



AQUIND Limited

AQUIND INTERCONNECTOR

Consultation Report – Appendix 1.4Z
Statutory Consultation - Feedback from
Marine Stat and Non-Stat S42 Consultees

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations
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S.42 CONSULTATION ON MARINE ELEMENTS

Table 1: Natural England (Marine)

| Item | Topic | Natural England Comment |
|------|--|--|
| 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. |
| 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. |
| 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. |
| 4 | Physical Processes | Clarity is required on why potential SSC impacts are not included 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. |
| 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 timescales of a few months, full recovery is likely to take years. |
| 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. |
| 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. |
| 8 | Physical Processes | Paragraph 6.6.3.14: we note that the effects of MFE are assessed as the WCS for cable installation operations. |
| 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. |
| 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. |
| 11 | Physical Processes | Paragraph 6.6.4.4: Natural England requests further information with respect to whether cable protection will be removed upon decommissioning. |
| 12 | Physical Processes | Paragraphs 6.10.1.1 and 6.10.1.2: Natural England welcomes furthermore detailed assessment. |
| 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. |
| 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. |
| 15 | Marine Water and Sediment Quality | Paragraph 7.6.3.10: Natural England requires further clarification 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. |

| Item | Topic | Natural England Comment |
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| 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. |
| 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. |
| 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: <ul style="list-style-type: none"> · 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. |
| 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 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. |
| 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: <ul style="list-style-type: none"> · 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. |
| 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. |
| 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. |
| 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). |
| 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: <ul style="list-style-type: none"> · 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 |

| Item | Topic | Natural England Comment |
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| | | 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). |
| 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. |
| 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. |
| 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. |
| 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. |
| 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 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. |
| 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. |
| 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. |
| 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. |
| 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. |
| 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. |
| 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. |

Table 2: Environment Agency (Marine)

| Item | Topic | Environment Agency Comment |
|------|--|---|
| 1 | Fish and Shellfish | Further assessment is required in relation to the impacts on migratory fish, in particular from noise and vibration on certain species such as Sea Trout, Salmon and Eel. |
| 2 | Fish and Shellfish | Section 9.4.4.3. Should any of the methods listed in this section, or any alternatives be selected or proposed, then these will need to be assessed and included in the ES. |
| 3 | Fish and Shellfish | Section 9.4.4.7. We agree that a Habitat Regulations Assessment (HRA) will need to be produced and submitted as part of the DCO application. |
| 4 | Fish and Shellfish | Table 9.3. We agree that Transitional and Coastal waters (TraC) surveys will partly provide a baseline of data for migratory species. As acknowledged, these surveys are only undertaken once or sometimes twice a year, and therefore may not capture all migratory species present at different times of the year. We agree that deeper water fish species are likely to be under represented. |
| 5 | Fish and Shellfish | Section 9.6.3.26. We agree with the inclusion of fish and shellfish of conservation importance, namely Eel, Atlantic Salmon, Brown/Sea Trout, and other migratory fish such as River and Sea Lamprey, and Allis and Twaite Shad. |
| 6 | Fish and Shellfish | Sections 9.6.3.29 & 9.6.3.52. The background concentration of suspended solids is required to enable these figures to be used in context. We also need to understand how far these suspended solids will move. Therefore, currently we are unable to agree that temporary increase in suspended solids is not significant for Salmon and Sea Trout. This issue should be addressed within the ES. |
| 7 | Fish and Shellfish | Sections 9.6.3.53/54/55. We agree there is potential for elvers to be present within the proposed development. We agree that a temporary increase in suspended solids is not significant for Eel, Sea and River Lamprey and Twaite and Allis Shad. |
| 8 | Fish and Shellfish | Section 9.6.3.67. Salmon and Sea Trout have not been included in this section. As hearing specialist fish, these need to be assessed against the noise and vibration generated by HDD. If these are to be screened out, then evidence needs to be provided. Such evidence can be provided by a review of relevant literature. |
| 9 | Fish and Shellfish | Section 9.6.4.2. The potential impact of EMF on migratory salmonids has not been included. If these are to be screened out then evidence needs to be provided. Such evidence can be provided by a review of relevant literature. |
| 10 | Fish and Shellfish | Table 9.8. Cable depth is cited as being between 0.6 and 5.1 metres. It is unclear how the depth of cable will be determined at any given location. This should be specified within the ES. The likelihood of impact, on migratory fish, from suspended solids and/or others, is increased the deeper the depth of the trench. |
| 11 | Fish and Shellfish | Table 9.9. This table will need to be re-assessed in light of our comments in regard to Chapter 9. |
| 12 | Fish and Shellfish | Section 9.9.1.6. We agree that cumulative effects of this and other projects needs to be included in the ES. |
| 13 | Fish and Shellfish | Section 9.9.1.10 We cannot agree with the conclusion of no potentially significant effects until our comments in regard to Chapter 9 are addressed. |
| 14 | Fish and Shellfish | Section 9.10.1.1 We agree that an HRA is required for SAC's with fish features listed. |
| 15 | Marine Water and Sediment Quality | In regard to impacts on Shellfish and Bathing Waters, we advise the Applicant to include assessment of short-term effects as part of the WFD assessment. |
| 16 | Marine Water and Sediment Quality | We are pleased to see a Water Framework Directive (WFD) assessment has been included (Appendix 7.1 of the PEIR), and in particular impacts on marine water and sediment quality, Shellfish Waters and Bathing Waters. |
| 17 | Marine Water and Sediment Quality | We agree that the impacts on water quality from increases in suspended sediment concentrations will be temporary, including those related to re-suspension of contaminated sediments. However, even temporary deterioration of water quality in proximity to sensitive areas such as Shellfish Waters and Bathing Waters can have negative impacts on the designated sites. Hence, we advise the Applicant to assess even short-term effects as part of the WFD assessment. This will be particularly relevant in the context of any dredging activities and floatation pits near the Eastney bathing water. We would also suggest to screen in any OOS cable removals where they have the potential to give rise to increased suspended sediment concentrations in proximity to sensitive areas. |
| 18 | Marine Water and Sediment Quality | We would like to emphasise the proximity of the Eastney Bathing Water protected area to the proposed cable corridor and landfall site. Any sediment disturbance in proximity to the bathing water during the Bathing Water Season (May to September) has the potential to impact on bathing water quality and WFD compliance at this site by elevating suspended sediment concentrations and potential faecal contamination. |

| Item | Topic | Environment Agency Comment |
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| 19 | Marine Water and Sediment Quality | Section 7.5.4. We are pleased that the potential effects on Natura 2000 sites will be assessed within the HRA, and that the findings will be used to update the Marine WFD assessment accordingly. In particular, the potential impacts on the Solent Maritime SAC will need to be assessed due to the close proximity to the proposed landfall location at Eastney. |

