FIVE ESTUARIES OFFSHORE WIND FARM

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10.26.2 APPLICANT'S COMMENTS ON HISTORIC ENGLAND'S DEADLINE 2 SUBMISSIONS

Application Reference: Document Number: Revision: Pursuant to: Eco-Doc Number: Date: EN010115 10.26.2 A Deadline 3 005511162-01 November 2024

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Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
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DEFINITION OF ACRONYMS

Term	Definition
AEZ	Archaeological Exclusion Zone
CoCP	Code of Construction Practice
DBA	Desk Based Assessment
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
GBS	Gravity Base Structures
HE	Historic England
HSC	Historic Seascape Character
NPS	National Policy Statement
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Impact Report
ИКНО	UK Hydrographic Office
UWN	Under Water Noise
UXO	Unexploded Ordnance
VE	Five Estuaries
WSI	Written Scheme of Investigation



1. INTRODUCTION

- 1.1.1 This document provides an update to the 10.26 Applicant's Comments on Deadline 2 Submissions [REP3-024] in relation to comments on the onshore section of Historic England's Deadline 2 submission. Due to an error, two comments were not included in the document.
- 1.1.2 The Applicant's full comments on Historic England's submission have been included. The additional comments are HE2.01 and HE2.02 and have been added in blue text for visibility.

2. HISTORIC ENGLAND WRITTEN REPRESENTATION [REP2-052]

2.1 **OFFSHORE COMMENTS**

Ref	Summary of Deadline 2 submission OR Excerpt of Deadline 2 submission	Applicant's comments
HE1.01	Summary - Historic England do not have an in-principle objection to the proposal. We confirm the applicant has provided a detailed Environmental Statement, which includes the Historic Environment, however, we have identified concerns with the way in which the information has been provided in the ES.	This is noted by the Applicant.
HE1.02	 Offshore (Marine) Historic Environment - The application confirms that the proposal is within a sensitive area for the historic environment and the proposed development area includes several records for wrecks and other obstructions. Furthermore, a high number of potential anomalies have been identified by the project and have been assigned an Archaeological Exclusion Zone. The Applicant has explained that marine survey programmes including all geotechnical works are proposed post-consent and prior to construction (should consent be secured). We have provided further detail about how survey campaigns should be designed to include the collection of archaeologically specific cores, and that a Written Scheme of Investigation (WSI) will need to be produced that is acceptable to all parties. We note that the impact assessment presented in the ES relies on embedded mitigation to avoid significant impact. Although they have acknowledged that marine survey works, and archaeological analysis and interpretation will be required post-consent. Assumptions made about effectiveness of avoidance to remove significant impact effects are however predicated on adequacy of all subsequent survey investigations in order to allow for the prosed adaptive mitigation to be effective It is therefore important that the Applicant acknowledges the risk that this project will encounter both the known and presently unknown elements of the historic environment. We have provided comment below on this matter and provided further comment with regards to the OWSI. We are very concerned that limited detail has been provided about the spatial proximity of this proposed development (Electricity Export Cable) to HMS E6, which is subject to statutory protection under the Protection of Military Remains Act 1986. We confirm that the Ministry of Defence would be the competent authority for designation and administration responsibilities under the 1986 Act, however the documents provided for the ES need to be u	The Applicant notes the comments and acknowledgencounter both the known and presently unknown of Regarding spatial proximity of the Electricity Export clarifies that there are two UKHO records for the HM recently surveyed, located approximately 600 m not UKHO14983 (dead and a reported loss location onl the Export Cable Corridor). Although neither of these survey data, these records, along with the geophysic proximity (MA0602, MA0297) are all covered by Ard Further UKHO14544, thought to be the HMSM E6 a North Falls Offshore Wind Farm geophysical data (70768, 70769, 70770 confirming that it is likely that outside the VE project area. At this stage the final project design and therefore the survey are all covered by Ard is not confirmed, however in keeping with the outlin microsited to avoid known and potential archaeolog archaeological interest will be subject to further invectors.
HE1.03	Section 1.6 is clear that the final type of foundation will not be confirmed until the detailed design phase. It is therefore important that the work to inform the risk of encountering archaeological materials within the maximum burial depth is completed. This will require clear consent obligations and appropriately worded requirements. The important detail regarding potential impact to the historic environment is seabed penetration depth for monopiles could be 68 m (diameter up to 15 m), for multi-leg pin piles embedment depth will be 60 m. Suction caisson foundations will have 25 m penetration and 40 m diameter and multi-leg suction caissons, 25 m penetration and 20 m diameter.	This is noted by the Applicant. It should be highlight been removed from the project design envelope.

