designated features of the River Avon SAC and River Itchen SAC. Additionally, the assessment of potential SSC impacts upon the short-snouted seahorse should be informed by data for the Bembridge proposed Marine Conservation Zone (pMCZ) and Selsey Bill and the Hounds pMCZ. These data are available via Defra's published consultation on sites proposed for designation in the third tranche of Marine Conservation Zones.	Further consultation via a teleconference (07/05/2019) has been undertaken with Natural England and Environment Agency (EA) in relation to agreeing an approach to dredge and disposal works (see final meeting minutes in Annex 1 of this note and Annex 2 for consultation response from the EA). No disposal activities are proposed within the nearshore areas between KP 0 and KP 21. Sediment plume modelling is currently being undertaken to investigate the extent and sediment concentrations of the passive plume and area likely to be affected by deposition from disposal activities. The results of the modelling will be presented within the ES and the potential impacts assessed accordingly. The Environment Agency was consulted back in October/November 2018 (as shown in Table 9.2 of the PEIR) and the information received from the EA has provided information relating to the SACs. We have also received consultation feedback from the EA in relation to the PEIR. In addition, an MCZ assessment is currently being undertaken and this will be presented within the ES as an appendix.	NE recognised that there remains a lack of data on migratory routes along the coast and that is why Natural England generally defer to EA. He advised that it is important to, as far as is possible, demonstrate that location and temporary nature of construction does not impact on these fish in trying to get to the SACs. Draft HRA will be sent to EA also to ensure that EA are kept in the loop. Natural England welcomed this.

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27	**Fish and Shellfish**	We note that an assessment of the potential effects of the Proposed Development on MCZs has not been included in the PEIR, but will be undertaken and presented as part of the final ES. We have reviewed the MCZs that have been screened in to the fish and shellfish assessment (table 9.6, page 9-27) and are satisfied that the correct sites have been identified. However, it should be noted that Poole Rocks is also a proposed Marine Conservation Zone for nesting black bream, which should be included in this assessment.	Acknowledged. The MCZ assessment will include consideration of Poole Rocks MCZ, including the 2019 update to the site to include Black Bream as a protected feature [1].	Agreed.
28	**Fish and Shellfish**	The assessment identifies a potential impact upon native oyster resulting from temporary habitat disturbance/loss, but concludes that this impact is not significant. This conclusion is based on the reasoning that the impacted area represents a small proportion of the available habitat so, although oysters may be affected, the numbers are likely to be low (paragraph 9.6.3.13). Similarly, the assessment acknowledges that oysters may be subject to a temporary increase in suspended sediments and smothering during construction, but such areas are likely to be highly localised and return to within comparable background concentrations within a short time frame (days). As such, this impact is not considered to be significant (paragraph 9.6.3.35). It should be noted that the Solent's native oyster population is severely depleted; and efforts are being made by the Blue Marine Foundation to restore this species. Given that the native oyster is identified as having a high sensitivity to disturbance, smothering and increases in SSC, we recommend that should oysters be present in the Solent section of the Marine Cable Corridor, measures should be taken to mitigate potential impacts. One option of mitigation is to apply the Southern IFCA's Oyster Translocation Protocol prior to construction commencing. Therefore, we recommend that the applicant liaises with the Southern IFCA to ascertain the potential presence of oysters and explore the feasibility of applying this protocol.	The comments relating to native oysters are acknowledged and further engagement with Southern IFCA will be undertaken to ascertain the potential presence of oysters within the area of impact of the Marine Cable Corridor. Sediment plume modelling is also currently being undertaken to investigate the extent / sediment concentration of the passive plume and area likely to be affected by deposition from disposal activities, while empirical assessment methods will be used to describe potential indirect impacts that might occur from increased SSC levels from trenching and HDD activities. The results of these assessment methods will be presented within the ES, along with any mitigation measures that are considered necessary.	Natural Power advised that they have recently contacted the Southern IFCA via email regarding gathering further information on native oysters. Southern IFCA has responded and we continue to liaise with them to gather sufficient information on oysters. Please see attached email. RE_ Aquind Interconnector Proje
29	**Marine Mammals**	Natural England understands that a separate marine licence will be sought for any required unexploded ordnance detonations. However, consideration should be given in the cumulative effects assessment to the potential cumulative impact of UXO detonations, in-combination with both other work being undertaken for AQUIND and other plans and projects in the vicinity of the project.	Acknowledged. The potential requirement for UXO detonations will be mentioned within the cumulative effects assessment. However, it is important to bear in mind that information resulting from future UXO surveys will not be available and therefore the number of UXO targets requiring safe removal or detonation will not be known. Therefore, detailed consideration will not be possible. In addition, there is not expected to be a potential temporal overlap between UXO detonations and other work being undertaken for AQUIND as the UXO works (survey and removals/detonations) would precede all other preparation and construction works by a number of months. The UXO investigation/detonation works will be applied for through a separate marine licence (potentially during examination of the DCO application) and a detailed impact assessment including cumulative effects assessment will be undertaken to support the application.	Given that the UXO surveys will not be undertaken for some time yet, Natural Power will not the data available to undertake a detailed assessment. It was agreed that some high-level consideration of UXO detonations will be included within the cumulative assessment for marine mammals to cover this off within the final ES (but it is likely that a meaningful assessment will not be possible due to the uncertainty in number, location, nature, detonation requirements etc. of potential UXOs).
30	**Marine Mammals**	Paragraph 10.6.1.10: Natural England is satisfied with the use of 5km as the range to be considered in the assessment of impacts to	At present, the requirement for the use of airguns is not proposed.	Natural England confirmed that they agree with the approach to method and current scope of assessment and that sufficient