Table 3: Historic England (Marine)

| Item | Topic | Historic England Comment |
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| 1 | Marine Archaeology | In general, we are largely content with the impact assessment for archaeological receptors, in terms of the potential impacts considered, the size of the study area, and the range of datasets included at this stage. However, we wish to make the following comments with regards to the installation methods proposed, the archaeological assessment, and the mitigation measures suggested. |
| 2 | Marine Archaeology | We acknowledge that the current methodology for the installation of the cable at the landfall site is Horizontal Directional Drilling (HDD), which will emerge in the intertidal zone approximately 1km seawards from the transition joint bays in the car park behind Fraser Range. This method should be mindful of the potential to encounter archaeologically significant deposits within the sediment profile, and as such a strategic programme of investigation should be conducted to assess the potential of the deposits. |
| 3 | Marine Archaeology | We understand that a range of pre-installation clearance and preparation works may be required, including clearance of mobile bedforms, boulders, seabed debris, out of service cables, disposal of excavated material and UXO clearance, although UXO clearance will be consented through a separate marine licence. It should be noted that such activities could potential cause serious damage to features of the marine historic environment is present within the area to be impacted by the development. As such, suitable mitigation measures should be developed in consultation with the archaeological curator. |
| 4 | Marine Archaeology | We note that installation methods may include burial simultaneously with cable-lay, pre-lay burial or post-lay burial, with installation methods including trenching, ploughing and dredging. In some instances, non-burial cable protection methods, such as mattresses and rock placement, may also be required. All of these methods have the potential to seriously damage archaeological features, should they be present within the area to be impacted by the development. We further note from the documents that it is the intention to install the cables using in-line joints, but that it is possible that omega joints may be required in some places. This will increase the area impacted by the works. As such, suitable mitigation measures should be developed in consultation with the archaeological curator. |
| 5 | Marine Archaeology | Installation methods may require the use of grounding, within the intertidal area, and/or anchor spreads to maintain their position during installation. Both grounding and the use of anchors should also be mindful of archaeological features and follow mitigation procedures developed for the project. Additionally, we note that there is the potential for the use of 'flotation pits' to facilitate the installation of the cable within the nearshore area. It should be noted that the excavation of potentially large areas of the seabed could have a significant impact to both surface and burial archaeological features. This methodology would require careful mitigation to prevent impacts to the features of the marine historic environment. |
| 6 | Marine Archaeology | We are therefore disappointed to note that paragraph 14.4.8.3 states that 'as the design and construction methods for the Proposed Development are still evolving at the time of writing of this chapter, not all the proposed construction methods have been assessed.' Those not assessed include; the use of flotation pits to permit vessels to approach closers onshore, grounding of installation vessels, use of a TSHD to create the pre-lay trench. As these are some of the methods with the greatest potential for interaction and impact to heritage assets, to not include them within the preliminary environmental assessment makes it difficult for us to assess the full potential impact of the scheme. We therefore request that further information regarding these methods is included within the EIA. |
| 7 | Marine Archaeology | Additionally, we find that the information provided within Chapter 3 is insufficient to determine the maximum impacts of these techniques, in terms of both seabed surface and sediment depth to be impacted. Whilst we acknowledge that some of this information is presented within Appendix 3.2 'Marine Worse Case Scenarios' this should usefully be presented within the main chapter. |
| 8 | Marine Archaeology | We understand from the documents we have received that the project is being designed to reduce the need for operational maintenance. Some inferences are made to the need to apply for an additional marine licence for operational maintenance should it be required, but it is unclear which activities are being sought for consent through this application and which will be sought separately. This should be clarified in any forthcoming application for consent. |
| 9 | Marine Archaeology | Sub-section 14.2.2 'Legislation' of Chapter 14 states that there are no Scheduled Monuments within the Proposed Development or ASA. This must be clarified to distinguish this comment as relating to below MHWS as the map of the ASA in Figure 14.1(same Chapter) clearly shows that the ASA buffers extends over not only Fort Cumberland (a scheduled monument) but also over a significant proportion of Portsmouth, Southsea and Langstone Harbour where further designations are present. |
| 10 | Marine Archaeology | Within paragraph 14.2.3.4 of Chapter 14 reference is made to the UKMPS (2011), as per our previously advice, but considering that this is the primary national planning policy for the marine environment it is unclear why it is given only two sentences of explanation, as opposed to the several paragraphs reserved for the NPPF. Further detail on the role and relevance of the MPS should be included. Similarly, further detail on which policies within the South Inshore and South Offshore Marine Plans are of relevance should also be included. |
| 11 | Marine Archaeology | We acknowledge from Appendix 14.2 'Marine Archaeology Technical Report' that geophysical and geotechnical data, consisting of sub-bottom profiler, multibeam bathymetry echo sounder, side scan sonar, magnetometry data, vibrocores and Cone Penetration Tests (CPTs), was collected by MMT in November 2017 to March 2018. The geophysical datasets were assessed to be of good quality, with the exception of the magnetometer which was of average quality, though all datasets were still acceptable for archaeological assessment. We note from Appendix 14.2 that the surveys were run at 60m line spacing for the offshore section of the MCC (greater than 10m LAT), and that below 10m LAT (inshore section) the line spacing was 25m. However, it is not clear whether this methodology was successful in achieving 100% or greater coverage of the seabed from the text. |

| Item | Topic | Historic England Comment |
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| 12 | Marine Archaeology | Furthermore, we acknowledge from Section 14.10 'Assessments and surveys still to be undertaken' of Chapter 14 that prior to installation further ground conditions surveys are to be conducted. These surveys should also be utilised for a further archaeological assessment, in order to refine mitigation measures based on the most up-to-date and/or highest resolution data. This should be undertaken by a qualified and experienced archaeologist to a method statement approved by the licence regulator and their archaeological curator. |
| 13 | Marine Archaeology | We note from the archaeological assessment that localised palaeochannels and palaeovalleys were identified within the sub-bottom profiler data, which may contain in situ remains. Additionally, we understand that there are no wrecks with statutory protection within the ASA. The assessment identified a total of 387 anomalies, of which four are considered A1 anomalies with two of these relating to known UKHO wreck records. The two further receptors identified as A1 are described as a large debris field with a large magnetic anomaly, and a large magnetic anomaly with no surface expression. |
| 14 | Marine Archaeology | We further note that the remaining 383 anomalies identified are A2, there is a total of 104 recorded losses (A3), mostly dating from the post-medieval period onwards, and that there are no known aircraft crash sites within the ASA, but there are 21 recorded losses from the NRHE in the ASA, mostly relating to WWII losses. We understand that no new archaeological features or objects were identified within the intertidal walkover survey, however, there are two records from the NRHE and HER for prehistoric findspots that no longer exist at the locations provided. |
| 15 | Marine Archaeology | However, the information provided in regards to the recorded losses in paragraph 14.9.1.4 of Chapter 14 does not appear to tally with that given in the baseline resources section (14.5 'Baseline Environment'). This must be amended or clarified. |
| 16 | Marine Archaeology | However, we note that paragraph 14.4.5.5 of Chapter 14 describes the criteria for the assessment of archaeological value of marine assets shown in Table 14.2 as a five point scale, but the table itself only includes 4 points. This should be clarified or amended. |
| 17 | Marine Archaeology | Paragraph 14.6.2.9 of Chapter 14 references that without mitigation impacts on known potential seabed prehistory receptors could result in significant negative effects. However, with mitigation through further investigation this will become a significant major positive effect through its contribution to the knowledge base of seabed prehistory assets. Whilst we acknowledge this, we wish to caveat this statement with the fact that the positive effect will only be secured through the delivery of a strategic programme of archaeological investigation conducted by a qualified and experience archaeologist, with the result disseminated into the public domain. As such, we would wish to see this concept further detailed within the ES and Outline WSI submitted as part of the DCO application. |
| 18 | Marine Archaeology | We note that mitigation measures are proposed in Section 14.7 'Proposed Mitigation', which includes AEZs for the 4 A1 anomalies, each of 100m radiuses around the identified extent of the seabed feature. Additionally, paragraph 14.7.1.2 of Chapter 14 references monitoring of AEZs to ensure that no disturbances during installation. We are greatly encouraged to see this provision included, and request further explanation with the EIA for this measure. |
| 19 | Marine Archaeology | We understand that for A2 anomalies AEZs are not typically used, but the project tries to microsite them. However, the statement regarding 'the application of appropriate mitigation' of A2 anomalies should microsite not be possible, should be more explicitly explained in reference to the mitigation strategies set out in 14.7 of Chapter 14. |
| 20 | Marine Archaeology | We do not approve of the impact assessment provided in Table 14.7 'Direct and indirect impacts summary' of Chapter 14 for the use of anchors during construction, operation and decommissioning. Mitigation measures should include the use of AEZs and microsite so that anchor positions avoid known archaeological assets, and consideration of the use of a PAD in case of a 'strike'. |
| 21 | Marine Archaeology | We note that no historic seascape characterisation assessment has been conducted within Chapter 14 'Marine Archaeology', and that Appendix 5.2 'Scoping Opinion' specifies that the Scoping Opinion from the Planning Inspectorate specified that it was acceptable for seascapes assessments to be scoped out of the Environmental Impact Assessment. |