dges the risk that this project will elements of the historic environment.

ort Cable to HMS E6: The Applicant HMSM E6, UKHO14544 (live and north of the Export Cable Corridor) and only, located approximately 30m south of ese locations were covered by the project ysical anomalies seen within their Archaeological Exclusion Zones.

appears to have been identified in the (Chapter 16, Table 16.6). Identifiers at this wreck site is approximately 600m

e the spatial location of the export cables lined mitigation the design will be ogical features, and sites of ovestigation in watching briefs prior to

hted that GBS foundations have now



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	For Gravity Base System (GBS) foundations, it is clear that "significant seabed preparation" is required to facilitate stable placement of a GBS with base diameter of 55 m and that multi-leg GBS with seabed diameter of 20 m.	
	In addition, all consideration of construction must consider impacts associated with Jack- Up Vessels (JUVs) or other specialist installation vessels that deploy anchors.	
	Section 1.6.33 states that scour protection may be installed to prevent the erosion of foundation structures. The use of scour protection can result in the development of localised areas of erosion in the area around each turbine where scour protection has been utilised. The potential impacts that this may have on the historic environment will therefore need to be considered and mitigated.	
	We are therefore pleased that this issue has been raised as a specific impact in the Offshore Archaeology and Marine Heritage (Volume 6, Part 2, Chapter 11, Section 11.13.49).	
HE1.04	Table 11.2 it is disappointing that given the comments we provided in response to the PEIR consultation that a substantially edited version was not produced in the ES, a 35-page table is unnecessary. Unnecessary information such as engagement logs could be produced as appendices if required with summaries in the key chapters.	Table 11.2 consists of a summary of all points wher response to comments received from Historic Engla demonstrate that the comments had been addresse comments agreed and where no further action were 11.3.2.
	Section 11.4.3 we do not agree with the identification of Impacts 7, 12, 15 and 18. Historic Seascape Character is not a 'sensitive receptor', it is exclusively a means to understand the context within which heritage assets are located or which could be encountered. Furthermore, historic seascape character should not be included as a 'receptor' in section 11.4.9.	Section 11.4.3 details Impacts 7, 12, 15 and 18 wer confirmed by Historic England within the Section 42 the impacts scoped in for assessment, as listed in 3 & maintenance and decommissioning)" The impacts Volume 6, Part 2, Chapter 11: Offshore Archaeolog
HE1.05	It is unfortunate that the advice we provided in response to the PEIR consultation regarding how historic seascape characterisation methodology should be used has been ignored. We therefore recommend this section is reconsidered and an erratum issued.	Following advice within the Section 42, 2023 letter f the HSC was reassessed for Volume 6, Part 2, Cha Cultural Heritage [APP-080].
		The capacity for change in the HSC has been included described in Section 11.12, Section 11.13 and Sect the Historic Seascape Characterisation was update
HE1.06	Section 11.6 it is stated that the data received was of "good quality". What 'good' means in this context remains undefined. It is however acknowledged in section 11.6.3 that there are still 'geophysical data gaps where archaeological assessment has not been undertaken'. It can only be concluded that pre-determination evaluation and risk assessment of encountering heritage assets has not been completed.	The Applicant included the reference to where the of found: Section 11.6.1 states that "The data received suitable for archaeological interpretation (further de 5, Annex 11.1:Offshore Archaeology and Cultural H Applicant acknowledges within this section that "the geophysical data gaps where archaeological asses
	It is also important to record at this stage that no offshore geotechnical surveys have been undertaken for the project, as acknowledged at 11.6.8.	illustrated on Figure 11.3."
HE1.07	Section 11.7.36 We do not agree with the inclusion of Historic Seascape Character (HSC) as a in section 11.4.11 (2011, England's Historic Seascapes: Demonstrating the Method), which states that HSC "takes a holistic view of the historic landscape and can provide context for the often 'point-based' datasets available for the marine zone."	Section 11.4.11 includes Historic Seascape Charac Method, SeaZone (2011) as one guidance document into consideration when undertaking the assessment HSC assessment draws on the consolidated Nation 2018 via Historic England), Historic Seascape Char

ere the Applicant needed to provide a gland at Scoping and PEIR to sed, however the table does not include ere required as stated within section

tere presented within the PEIR and 42 letter (2023) as agreed "*HE agree with n Section 11.4.3 (construction, operations* cts where therefore included within bgy and Cultural Heritage [APP-080].