[1] http://www.legislation.gov.uk/ukmo/2019/31/pdfs/ukmo_20190031_en.pdf

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		marine mammals from all geophysical surveys. However, if it is anticipated that airguns may be used at any point, this range should be extended to 10km.		evidence was provided regarding why impacts such as vessel noise, collision with vessels, and noise from construction works and vessel noise, collision of vessels and EMF (during operation) has been scoped out. Currently, the only impact assessed is noise from geophysical equipment and Natural Power is reviewing the works associated with the HDD given that there may be some noisy equipment used which may need to be included in assessment.
31	**Marine Mammals**	Paragraph 10.7.1.2: Natural England welcomes the commitment from AQUIND to undertake a European Protected Species (EPS) licence Risk Assessment to determine if a licence is required. At the very least, a voluntary notification of geophysical works should be completed and submitted to the Marine Management Organisation (MMO) and the data submitted to the Marine Noise Registry.	Acknowledged.	Agreed.
32	**Marine Mammals**	Paragraph 10.9.1.6: Natural England will provide relevant advice regarding impacts of the HDD works on marine mammals when more information on those works becomes available.	The EIA will evaluate and assess the activities associated with the HDD works in detail (both onshore and offshore in relation to noise). Further up to date information will be presented within the project description.	Agreed.
33	**Marine Ornithology**	We note that this chapter provides preliminary information on potential impacts upon ornithological receptors seawards of mean low water springs (MLWS). Please refer to our comments under Section 2.7 (Onshore Ecology) for advice relating to terrestrial and intertidal ornithological receptors.	Acknowledged. The comments relating to terrestrial and intertidal ornithological receptors will be dealt with by our project partners WSP.	Natural England advised that they passed the marine ornithology chapter over to Alex Banks (Ornithologist at NE) who considered the works to be low risk and the main potential impacts will relate to intertidal birds.
34	**Marine Ornithology**	Section 11.4 (Methods of Assessment) outlines the methodology used to identify important ornithological features (IOFs) and characterise the type, magnitude and significance of potential impacts upon these features. We have reviewed this methodology and are content with the approach taken. Consistent with other PEIR chapters, Natural England welcomes the application of CIEEM guidelines to inform this assessment.	Acknowledged.	Agreed.
35	**Marine Ornithology**	Natural England has reviewed the baseline environment for the marine ornithology assessment (section 11.5) and recommends the inclusion of data from the Seabird Mapping and Sensitivity Tool (SeaMaST) which is available online at: https://data.gov.uk/dataset/96fce7bb-6561-4084-97cb-6ba92d982903/seabird-mapping-sensitivity-tool. This dataset provides evidence on the use of sea areas by all seabirds and inshore waterbirds in English territorial waters. While the principal aim of this tool is to map the sensitivity of birds to offshore wind developments, the analysis of displacement risks remains relevant to this development.	This additional dataset will be added to the list of data sources and relevant information will be incorporated into the baseline for the final ES. Displacement risks presented in SeaMaST (Bradbury *et al.* 2014) are already accounted for in the assessment.	Agreed.
36	**Marine Ornithology**	We note that consideration has been given to how the baseline environment may change over the operational period of the proposed development; together with cumulative effects arising from other plans/projects. In the case of the latter, it is assumed that outcomes of the cumulative effects assessment will be updated as required for the final ES.	Yes, the cumulative effects assessment for all topics will be reviewed and updated for the final ES.	Agreed.