Table 4: Joint Nature Conservation Committee (JNCC) (Marine)

| Item | Topic | JNCC Comment |
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| 1 | Physical Processes | JNCC believe it would be beneficial to include a summary of the total seabed footprint impact area as part of Table 6.17 to provide a complete overview of the actual total impact of the operation. It would also be useful to include the impact area of thermal effects on the surrounding seabed. |
| 2 | Physical Processes | JNCC note that there is currently a lack of detail on the impact of the deposition of dredged material. While plume modelling is being carried out and will be reported in the ES, the potential impact from the initial dredging, deposition, re-dredging and final deposition as infill for the worst case, which could be up to 1.7 million cubic metres, needs to be addressed in the ES. |
| 3 | Intertidal and Benthic Ecology | JNCC is of the opinion that insufficient survey evidence was presented in the application to allow the best provision of accurate and meaningful advice. While we recognise that it is unlikely that survey-based data can be expanded upon for this application, we provide the following to help BEIS and the operator understand what we consider necessary in an application. It is good practice to include high resolution acoustic data, video and / or still images in the context of the proposed activity. <ul style="list-style-type: none"> • Survey sample 22 was collected outside the marine cable corridor, therefore it is unclear whether there is the potential for Annex I stony reefs to be present within the marine cable corridor. The habitat identified within the marine cable corridor was offshore circalittoral coarse sediment with numerous to occasional boulders which follows the composition of a classified Annex I stony reef. The JNCC would advise that if any Annex I stony reefs are present during the cable installation that these are avoided and we would recommend micro-routing to ensure a 500m clearance of this feature. • JNCC would advise the use of dynamic positioning for the vessel during the cable installation to minimise potential impacts on the seabed, specifically the Annex I reef. |
| 4 | Intertidal and Benthic Ecology | Whilst JNCC appreciates that subtidal sands and gravels are identified across the majority of the benthic survey area, this is a UK BAP priority habitat and therefore the impact to this habitat should be reduced as much as practically possible. |
| 5 | Intertidal and Benthic Ecology | JNCC does not believe that the proposed operations are likely to cause a significant impact upon the marine environment. However, we note that many protected habitats are highly sensitive to cable operations and we would therefore always expect the operator to mitigate as much damage as possible to the habitats. Here we include our most up-to-date understanding about the habitat found within the area of proposed operations and also any comments we have concerning possible methods to mitigate damage. |
| 6 | Intertidal and Benthic Ecology | The proposed operations take place close to an Annex I Reef which is an Annex I habitat under the EU Habitats Directive. As such, their presence contributes to the national resource of that habitat. For more information, please see here: http://jncc.defra.gov.uk/page-1523 . |
| 7 | Intertidal and Benthic Ecology | The scoping report states that in the offshore area the High Voltage Direct Current (HVDC) cable route will pass close to the Offshore Overfalls and Offshore Brighton Marine Conservation Zones (MCZs), by 1.15km and 8.5km respectively: the former is partly in English inshore waters and the latter entirely offshore. The application should fully assess any potential impacts on these Marine Protected Areas (MPAs). Information on these MCZs is available via the following links: Offshore Overfalls MCZ - http://jncc.defra.gov.uk/page-6776 Offshore Brighton MCZ - http://jncc.defra.gov.uk/page-6775 |
| 8 | Intertidal and Benthic Ecology | The operation potentially involves the introduction of hard substrate into a mainly sedimentary environment. Although the changes are not necessarily considered as having a significant impact in this instance, we still encourage the operator to continue working to minimise the amount of hard substrate material used. We note that the long-term effects of the introduction of substratum into naturally sandy or muddy sea beds is not fully understood at present and should be carefully considered by the regulators. |
| 9 | Intertidal and Benthic Ecology | JNCC welcome detailed commentary on stabilisation operations to allow further understanding of their actual nature conservation impact. This would include: <ul style="list-style-type: none"> • Location of dump sites; • Size / grade of rock to be used; • Tonnage / volume to be used; • Contingency tonnage / volume to be used; • Method of delivery to the seabed; • Footprint of rock; • Assessment of the impact; • Expected fate of deposit after end of production, i.e. will it be left in situ or recovered. Where stabilisation material cannot be avoided, we recommend using a more targeted placement method e.g. fallpipe vessel rather than using vessel-side discharge methods. |
| 10 | Marine Mammals | The current application only uses injury thresholds proposed by Southall et al, 2007 in Section 10.3.2.21. More recent injury thresholds for marine mammals were published in 2016 (NOAA, 2018), superseding the Southall thresholds, which have been used later in the report. The new thresholds/hearing functions represent the |

| Item | Topic | JNCC Comment |
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| | | most comprehensive and up to date scientific knowledge available to use in assessments of the risk of auditory injury to marine mammals and should be used in future noise assessments. |
| 11 | Marine Mammals | <p>We understand that this consultation at the moment involves a preliminary scoping report. However, we wish to reiterate, if it is found at a later date that avoiding UXO entirely is not achievable and UXO operations are to be carried out during the course of the project we would ask that the following would need to be included in a detailed assessment:</p> <ul style="list-style-type: none"> • Consideration of the types of UXO likely to be present, the number of detonations likely in a single day, and the season over which these operations are due to occur; • An informed estimate of potential injury zones and marine mammal numbers within those zones (per species); • Details of marine mammal monitoring methods e.g. visual detection, PAM, designated person; • Details of the deployment of acoustic deterrent devices; • Details of monitoring procedures e.g. mitigation vessel, mitigation zone, pre-detonation monitoring, timings and delay procedures; • Explosive charge sequencing and post detonation searches; • A communication protocol and a reporting protocol. |
| 12 | DCO Application | Whilst JNCC appreciates that not all of the detailed project design is finalised at the time of ES submission, JNCC reiterates that best practice would not be to submit applications where stabilisation / protection material requirements are incrementally increased. The worst-case scenario should be assessed in the application to enable a meaningful assessment of the whole environmental impact of the project to be undertaken. |
| 13 | DCO Application | It is understood that activities evolve over time, and that subsequent stages are often contingent on the outcome of the earlier activities. However, every effort should be made to predict the likely outcome and carry out an assessment on that basis so that all the elements have been assessed and presented in an ES. |