r from Historic England the approach to hapter 11: Offshore Archaeology and

luded in Section 11.7 and the impacts ection 11.14. Details on where and how ited is detailed within Table 11.2. e definition of "good" data quality can be yed to date has been of good quality and defined in Section 2.4 of Volume 6, Part I Heritage Technical Report)." The there are some small remaining essment has not been undertaken as

acterisation (HSC): Demonstrating the nent (on a list of 13) that has been taken nent. Section 11.7.37 clarifies that the onal Historic Seascape database (LUC, naracterisation: England's Historic

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Ref	Summary of Deadline 2 submission OR Excerpt of Deadline 2 submission	Applicant's comments
		Seascape: HSC Method Consolidation (Cornwall Co Seascape: Demonstrating the Method (SeaZone, 20 HSC character types that are illustrated in the narrat an area to inform a sustainable management of char area to accommodate changes influenced by the de
		As stated in 11.7.36 the Applicant has undertaken th (HSC) assessment in line with the National Heritage and marine environment, including the sub-sea floor and coastal areas.
HE1.08	Within both the array areas and cable export corridor preliminary data assessment indicated palaeo-channels with geoarchaeological potential (section 11.7.6). Figures 11.5, 11.7, 11.9 - the referencing system for channels of geoarchaeological potential (MA3003 etc) is unexplained in the accompanying text. Please can this be amended.	Offshore Archaeology and Cultural Heritage technica all channel deposits as illustrated, section 11.7.6 is a environment and refers to the channels as valleys ar potential identified in the SBP data.
HE1.09	Figures 11.4, 11.6, 11.1.4 should have clearly explained the code reference system used, which is assumed to be UKHO. It is particularly noticeable that Table 11.13 (High potential anomalies seen in geophysical data) clearly provides the MA ID reference (e.g. MA000I), but the UKHO reference (as used in figures) is given within accompanying text description and therefore somewhat concealed, making cross referencing time consuming.	All cross referencing as well as details for all feature gazetteer of geophysical anomalies and Appendix B and obstructions within the marine archaeology stud and Cultural Heritage technical report [APP-128]. Vo Archaeology and Cultural Heritage [APP-080] and an an overview of receptors with detail provided within (Heritage technical report [APP-128].
	The inclusion of anomalies within the figures and presently considered to be of low archaeological importance is important, as such anomalies will require further investigation and professional assessment. Several figures include text "St James's Day Fight 1666", which is not explained in terms of archaeological potential or even alluded to in any consideration of the Second Anglo-Dutch Wars in July 1666.	
HE1.10	In reference to HSC broad character types, the Applicant advocates that 'Fishing' is the dominant character type and that the dominant broad character type for the "coastal level" is 'Navigation'. However, we cannot agree with the approach taken by the Applicant here, by not considering cumulate change. Generic consideration of fishing does not allow for appreciation that the physical presence of Wind Turbine Generators and offshore substation(s) will fundamentally affect what type of fishing can be safely practiced.	As clarified in Section 11.7.39, the character type is character type as seen by geospatial coverage in the It should be noted that Volume 6, Part 2, Chapter 11 Heritage [APP-080] includes a summary of the HSC Cultural Heritage technical report [APP-128] includes including fishing and navigation and where cumulative
HE1.11	Section 11.9.2 we note that the available survey data indicates well preserved channels and deposits with high geoarchaeological potential are extant within the study area and which are already mapped (e.g. MA3003 and MA3010 to MA3017, as illustrated in Figure 11.17). Corroboration with recent survey analysis produced by North Falls Offshore Wind Farm Project is important and clear objectives would need to be set for determining geographical association of cross cutting palaeo-channels between these proposed developments.	Noted by the Applicant. Relevant sections within 9.19 Outline Marine Written have been updated and submitted at Deadline 3.
	We recommend this is a specific task or objective within the Outline Marine Written Scheme of Investigation (OMWSI) and COCP. It is essential that the OMWSI provides an adequate methodological basis for obtaining and using geotechnical survey data, should consent be obtained.	
HE1.12	Table 11.15 A preliminary deposit model has been summarised here and Unit 4 (sediments from channel and valley infills) is noted of greatest archaeological potential.	Noted by the Applicant. Relevant sections within 9.1 Investigation [APP-251] have been updated and sub