Annex 1: Meeting Minutes from Teleconference on Dredge and Disposal Works

Natural Power Meeting Minutes			
To	MMO, NE, JNCC, NP and Partrac	Date	07/05/2019
From	Natural Power	Ref.	1197264

Meeting Minutes

Meeting held at: Teleconference
Date: 07/05/2019
Time: 09:30 – 11:00 hrs
Attendees:
Mark Qureshi (MMO)
Abbey Pennington (MMO)
Andrew Griffiths (Cefas)
Katie Musgrave (Cefas)
Zara Ziaddun (NE)
Alex Fawcett (NE)
Nick Moore (JNCC)
Hannah Lawson (JNCC
Sarah Lister (Natural Power)
Ross Hodson (Natural Power)
Jack Poleykett (Partrac)
Matt Wright (Partrac)

1. Natural Power (NP) identified that two consultation documents relating to dredge and disposal works for the AQUIND Interconnector have already been distributed to consultees.
   - A seabed preparation and deposit of dredged material summary note; and
   - A disposal modelling technical note.
2. Natural Power provided an overview of the summary note and opened up the call for queries from consultees. It is acknowledged that JNCC did not have as much time to digest the consultation documentation as other consultees and NP are grateful for their input.

Seabed Preparation and Deposit of Dredged Material Summary Note

3. Cefas identified that beneficial re-use of dredged material for beach replenishment or for use as backfill may need to be considered as part of the site characterisation report. OSPAR regulations advise that characterization is required for beneficial re-use and beneficial re-use needs to be registered. Beneficial re-use of material also needs some form of abbreviated site characterisation as part of the main disposal site characterisation document.

Cefas to provide advice on for example, the HDD works at between KP1 and KP1.6, whether the excavated material created at this location and to be used as backfill, would this be considered as beneficial re-use subject to further characterization or considered simply as re-use of a material for construction purposes.

4. When asked whether NP had liaised with NE or the Environment Agency (EA) on beach replenishment, NP advised that they had not. Beach replenishment still needs to be confirmed with WSP Engineering who are designing the scheme. However, the feasibility of potential use of dredged material for beneficial use such as beach recharge is unlikely to be determined until post consent. It is envisaged that if this does occur, dredged material from anywhere along the Marine Cable Corridor may be used for this purpose.
5. Cefas advised that they were generally happy with the approach taken for constraints mapping and how the disposal area has been defined. They welcome the production of post-consent method statement to further refine the dredge and disposal works and would recommend that this includes production of post-disposal works report which would compare the disposal works actually undertaken with the works that are outlined in the method statement. In Cefas's advice, they will also provide a link to the latest OSPAR guidance on site characterisation and another link to the Hornsea 3 Offshore Wind Farm characterisation report.
6. The MMO advised that in terms of seabed preparation, the first three activities listed within the summary note (namely, pre-lay grapnel run, boulder removal and use of MFE) would all be considered as part of cable laying activities (not disposal activities) which is licensable within 12 nautical miles and would not require a marine licence beyond 12 nautical miles. The use of a Trailing Suction Hopper Dredger and disposal activities would be licensable activities and therefore would also be licensable within 12 nautical miles.
7. A discussion was held between Cefas and MMO in relation to sampling of dredged material for contaminants along the Marine Cable Corridor. Cefas advised that they are content with the level of sampling undertaken to date and that the

final reporting should highlight the name of the laboratory used for analysis up front to close out any queries being raised as to whether the analysis was undertaken correctly or not. Cefas advised that they do not feel that any further sampling is required at areas where dredging is to occur as the PSD data collected will show within the characterisation report that these areas possess coarse/sandy material that is not consistent with accumulation of contaminants. This only applies however if the surface samples collected are deemed representative of the material to be dredged. The dredge depth (i.e. depth of sediment removal) has not been specifically stated, however in table 2 of the summary note, sandwave heights are quoted up to 15m. Typically surface samples are acceptable to characterise up to 1 m of dredge depth, with core samples required for deeper dredges. The applicant should confirm the dredging depth and present justification that the samples are representative of the horizontal and vertical area.