Table 5: Responses from other prescribed consultees

| Item | Consultee | Topic | Comment |
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| 1 | Langstone Harbour | Designated Sites | While construction is taking place close to or adjacent to the harbour shoreline, working practices should be put into place to minimise noise during the overwintering bird season (October to March). Natural England should be able to provide advice on construction noise minimisation to limit disturbance to SPA birds |
| | | | The route will potentially cross numerous fields and open spaces utilised by Brent Geese and Waders during the winter months. These areas are considered secondary supporting habitat for SPA species, and further details can be found in the Solent Wader and Brent Goose Strategy. Every effort should be made to avoid rendering these spaces unusable to birds during the overwintering bird season (October to March). |
| | | | The routes pass through (or under) seagrass beds in the harbour, as well as areas of saltmarsh. Seagrass is particularly sensitive to smothering by silt stirred up in the water column and this should be considered, and if necessary mitigation measures put into place, if any aspect of construction is likely to agitate the substrate. |
| 2 | Ministry of Defence | Shipping, Navigation and Other Marine Users | The offshore cable route will intersect military Danger Area D037 however we have no safeguarding concerns with the cable route passing through this danger area. We have no other offshore safeguarding concerns with this proposal however historic explosive munitions disposal sites and unexploded ordnance (UXO) should be taken into account. |
| 3 | State of Guernsey | All topics | I confirm that the Government of Guernsey does not intend to submit a response as part of this consultation. Thank you for inviting us to do so. |
| 4 | Trinity House | Shipping Navigation and Other Marine Users | Trinity House has no objection to the proposals. Further consideration for marking requirements to be given when marine licence application is made. Any marine craft used in the works to exhibit signals as per colregs. Trinity House to be advised of any aid to navigation affected by the project and any requirements to relocate any aids to navigation to be approved by Trinity House. |
| 5 | Maritime and Coastguard Agency | Shipping Navigation and Other Marine Users | Page 13-3 Local Policy; it should be noted that the cable route runs through the NAB VTS area, rather than within Southampton's SHA port limits as stated. NAB VTS is managed by Southampton VTS on behalf of the MCA. Part of this route section is also within the SHA area of QHM Portsmouth. |
| | | | We note that the cable and any protection methods should not reduce the surrounding depth referenced to Chart Datum by more than 5%. Where this cannot be met please discuss with MCA to consider whether alternative risk mitigation need to be out in place. Under no circumstances should depth reductions compromise safe navigation. |
| | | | We welcome the intent to consult further with MCA (13.7.1.4) and if required post construction conduct an electromagnetic deviation survey to confirm the expected deviation. We note that some sections of the cable route, particularly on the approach to Langstone Harbour, follows marine traffic flows as so may pose an interference risk to the navigation systems of some smaller vessels. Particular attention should be paid here, and further discussion may be needed with relevant stakeholders. As per our recent email correspondence, the deviation thresholds apply to the whole navigable cable route, rather than just within UK waters. |
| | | | It should be noted that the proposed rolling 500m exclusion zone is not legally enforceable and would require the voluntary consent of other vessels. We note however the presence of a guard vessel and the use of communications including VHF and Notices to Mariners by way of mitigation. |
| | | | We would request that the specific methodology for the cable laying operation within the Dover Straits TSS be approved by Dover CNIS, in consultation with the Dover Straits TSS Working Group forum. |
| 6 | ABP Southampton | Shipping Navigation and Other Marine Users | Marine traffic volumes appear low though size indicates local-coastal traffic only. Nonetheless assumptions and risk tables at 13-44 through 13-51 are reasonable. |
| | | | Disruptions to arrivals-departures: of particular note Langstone ops are tidally constrained - impact may be significant. |
| | | | Mitigation includes rolling 500-700m exclusion zone. Liaison with local ports and harbours appears a tad loose. One for the group to consider but may be value in positive control through a procedure or controlling authority. In particular Langstone may wish to limit operations across the harbour entrance. Alternative is nominate Southampton (Nab) VTS as co-ordinating hub. |
| | | | Do not consider the recent Bembridge marine conservation area significant but note construction passes through a 'special area of conservation' https://sac.jncc.gov.uk/site/UK0030059 Don't see direct reference to either. |

Table 6: Marine Management Organisation

| Item | Topic | Comments |
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| 1 | Physical Processes | Greater detail and justification should be included regarding the recoverability of bedforms after seabed clearance. Section 6.6.3.3 of the PEIR states that the trench will infill in a matter of weeks, leading to the reformation of bedform features. However, this statement is based on a reference to a report regarding tidal model set up for the NEMO Link interconnector, which does not discuss this. It is possible that this has been incorrectly referenced. The reference should be updated and further discussion regarding bedform recoverability in the Environmental Statement (ES) should be provided. The assessment should be more explicitly linked to the baseline information at the site, rather than relying on an assessment from another project. |
| 2 | Physical Processes | Impacts to coastal processes (and by extension coastal geomorphology) were scoped in during the scoping process. This has not been included in the overview of the impact assessment undertaken so far (Section 6.6), except that it is stated the Horizontal Directional Drilling (HDD) will not influence coastal processes. Coastal processes should be considered as a potential receptor for other activities as well as HDD drilling and this should be assessed explicitly for each activity. |
| 3 | Physical Processes | Further consideration is required on whether there will be in combination effects from project activities on seabed features, for example the deposition of dredged material, and whether this will affect the recoverability of bedforms which have been levelled nearby. |
| 4 | Physical Processes | The approach described in the PEIR is sufficient to identify and assess coastal processes impacts. However Table 6.22 presents conclusions on impact significance, despite the PEIR stating that several strands of work (e.g. sediment plume modelling, floatation pit analysis, sediment core data processing) are still ongoing at the time of writing. It seems that this has been done prematurely and may change. Therefore all assessments of impact significance affected by ongoing work should be fully reviewed prior to the completion of the ES. |
| 5 | Physical Processes | Table 6.1 in the PEIR provides an overview of each comment from the scoping opinion, summarising how it has been addressed and clearly identifying the relevant section of the PEIR where this is done. Key comments in the scoping included: <ul style="list-style-type: none"> <input type="checkbox"/> A request to include tidal data for model validation, which has been undertaken (described in section 6.5). <input type="checkbox"/> A request to consider seabed features as receptors, which has been acknowledged in the PEIR and the applicant states that this will be accounted for in the ES. <input type="checkbox"/> A request for further detail on specific EIA approach and cross-referencing to other ES chapters to identify indirect linkages to other chapters has been (section 6.4 and chapter 4) <input type="checkbox"/> Details of embedded mitigation measures which were incorporated into project design have been described in section 6.7 and table 6.20. <input type="checkbox"/> More detail of non-burial cable protection was requested and further detail has been provided in chapter 3 and figure 3.5 |
| 6 | Physical Processes | Section 6.4.5.2 states that several aspects of the proposed development have not yet been finalised and therefore there are several gaps which are openly acknowledged. It is stated that these will be addressed during the assessments which feed into the final ES. |
| 7 | Physical Processes | The MMO is content that the PEIR states that outstanding issues will be addressed during the EIA process and results included in the ES. The PEIR states that new material not included in the PEIR will be provided in technical appendices in the ES; these appendices should be readily identifiable as new material, to ensure that these aspects are fully reviewed during the final ES review. |
| 8 | Physical Processes | Section 6.7 outlines embedded mitigation measures which formed part of the project design process. No mitigation is proposed for residual effects (Table 6.22) that could not be mitigated during the design process. However, some assessments have not yet been fully completed. Once ongoing aspects of EIA have been completed (as detailed in Section 6.10), any further mitigation required to reduce potential impacts from these should be reassessed and included in the ES as stated in Section 6.4.5.5. |
| 9 | Intertidal and Benthic Ecology | The information presented within the various sections of the PEIR relating to benthic ecology are appropriate and the MMO does not consider there to be any missing information. |
| 10 | Intertidal and Benthic Ecology | The comments previously raised in the MMO Scoping Opinion have all been suitably addressed in this PEIR. |
| 11 | Intertidal and Benthic Ecology | The MMO considers that all the potential impacts relevant to benthic ecology have been identified. |
| 12 | Intertidal and Benthic Ecology | The MMO cannot currently identify any information gaps relating to benthic ecology in the PEIR. The embedded mitigation measures proposed (e.g., routing the cable corridor to minimise impacts with key receptors) are suitable at the current stage of the assessment, as all potential benthic ecology impacts have been identified as non-significant. However, it is noted that there are still a small number of assessments yet to be conducted in the ES identified in Section 8.10.1.1. Therefore our position may change. |
| 13 | Intertidal and Benthic Ecology | It is noted that the cumulative assessment of the relevant projects is yet to be undertaken and this will be detailed in the ES when more detailed modelling work will have been undertaken which is an appropriate approach. |