Council, 2008), and England's Historic 2011) to assess and define areas within ative of historic trends and processes of ange over time and the capacity of this levelopment of the VE OWF.

the Historic Seascape Characterisation ge Protection Plan (NHPP) as a coastal or, sea floor, water column, sea surface

cal report [APP-128] includes details on a short summary of the existing and channels of geoarchaeological

res illustrated is included as Appendix A-B gazetteer of recorded sites, wrecks udy area within Offshore Archaeology /olume 6, Part 2, Chapter 11: Offshore accompanying figures are intended as n Offshore Archaeology and Cultural

s determined as the predominant he HSC GIS data (Figures 11.11-11.15). 11:Offshore Archaeology and Cultural C while Offshore Archaeology and les details on the broad character types tive change is discussed in section 3.8.

en Scheme of Investigation [APP-251]

19 Outline Marine Written Scheme of ubmitted at Deadline 3.



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	The outline deposit model requires further expansion in line with a phased geoarchaeological assessment programme, and this should also be coordinated with North Falls. Again, we recommend this is a specific task or objective within the Outline Marine Written Scheme of Investigation (OMWSI) and COCP. It is essential that the OMWSI	
	provides an adequate methodological basis for obtaining and using geotechnical survey data, should consent be obtained.	
HE1.13	At present we consider insufficient evaluation has been undertaken in order to address this point and a programme of further works will be required. Furthermore, it is unlikely that this project would be able avoid sedimentary sequences of geoarchaeological interest and it should be acknowledged that subsequent access for study will be permanently compromised. The potential magnitude of impact is therefore significant in EIA terms.	The Applicant considers the evaluation undertaken importance of the heritage assets and argues that i impact of the proposal on their significance as per (Policy Statement for Energy (EN-1), November 202 11.1 in Volume 6, Part 2, Chapter 11: Offshore Arch PINs Examination APP-080).
	As discussed above, the only way to address this matter is for all the heritage works to be completed prior to construction and prior to all associated preparatory works.	The Applicant has clearly outlined the areas where (See section 11.6.3 and Figure 11.3 in Volume 6, P Archaeology and Cultural Heritage (Ref: PINs Exan Offshore Archaeology and Cultural Heritage technic
		The Applicant has also acknowledged that there is sites or features of archaeological interest or signific where the data has not yet been obtained.
		As per guidance in Historic Environment Analysis (sedimentary sequences of geoarchaeological intere- such deposits of but offset the impact by data collect Section 11.11 Mitigation in Volume 6, Part 2, Chapt Cultural Heritage (Ref: PINs Examination APP-080) Archaeology and Cultural Heritage technical report
		It is assumed that all heritage works (excluding wor construction monitoring plan) will be undertaken pri construction phase. All archaeological works will be Statements and agreed with Historic England in line Offshore Archaeology and Cultural Heritage, 9.19 C Investigation [APP-251] and Deemed marine licence Condition 13, 16 (a) (iii), Condition 17 (2) (iii) Condition
HE1.14	We do not agree with the inclusion of Impact 7, 12 and 15. It was our advice during pre- application (including the PEIR consultation) that the approach to HSC was reassessed; this has not occurred.	Please see Applicants response to HE1.16 and HE
HE1.15	2.53. Section 11.15.37 We do not agree with this section. In reference to the attention given to other offshore wind farm developments, the most relevant risk factor is associated with paleoenvironmental material. Avoidance is unlikely to be possible and even if investigations are conducted, access will be compromised and therefore we consider the impact will be significant in EIA terms.	Section 11.15.37 is a summary of all the cumulative cumulative impacts of each relevant development is sections to other offshore wind farm developments 11.12.13 that outline the potential cumulative impact as direct impact and the lack of access to historic en evidence and how the impact will be offset within the

en to date to be proportionate to the t it is enough to understand the potential r Overarching National 023, Paragraph 5.9.10. Also see Table rchaeology and Cultural Heritage (Ref:

re geophysical data was not collected Part 2, Chapter 11: Offshore amination APP-080) and Section 6 in nical report [APP-128].