8. The MMO queried whether the existing benthic samples taken are representative of the depths that the trenches will be given that some of the sandwaves within Table 2 of the summary note are listed as up to 15 m high.
9. NE advised that they were generally content with the approach taken to define the disposal area along the Marine Cable Corridor. NE welcome the commitment to production of a post-consent method statement for dredge and disposal. NE also highlighted that in the assessments it is important to ensure that the worst-case scenarios are captured adequately in relation to designated sites and not only to assessing robustly the potential impacts for disposal but also dredging activity itself.
10. NE main advice is that they request that
    - deposition of dredged material occurs as close to the area of dredging as practicable; and
    - ideally deposition should be upstream of extraction to enable quickest recovery; and
    - deposition of dredged material occurs on seabed that possess a similar grain particle size composition.
11. JNCC echoed the main advice from NE stated in item 10 of this meeting note. JNCC also queried how deep the trenches will be dug through the sandwaves and advised that if a fall pipe is to be used on the TSHD, then the dredging activity may take a long time. JNCC also advised that they recommend the use of a fall pipe for disposal activities and that they also prefer the use of backfill techniques rather than rock protection where practicable.

NP advised that they will query this with WSP engineers as to what depth they expect to reach within the sandwave areas and look to providing further clarification within the application documentation on these methods. The Cable Burial Risk Assessment (CBRA) is still ongoing but it is anticipated that the outputs from this reporting will highlight the approach to be taken in relation to seabed preparation and burial within these bedforms. The data collected from the vibrocores should also inform whether the sediment composition is uniform throughout the bedforms or whether it changes.

Disposal Modelling Technical Note

12. Partrac provide an overview of the approach taken to modelling for disposal activities.
13. It was highlighted that the model locations shown on Figure 1 illustrate what Partrac consider to be the most realistic worst-case approach to disposal activities for the indicative maximum dredge volume, calculated by Partrac in liaison with WSP engineers. The multiple modelling locations reflect the distribution of the maximum dredge volume in areas closer to shore (worst case), close to dredging areas as considered practicable without creating depositions of material that would also reduce the navigable depths of water by 5%.
14. The group recognized the flexibility required for disposal given the mobile nature of bedforms and this approach is only proposed for assessment purposes of the potential impacts of any sediment plume on receptors and not as a definitive condition within a licence. It is anticipated that the deemed marine licence would identify a maximum dredge volume within the disposal area and any further refinements on disposal activities and volumes (as long as worst-case scenario has adequately covered everything) would be secured through licence conditions and the post consent dredge and disposal method statement.
15. Clarification was requested from Partrac on whether the maximum deposition of material at any modelling location, at any time during the model run, for each scenario would be illustrated in the modelling report and Partrac confirmed that this was the case. Partrac also clarified that each scenario would use the hydraulic characteristics (i.e. settling velocity and critical erosion threshold) associated with the median grain size of the three grain size classes proposed within the technical note.
16. NE and JNCC stated that they were content with the designated sites proposed within Figure 1 of the technical note as those sites that will have modelling data outputs presented within the final modelling report.
17. NE requested the distances between the modelling locations and the closest designated site.
    NP to provide distances to designated sites to NE and JNCC.
18. The group agreed that the general consensus to the approach to modelling proposed within the technical note is fit for purpose and Partrac will run the modelling subject to updated information from WSP engineering in relation to refined dredge volumes and agreement of these minutes by all meeting attendees.
19. Timescales for providing formal written advice were agreed as following;
    - The MMO will receive advice from Cefas beginning of next week (w/c 13th May) and will provide their advice as soon as possible thereafter.
    - NE will liaise with Richard Morgan and advise on timescales as soon as possible.

- JNCC will provide advice some time prior to COP on the 14th May.

NP advised that Partrac are planning to begin the modelling w/c 20th May as this is a time critical component to the current submission deadline of the DCO application. Therefore, any advice received earlier to the timescales noted above would be gratefully received.

Annex 2: Consultation on migratory fish with Environment Agency

From: Pearson, Rob J [mailto:rob.pearson@environment-agency.gov.uk]
Sent: 23 November 2018 11:51
To: Giles Alcock <gilesa@naturalpower.com>
Cc: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>
Subject: RE: Migratory Fish - Isle of Wight Area

Hello Giles,

Thank you for your enquiry regarding migratory fish in the Isle of Wight area.

In terms of our Fish survey data, our TraC fish surveys are really the only relevant data we hold in regard to fish occurrence in the marine sector. The Southern IFCA also conduct some netting operations to investigate fish populations in the marine environment, which could be a further line of enquiry.