| Item | Topic | Comments |
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| 14 | Intertidal and Benthic Ecology | The potential transboundary impacts have been considered in Section 8.6.6. While there is potential for any sediment plume arising to extend into French waters, transboundary impacts are not considered to have the potential to be significant. The MMO support this conclusion. |
| 15 | Fish and Shellfish | If monitoring is determined to be necessary for shellfish communities, it is important to consider the monitoring method to ensure it is appropriate for the target species (e.g. pots for crab/lobster, traps for cuttlefish, dredging for scallops). |
| 16 | Fish and Shellfish | The approach outlined in Sections 4, 9.4 and 12.4 is sufficient and is consistent with other applications of a similar nature. |
| 17 | Fish and Shellfish | Shellfish comments raised by the MMO in our Scoping Opinion (EIA/2018/00011) have been incorporated into the PEIR. |
| 18 | Fish and Shellfish | The impacts identified are consistent with those indicated in previous shellfish advice, and the importance of shellfish within the area is highlighted. |
| 19 | Commercial Fisheries | No specific mitigation measures are detailed for shellfish ecology, and establishment of an Inshore Fisheries Working Group is proposed to mitigate impacts to the local UK inshore fleet which is welcomed. In addition, the proposal to undertake an over-trawlability assessment to mitigate against seabed obstacles, including exposed cables is also welcomed. |
| 20 | Fish and Shellfish | It is noted that there is the potential for the works to cause disruption to spawning and nursery grounds for various fish and shellfish species within the works corridor area due to sediment displacement etc. It is noted that in Section 12.5.4.1 there is also the potential for works to effect ongoing projects, such as the Solent Oyster Restoration project by The Blue Marine Foundation. |
| 21 | Fish and Shellfish | The MMO notes that whiting spawning grounds are not presented in Figure 9.4. This should be included in the ES. |
| 22 | Fish and Shellfish | Table 9.7 presents a list of Valued Ecological Receptors (VER). Given the proposed cable landfall is within Eastney in the Solent and part of the marine cable corridor falls within the 12 nautical mile (nm) inshore waters, both allis shad and twaite shad have been highlighted as VERs. Their associated Wildlife and Countryside Act 1981 (WCA) designations ³ should be acknowledged in the final ES. Further, seahorses are also acknowledged within the PEIR as being present along the south coast. Both the Short Snouted (Hippocampus hippocampus) and spiny seahorse (Hippocampus guttulatus) are also listed on the WCA, which should also be recognised within the ES. |
| 23 | Fish and Shellfish | The MMO Scoping Opinion recommended the use of the MarineSpace et al., (2013) methodology to assess the potential suitability of habitat to support sandeels. This incorporates sandeel sediment habitat preference references (Greenstreet et al., 2010; Holland et al., 2005; Macer 1966; Reay 1970; Van der Kooij et al., 2008; Wright et al., 1998 and Wright et al., 2000), as well as British Geological Survey sediment data, Vessel Monitoring Systems (VMS) data, spawning habitat references (Coull et al, 1998 and Ellis et al., 2012) and used the Folk classification (Folk, 1954) to determine whether habitat may be 'preferred' ⁴ or 'marginal' ⁵ to support sandeels. According to the MarineSpace classification most of the UK Marine cable route PSA samples are defined as marginal sandeel habitat (Figure 10 in Appendix 8.1 of the PEIR). Further the MMO acknowledges that Figure 12.9 identifies that the sandeel fishery coincides with UK inshore section of marine cable corridor which would suggest that sandeels are present in a higher density in this area. Therefore, in the MMO's opinion, the proposed development area may contain habitat which can support sandeels and should be reflected in the ES. |
| 24 | Fish and Shellfish | The PEIR recognises that Black seabream nesting areas are present along the south coast, however, there does not appear to be any discussion of the potential effects from the proposed project upon them. The MMO recommends that potential effects on Black seabream nesting areas are considered in the ES. The MMO do however acknowledge that identified spawning areas are located away from the marine cable route (Figure 9.5 of the PEIR). |
| 25 | Fish and Shellfish | The MMO notes that Objective 12 of the South Inshore and South Offshore Marine Plan (2018) includes policies to avoid, minimise or mitigate significant adverse impacts on natural habitat and species including: S-FISH-4-HER which requires proposals to consider herring spawning mitigation in the area highlighted in Figure 26 (within the technical annex to the Plan) during the period 1 November to the last day of February annually. The PEIR identifies that herring spawning grounds are present within the study area, though Table 9.5 incorrectly identifies that they are of low intensity. Ellis et al., 2012 has not assigned a spawning intensity as the herring grounds used in the report are a replication of the Coull et al., (1998) grounds. IHLS data has been cited in the report with the applicant stating that herring are present but 'not in high densities'. The MMO disagrees with this statement. |
| 26 | Fish and Shellfish | IHLS data from the southern North Sea shows that there are high larval densities recorded (refer to Annex 1 Figure 1 which presents the 2016/2017 IHLS data). The PEIR section on pelagic species does not discuss herring spawning grounds and the MMO would expect this to be included as the proposed cable route transects the downs spawning grounds (and associated areas of high and very high herring larval densities). It is stated that "due to the small area of potential impact and temporary nature, it is considered that temporary habitat disturbance/loss is not significant on herring spawning". The assessment to calculate the spatial extent of herring spawning grounds is based Ellis et al., (2012) which is effectively based on Coull et al., 1998 spawning grounds. The MMO does not support this approach as the calculated area can over or under-represent spawning grounds and is solely based on substrate |

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| | | <p>suitability. This approach does not take into account recent IHLS larval density data (the best representation of recent spawning activity) as well as water quality, topography etc. which are also factors in areas where herring spawn.</p> <p>The impact assessment does not consider potential cumulative effects of this project in combination with other activities that may impact upon the downs herring population.</p> <p>The MMO acknowledges that potential effects of Suspended Sediment Concentrations (SSC) have been considered but disturbance to gravid adults, effects on herring spawning ground site integrity, potential entrainment/removal of herring eggs and larvae in a highly productive spawning ground has not been fully considered and needs to be further assessed in the ES.</p> |
| 27 | Fish and Shellfish | The PEIR has not considered or acknowledged whether dredging operations may cause entrainment of fish eggs, larvae, juveniles or adults. The MMO recommends that this is considered further in the ES. |
| 28 | Fish and Shellfish | The MMO acknowledges that the PEIR has considered the following data sources that were recommended in our Scoping Opinion: Environment Agency's transitional and coastal waters (TraC) Fish Monitoring Programme surveys, the Cefas Young Fish Survey, the Solent Seabass Pre-recruit Survey, International Herring Larvae Survey (IHLS), Fish Atlas of the Celtic Sea, North Sea and Baltic Sea and Langstone Harbour Small Fish Survey. The limitations of these data sources (Table 9.3) have also been considered. |
| 29 | Fish and Shellfish | Migratory species (Atlantic salmon, sea trout, lampreys, shads, and European eel adults and elvers) which may occur within the proximity of the cable throughout the year have also been considered. |
| 30 | Fish and Shellfish | <p>Most of the impacts appear to be identified and the MMO notes that some additional assessments will be presented in the ES, including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assessment of impacts arising from construction and operation of flotation pits, use of a Trailer Hopper Suction Dredging (THSD) for trenching and vessel groundings; <input type="checkbox"/> Assessment of impacts from increased Suspended Sediment Concentrations (SSC's) on protected and/or sensitive features in proximity to the Marine Cable Corridor; <input type="checkbox"/> Assessment of potential impacts from driven ducts as part of the Horizontal Directional Drilling (HDD) works at Eastney on protected and/or sensitive features; o Cumulative Effects Assessment (CEA); o Habitats Regulations Assessment (HRA) for Special Area of Conservation (SAC) with fish/shellfish interest features; and o Marine Conservation Zone (MCZ) Assessment. |
| 31 | Fish and Shellfish | Embedded mitigation measures have not been fully resolved at this stage as the design is still evolving. It is assumed that mitigation measures embedded into the design (e.g. cable burial, use of appropriate construction techniques, pollution prevention measures) or which constitute industry standard environmental plans and best practice will be in place. Embedded mitigation has been included within the assessments, though not all assessments are completed, it is recognised that the need for mitigation measures may need to be revisited. |
| 32 | Fish and Shellfish | Once a suitable/appropriate herring assessment has been completed and presented in the ES it can be determined whether species specific mitigation measures are required. |
| 33 | Fish and Shellfish | The PEIR has focused on the UK side of the English Channel median line in terms of fish characterisation, which is appropriate. The report states that no potential transboundary effects have currently been identified in UK waters and fish assemblage composition is similar on both sides of the channel. |
| 34 | Commercial Fisheries | The MMO notes that Figure 12.9 identifies that the sandeel fishery coincides with the UK inshore section of marine cable corridor. The MMO recommends that the ES considers potential in combination effects to sandeel from habitat loss and fishery displacement. |
| 35 | Commercial Fisheries | Comments made regarding fisheries in the MMO EIA Scoping Opinion have been acknowledged and recommended sources of data and published literature sources to inform the EIA have been used which is welcomed. |
| 36 | Commercial Fisheries | As set out in our MMO Scoping Opinion, the MMO recommends seeking consultation with the Fisheries industry at the earliest opportunity as the greater the level of consultation the greater the opportunity to mitigate against any impact to the fishing industry. The MMO also recommends working with members of the recreational fishing community as the Solent represents an important areas for both private anglers and for charter vessels providing a platform for recreational fishers. The MMO's coastal offices have advised that the project is still not widely known within this industry, therefore further engagement may be required. |
| 37 | Fish and Shellfish | In the fish matrix cumulative assessment, presented in Appendix 9.1, all marine aggregate licence areas are scoped out of a stage 3 and 4 assessment as the 'addition of the activities undertaken as part of the Proposed Development will not significantly add to the impact of the dredge activity that will be ongoing within the aggregate extraction zone'. It is noted that it is anticipated that approximately 600,000 to 1,700,000 m ³ of sediment along the marine cable corridor will need to be cleared by Mass Flow Excavator and/or dredging with 200 vessel movements and predicted plume extent of no more than 2 km. Some aggregate licence areas are |

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| | | located within 2 km to the proposed cable route and therefore consideration should be given to whether there is the potential for cumulative effects between the proposed interconnector installation activities and marine aggregate dredging. |
| 38 | Fish and Shellfish | No transboundary impacts are described for shellfish ecology given the similarities between the stock composition within the UK and French EEZ in this area. It is noted that cumulative transboundary effects to commercial shellfisheries will be evaluated within the ES. As part of this evaluation consideration should be made in the ES for the temporary or permanent displacement of fishing effort (e.g. scallop dredging) which is currently a contentious issue within the Channel region in terms of access to alternative grounds. |
| 39 | Fish and Shellfish | The PEIR has identified sandeels as keystone species and a potentially sensitive fish receptor which was highlighted in the MMO's Scoping Opinion. The report presents a short characterisation of potential suitable habitat to support sandeels using Particle Size Analysis (PSA) data of sediments taken from samples collected for the benthic surveys. These have then been classified based on sandeel habitat preference identified by Greenstreet et al., (2010). The PEIR states that no samples were taken from outside the marine cable route. The report states that 'only two sample locations (sampling station 24 and 41) were found to be suitable for sandeel habitat based on sandeels preference for medium and coarser sediments (0.25 to < 2.0 mm diameter)' and that both of these were in French waters. Further, the PEIR states 'no suitable habitat was identified within the Proposed Development'. |
| 40 | Fish and Shellfish | <p>The potential effects of electromagnetic fields (EMF) emitted by the interconnector cables have only been considered for elasmobranchs. Other electrosensitive species such as salmonids and cod should also be considered in the ES.</p> <p>The MMO (2014) review of post-consent offshore windfarm monitoring data is referred to in Section 9.6.4.4 and details that the report concluded that there is no evidence to suggest that EMF pose a significant risk to elasmobranchs at the site or population level, and little uncertainty remains. This conclusion is based on studies undertaken from smaller round one projects and there still remains uncertainty surrounding the potential effects of EMF for larger applications. This uncertainty must be reflected in the final ES. The MMO does however note that where possible cables will be buried (approximately 90% of the cable route) and cable protection will be used if needed (approximately 19 km), which will reduce the EMF.</p> |
| 41 | Commercial Fisheries | The area is subject to regular fishing activity from vessels with multiple gear types operating from several locations within the area (Southampton, Portsmouth, Gosport, Langstone Harbour, Emsworth etc.). The vessels/activities most likely to be heavily affected are potters, scallopers and whelkers. This is supported in Sections 12.5.3.7 through to 12.5.3.18 of the commercial fisheries section of the PEIR. Other vessels utilising alternate gear types will potentially also be affected, and have been considered. |
| 42 | Commercial Fisheries | In general, as in most areas, the inshore fleet in the area is heavily affected by adverse weather conditions, therefore winter tends to see a reduction in <10m vessels regularly operating. Nomadic scallop vessels tend to be most active in the area between October and February/March regularly landing into Portsmouth throughout this time window, and this has been considered. |
| 43 | Commercial Fisheries | The appointment of a Fisheries Liaison Officer (FLO) and the use of the Kingfisher bulletin, included in Chapter 13 to mitigate against issues with the fishing fleet, is in line with best practice. |
| 44 | Commercial Fisheries | Confirmation should be provided that the most recently available commercial fisheries landings data will be presented in the ES. The PEIR currently presents 2012-2016 UK landings and foreign landings to UK ports but it should be considered whether this is the most up to date data available. Where more contemporary data is available this should be added for the final assessment and made clear this is the most up to date data available. |
| 45 | Commercial Fisheries | Table 9.7 provides a description of the stock status (stable/declining) for the VER's identified. The categorisations for some of species listed appears to be incorrect (e.g. undulate ray which is currently undefined (ICES, 2018)). It is presumed some of this information is obtained from ICES stock assessments, but it is not clear from the PEIR whether this is the case. The source information for these designations should be confirmed in the final ES alongside full references. |
| 46 | Commercial Fisheries | The MMO notes that Section 9.5.4.6 states that "Commercial fisheries data shows that 'shad' are caught in both the coastal and offshore ICES rectangles, confirming they are widespread across the Channel". Shad cannot be commercially targeted in UK coastal waters, furthermore shad cannot be intentionally harmed or killed within coastal waters (12 nm fishery limit) due to their protection under WCA. When reviewing and presenting commercial fisheries data within the ES it should be acknowledged where there are limitations in the data and consideration should be given to whether catch rates may be influenced by protection measures or fishing restrictions. In this specific case that shad landings in 30E8 and 30E9 will be limited due to their protection under WCA and that therefore this data is not entirely representative of shad distributions within these rectangles, which should be reflected in the final ES. |
| 47 | Commercial Fisheries | European smelt abundance and distribution is discussed in Section 9.5.4.10 and states that 'European smelt are recorded as being commercially landed from ICES Division VII.7.d but were absent from surveys undertaken by CEFAS and both Sussex and Southern IFCAs'. However, survey sampling methodology and gear selectivity are likely to affect catchability of non-target species; the Cefas survey data used to inform the report are not designed to capture or suitable to specifically target smelt. The limitations and suitability of survey design for targeting species should be considered when discussing survey data that is being used to infer species' distribution and abundance. This should be reflected in the final ES. |