We have anecdotal evidence and reports of sea trout and salmon being caught as occasional by-catch by fisherman on both the north and south coasts of the Isle of Wight and within the Solent but there are no licenced fisheries for these species in our area. We understand that both salmon and sea trout migrate around both the north and South Coast of the Isle of Wight, as well as the Hampshire/Solent coastline. The Test and Itchen are the two rivers with highest protection and considered most important for migratory salmonids in our area. However we also encounter significant numbers of sea trout in particular in the New Forest Rivers, and East Hampshire rivers. For example this year we encountered high numbers of adult sea trout in electrofishing surveys on the Wallington River, indicating therefore there is an important migratory route through Portsmouth Harbour and that it is providing valuable estuarine habitat for smolts for part of the year.

We have fish counter data for both the Test and the Itchen in Hampshire which tell us what time of year we get the majority of fish transitioning from the marine/estuarine habitats up into our rivers, unfortunately we have no such data for the Isle of Wight Rivers, but would infer that it would be similar to the mainland sites. Unfortunately our fish population surveys are also less frequent for the Isle of Wight Rivers, however I have observed Sea Trout this summer in the Lukely Brook in the Medina catchment, and have watched numbers of Sea Trout at Budbridge weir on the Eastern Yar the last two winters.

The data on migration timings we have is important as it guides what protection we might dictate in regards to certain development or other activities that could disrupt migrating fish, for example one that fairly commonly comes up is percussive piling. When we have an application for an activity like this we tend to condition it with something like the following to protect migratory fish around the Solent/IOW coast:

'The Medina river and its estuary provides valuable habitat and passage for migratory salmonids, particularly Sea Trout. Piling works can disrupt the migration of smolts returning to sea, or adult fish returning to the river to spawn. Vibro-piling has been shown to cause least disturbance and is suitable for use at this location year round. However if percussive piling techniques were to be used, this would not be permitted between 15th March to 15th May to protect smolt migration, and 1st June to 31st October to protect adult migration. '

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Therefore when assessing an application we would look for activities that could be a risk to migrating fish, and condition them outside of the date ranges included above. Due to the SAC status of some of our migratory fish populations we are required to take a precautionary approach in assessing impacts, including on potential migration routes. If no significant effect can be achieved an appropriate assessment will need to be conducted.

Further considerations for the Environmental Statement might cover any predicted effects on Eel migration. Eels are sensitive to electric fields - I believe there was some work in the Baltics looking at the effect of electrical cables on the migration of Eels, which showed it caused a temporary change in their movements but they were able to regain their migratory route, so I believe the outcome was that it was not a significant effect.

Also off the coast of the Isle of Wight there are a number of Marine Conservation Zones which protect significant fish species including Sea Horses.

A further source of information that could be worth checking out is the Navitas Bay Enquiry, which should be in the public domain. The Environmental Statement for the project was not necessarily deemed appropriate but it does contain some information sources that should be useful.

It might be that we can review the Environmental Statement prior to submission to the Planning Inspectorate if required, through this would likely be considered chargeable work.

Kind regards,

Rob

From: SSD Enquiries
Sent: 01 November 2018 15:05
To: Sykes, Tim <tim.sykes@environment-agency.gov.uk>
Subject: 181101 SSD105019 Action by 14 Nov 2018 - Migratory Fish - Isle of Wight Area

Hi Tim,

Please see the below customer request regarding EA studies on migratory fish or known migration routes in the vicinity of the Aquind project – please investigate further.

If you require further clarification, please get in touch.

Many thanks

Nick

Customers & Engagement Team| Environmental Planning and Engagement | Solent and South Downs Area |
Environment Agency | Romsey District Office, Canal Walk, Romsey, SO51 7LP

SSDEnquiries@environment-agency.gov.uk
National Contact Call Centre 03708 506506

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From: Giles Alcock [mailto:gilesa@naturalpower.com]
Sent: 24 October 2018 12:02
To: Enquiries, Unit <enquiries@environment-agency.gov.uk>
Cc: Jane Lancaster <janel@naturalpower.com>
Subject: Migratory Fish - Isle of Wight Area

Hi

Please redirect my inquiry to the fisheries team who deals with fish related requests on the south coast of the UK around the Solent.

I work for Natural Power Consultants and we are tasked with writing the Environmental Statement (ES) for the Aquind HVDC Interconnector project which has a proposed landfall of Eastney.

As part of the ES I am writing the Fish and Shellfish Chapter which includes migratory fish. I have referenced the EA's TraC fish surveys but if you feel there are other EA studies I should include then please let me know.

In addition I'd be grateful for any information you may have on sensitive areas for migratory fish or known migration routes in the vicinity of the Aquind project.

The Project is currently at the scoping stage with more information available here: http://aquind.co.uk/

I look forward to hearing from you

Kind regards

Giles

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