| Item | Topic | Comments |
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| 48 | Commercial Fisheries | Commercial fishing activity is likely to be significantly affected and has been considered in the PEIR. As the work corridor is 108km long and 1450m wide and will be closed to fishing for the duration of up to 2 years and 9 months. In addition there will be up to 62 works vessels operating, 25 of which simultaneously, with 700m exclusion zones in place around each vessel. The works entire represent a significant navigational and safety hazard to shipping. Cables being laid and the preparation of the seabed prior to laying present a potential interference with any future use of trawls, pots, traps, nets, lines or dredges in the area. Worst case scenario is the permanent loss of up to 8.64km ² of fishing grounds due to the need to protect non-buried cables on the seabed. In addition maintenance will be carried out by vessels requiring a 700m exclusion zone every 6 to 12 months in the first 2 to 5 years of the cables being laid (1 to 5 years thereafter for the expected 40 year lifespan of the cables). |
| 49 | Marine Water and Sediment Quality | Overall, the approach to characterising the sediment and water quality baseline and subsequent assessment is appropriate. However, the MMO notes that the sediment contaminant analysis methods have not been provided. The MMO notes in Table 7.1 of the PEIR (Column 2: "Scoping Opinion ID 4.2.3") that the applicant states that the chemical analysis conforms to MMO laboratory guidance. The PEIR or appendices should reference the analytical methods and laboratories used and if these laboratories are registered by the MMO as validated dredge disposal testing facilities. The MMO recommends the processing laboratory is made clear and the detailed methods followed are made available. |
| 50 | Marine Water and Sediment Quality | Further, the MMO notes that sediment contaminant samples have been obtained for the nearshore area only and not the full study area. The MMO notes from Appendix 8.1 that particle size distribution (PSD) data has been obtained over the whole route (Figure 10 in Appendix 8.1) and shows much of the route to be comprised of sandy gravel. Coarse sediment has a limited affinity for sorption of chemical contaminants and therefore sediment contamination would not be expected to pose a significant risk in the offshore areas of the route given the PSD results. Nevertheless, the MMO would expect the limitation of the sediment samples to be noted in Section 7.5.3.8. |
| 51 | Marine Water and Sediment Quality | Potential cumulative and inter-related impacts and effects on the physical and biological environment are identified in Section 7.6.5.4. It is noted that the cumulative assessment of the relevant projects is yet to be undertaken and this will be detailed in the ES when more detailed modelling work has been undertaken |
| 52 | Marine Water and Sediment Quality | The apparent lack of sediment contaminant samples over much of the offshore area has not been explained Although it is not considered this substantially effects the conclusions of no significant impact, incorporating the PSD data into Section 7.6.3, would in the MMO's opinion offer a more robust assessment and fully utilise the survey data. |
| 53 | Marine Water and Sediment Quality | The MMO notes that the assessment of impacts within 1 nm is yet to be completed (see Section 7.9.1.3). The MMO expects this to be included in the final ES. |
| 54 | Marine Water and Sediment Quality | It is noted that a separate disposal site characterisation report, as required in the MMO Scoping Opinion, is currently being discussed with the MMO. |
| 55 | Marine Water and Sediment Quality | The assessment of sediment contamination impacts from the resuspension of contaminated sediment and the increases in suspended sediment from dredging activities are both appropriate. |
| 56 | Marine Water and Sediment Quality | Potential cumulative and inter-related impacts and effects on the physical and biological environment are identified in Section 7.6.5.4. It is noted that the cumulative assessment of the relevant projects is yet to be undertaken and this will be detailed in the ES when more detailed modelling work has been undertaken. |
| 57 | Shipping, Navigation and Other Marine Users | It is noted that other legitimate users of the sea are also likely to be significantly affected in relation to exclusion zones and navigation, particularly in the Solent which is an already difficult area to safely navigate. In particular oil tankers servicing ExxonMobil Fawley Oil Refinery Marchwood, commercial freight container ships utilising ABP Southampton dock facilities and Portsmouth Harbour dock facilities, Brittany Ferries operating cross channel routes between Portsmouth and various French ports, Royal Navy and RFA vessels operating from HMNB Portsmouth as well as many thousands of recreational vessels. The number of recreational vessels swells considerably for events such as Southampton boat show (occurs annually – one of the largest on water boat shows in Europe) and Cowes Week (occurs annually – the largest sailing regatta of its kind in the world, with up to 8000 competitors in over 1000 boats competing in up to 40 sailing races per day around the Isle Of Wight). |

Table 7 – Non-statutory consultee responses to S42 consultation

| Item | Consultee | Topic | Comment |
|------|--|---|---|
| 1 | British Marine Aggregate Producers Association | Shipping, Navigation and Other Marine Users | The distribution of commercially viable marine sand and gravel resources is highly limited, constrained by their geological distribution and their geographical position relative to the markets location. Consequently, with the growing pressures and demands being placed on marine space, it is essential that existing marine aggregate interests (production licences, applications and option areas) are provided adequate protection against new developments that may interfere with their ongoing safe operation through the policies provided in the relevant marine plans that are in place. Equally, given the limited spatial extent of marine sand and gravel deposits, it is also important that areas of potential future resource are clearly identified and flagged so they can equally be considered through the relevant safeguarding policy provisions provided in marine plans – particularly given future resource demands and requirements will inevitably evolve and change over the 20 year plan period and beyond. |
| | | | In this respect, we consider that the background marine mineral resource data prepared by the British Geological Survey represents an incredibly valuable dataset, not only in terms of defining where the industry may want to go in the future, but also in highlighting where it is unlikely to go. See: https://www.bgs.ac.uk/mineralsuk/planning/resourceOffshore.html And: http://www.marineaggregates.info/downloads-and-links/bgs-mineral-resources-studies.html |
| | | | We note that the current assessment only considers the potential impacts of the proposed route on existing licensed marine aggregate interests. We further note that no reference has been made to the existing guidance that has been produced by the European Subsea Cable Association (ESCA Guideline No.19, 2016) which establishes proximity guidelines to address the potential interaction between subsea cables and marine aggregate interests - https://www.bmapa.org/documents/Guideline_19_Marine_Aggregate_Extraction_Proximity_2.pdf |
| | | | No consideration has been given to the potential for the proposed project to impact on those areas of marine sand and gravel resource that may be considered for use in the future. |
| | | | The Marine Policy Statement (para.3.5.6) states that, amongst other considerations, marine plan authorities and decision-makers should: ‘...take into account the need to safeguard [aggregate] reserves for future extraction’. Policy S-AGG-3 of the South Marine Plan (HM Government, July 2018) applies the Marine Policy Statement taking account of the regional and national importance of the plan area for marine aggregate supply and the spatially discrete areas in which commercially viable deposits of sand and gravel are found. The policy is intended to enable public authorities to consider how proposals for marine development and activities within areas of high potential aggregate resource, as defined by British Geological Survey, may impact the ability to access commercially viable marine sand and gravel resources in the future. In turn, this is intended to help maintain access to sufficient supply of aggregate resources in the future. This is further supported by the general policy for co-existence (Policy S-Co-1), which requires ‘Proposals will minimise their use of space and consider opportunities for co-existence with other activities’. Therefore, in order to comply with the marine mineral safeguarding policies in the South Inshore/Offshore Marine Plans (particularly policy S-AGG-3), which in turn reflect the requirements of the UK Marine Policy Statement, we consider it necessary for both the routing plan and the decommissioning programme for the AQUIND interconnector to take full and proper account of the potential for marine mineral resources to be permanently sterilised over the long term. |
| | | | Where cable infrastructure is found to coincide with commercially viable marine sand and gravel resources, the default position should be a commitment for any permanent constraint on the ability to use that resource in the future to be removed in its entirety once it reaches the end of its commercial life. |
| | | | More generally, we are surprised at the limited references that are made to the South Marine Plan and its associated policy requirements as they relate to existing uses and activities, given the requirement for decisions relating to NSIP projects to have regard to these. |
| | | | |
| 2 | CEMEX | Shipping, Navigation and Other Marine Users | Our initial view, based on the charts provided, is that it is unlikely that any of our vessels would choose to routinely anchor in any area which would impact on the interconnector route. I’d be interested in being kept on the consultee list in the event that there are any changes or developments. |
| 3 | Royal Yachting Association | Shipping, Navigation and Other Marine Users | The RYA acknowledges the consultation, however we have no substantive comments at this stage. We would welcome further communications as the proposal develops. |
| 4 | Southern IFCA | Commercial Fisheries | The application highlights stakeholder consultation with the fishing industry has been undertaken in October 2017 and again in September 2018. Meetings have also been undertaken in September of 2018 with officers at Southern IFCA regarding the potential impacts to the fishing industry. This is appreciated and the importance of early stakeholder engagement was highlighted in our response to the scoping response. |

| Item | Consultee | Topic | Comment |
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| | | | <p>The assessment of fishing activities in the inshore region is difficult given the sources of information available, particularly the MMO landings, VMS data and surveillance data. The description of fisheries within the area seems apt particularly when applied to the Solent fisheries, identifying a number of the key target species and the nature of the inshore fleet as predominantly under 10 metre and multi-faceted in the species they target or gear they use. It is appreciated that the impacted area may be considered small, however the assessment that the inshore fleet can move, or switch gears, may not accurately reflect the adaptability of inshore fishing vessels. The limited availability of quota, restrictions on bass fishing, Marine Protected Area regulations and other marine works, particularly in areas such as the Solent, limit the adaptability of the fleet. The options to diversify when ground is lost is limited by the above factors, and those fisheries which could be considered alternatives are typically subject to their own seasonal trend and catch fluctuations. It is noted that a cumulative assessment will be made considering other marine works, it may be appropriate to consider other non-construction impacts the fisheries may be subject to, such as those mentioned above when considering the impact to the fishery.</p> <p>Although not considered a requirement for the application, the developer may look to consider the relevant projects/organisations which look to support the fishing industry. Within the Solent in particular there is the Blue Marine Foundation, which is currently working as part of the Solent Oyster Project and may be worth including in consultation and may be able to provide avenues/opportunities to support a sustainable inshore fishing industry indirectly.</p> |
| | | Designated Sites | <p>Within the Southern IFCA district the proposed works have the potential to interact with the Solent Maritime SAC, and the Chichester and Langstone Harbour SPA, as well as the associated SSSI's and RAMSARs. Considering the proposals, the decision to use HDD to travel underneath Langstone Harbour in particular is one the Authority supports. Due to the various environmental designations the area the cable would travel in the North West of the Harbour is closed to Bottom Towed Fishing Gear and the protection the area is afforded as a result would be jeopardised if works were to be undertaken over the intertidal areas. The use of HDD is also considered appropriate method avoiding significant interaction with the Solent Maritime SAC outside of Langstone Harbour seaward from landfall of the cable.</p> |
| | | Shipping, Navigation and Other Marine Users | <p>I also appreciate the work that you have put in initially to discuss potential impacts with the angling community, including attendance from consultants working on the application at Southern IFCA's Recreational Angling Sector Group on the 27th March 2019 to discuss the project. The application includes a small section within the navigation section dedicated to recreational sea angling, and as discussed at the meeting, this currently does not include significant detail and, consistent with the discussions at the Recreational Angling Sector Group, we would recommend continued consultation with this interest group.</p> |
| 5 | Tarmac | Shipping, Navigation and Other Marine Users | <p>We have considered the interconnector route in relation to our aggregate dredging licence areas and concluded that it is sufficiently distant from these areas so we do not have any comments to make. We were consulted earlier on in the process, with the Crown Estate, and provided some input to the route planning then. We are interested in the shallow geology profiles of the cable route - figure 3.4 sheets one to three in the consultation document - and ask if these are available as GIS shapefiles.</p> |
| 6 | Tudor Sailing Club | Shipping, Navigation and Other Marine Users | <p>Tudor Sailing Club has concerns regarding the possible routes of Section 7, as the possible routes appear to include going through the grounds of our very active sailing club and also passing up the Broom Channel of Langstone Harbour through our cruiser moorings, causing potential damage to the channel, our moorings and possibly our boats, depending on the time of year that the work is undertaken.</p> |
| 7 | CEMEX | Shipping, Navigation and Other Marine Users | <p>Our initial view, based on the charts provided, is that it is unlikely that any of our vessels would choose to routinely anchor in any area which would impact on the interconnector route. I'd be interested in being kept on the consultee list in the event that there are any changes or developments.</p> |
| 8 | Brittany Ferries | Shipping, Navigation and Other Marine Users | <p>Many thanks indeed for sending this through. I've forwarded all the details through to our maritime and port ops departments for their info/comments. Please let me know if you need any other help or input from me/us.</p> |
| 9 | RYA | Shipping, Navigation and Other Marine Users | <p>The RYA acknowledges the consultation, however we have no substantive comments at this stage. We would welcome further communications as the proposals develop.</p> |

| Item | Consultee | Topic | Comment |
|------|------------------------|---|---|
| 10 | UK Chamber of Shipping | Shipping, Navigation and Other Marine Users | The chamber is pleased to be involved with this consultation and looks forward to reading the documentation and providing input where necessary. We would be grateful if you could please keep the chamber informed of any additional consultations that we should be aware of and any outcomes from the consultations you put out for deliberation. |
| 11 | Bembridge Angling Club | Shipping Navigation and Other Marine Users | The planned route seems to go right across the area known as "Bullocks Patch" to the east of the deep water shipping channel that takes large vessels past the Nab Tower. Bullocks Patch is an extremely popular angling spot from late spring to mid-summer as it is one of the few nesting areas for Black Bream between the Nab Tower & Selsey Bill. From the point of view of the members of Bembridge Angling Club, I see no other major issues with the proposed route. |
| 12 | Catchalot Charters | Shipping Navigation and Other Marine Users | Hi, with view to our activity in the area behind the Nab tower, down to the puller bouy, This area we mainly fish in the spring, May to August, spring is the migration pattern for Smoothhounds and Tope, also this time the Bream come into breed on Bullocks patch. The proposals if through these times would have a significant detrimental effect on the fish, and also our business, of catching, for tag and release of these species. The least damage to our business and the fish, I think would be if this section was arranged for the winter. I appreciate this may not be possible, But these are my opinions. |