s a likelihood that previously unidentified ificance may be present in the areas

(COWRIE, 2011) The mitigation for erest is not aiming to completely avoid lection and research as outlined in opter 11:Offshore Archaeology and 30) and Section 5.5 of Offshore ort [APP-128].

orks under the forthcoming postprior to the commencement of the be detailed in activity specific Method ine with Table 11.17: Mitigation relating to Outline Marine Written Scheme of nce Schedule 10 Condition 12(2) (3), dition 18 (2) (a), Condition 19 (2) (a).

E1.17.

ive impacts. Details on the potential t is included in Section 11.15. Relevant is is included in Sections 11.15.12 and acts on paleoenvironmental material such environment and paleoenvironmental the VE order Limits. Sections 11.15.16 to



Ref	Summary of Deadline 2 submission OR Excerpt of Deadline 2 submission	Applicant's comments
	Table 11.24 should have identified this matter as a Residual impact, and we recommend this is amended in any future.	11.15.18 detail the assessment of the impacts cumu the assessment has reached the expectation that the
HE1.16	Section 11.18 mentions palaeochannels and palaeolandscapes within the North Sea to stretch beyond international boundaries. The impact on submerged landscapes in those cases is expected to be offset by archaeological assessments of available geophysical and geotechnical data.	Potential Impacts to any receptors will be mitigated states that mitigation measures or commitments tha part of the evolution of the project design of relevand design measures, compliance with elements of good protocols. Further, Table 11.17 outlines all mitigation
	We have previously advised that appropriate reference should be included in the ES about how this might be delivered which is still absent.	Cultural Heritage within the VE Order Limits.
HE1.17	It is stated that specialist archaeological input will be incorporated into the planning and implementation of any additional works, which is good to see. We would recommend that the geoarchaeologist is allowed direct access to any cores recovered as it is better to record and assess continuous core sequences rather than isolated deposits as this allows for greater reliability and confidence in the resulting conclusions. Our view is that this recommendation should be formalised in the CoCP and OMWSI documents.	Noted by the Applicant. Relevant sections within 9.1 Investigation [APP-251] have been updated and sub noted that the CoCP is an onshore document and th mirrored there.
HE1.18	Some of the discussions of different remains and activities are quite high-level and do not highlight the specific values or the potential impacts that the proposed scheme may create. For example, reclaimed land is discussed in Section 3.8.101, but the sort of archaeological evidence preserved within these locations is not mentioned. We would expect to see a discussion on the potential for palaeoenvironmental remains or artefacts associated with the activities carried out in marshland environments to be included.	Details on marshland where relevant to a time perio in sections 3.8.39, 3.8.63, 3.8.67 and Appendix B. D component of cultural topography is included in sect further discussed within Volume 3, Chapter 7 Onsho [APP-080].
HE1.19	Table 4 also highlights that over 4500 of the anomalies identified to date have been classed as being of low archaeological potential. These anomalies may relate to isolated linear features, such as modern debris (rope, chain, fishing gear etc.) (Section 4.2.4). It is not stated how these remains will be dealt with as part of the mitigation strategy. This is covered in the Outline Marine WSI, but we recommend this is amended to include a summary of the proposed strategy here.	Section 4.1.2 of 6.5.11.1 Offshore Archaeology and [APP-128] states that " <i>The location of the anomalies</i> <i>geophysical assessments will be considered for futu</i> Further section 2.7 outlines the mitigation methodology
HE1.20	Figure 6.12 It is noted that only nine possible geotechnical cores are indicated here, which we consider to be a low number. This is taking into consideration the number and size of channels identified. We feel that this number should be reconsidered, and further work is required.	Figure 612 illustrates, preliminary, archaeological co recommended in addition to forthcoming geotechnic and desk-based data. It is likely that these will be re Statement ahead of any geoarchaeological works, a Volume 9, Report 19: Outline Marine Written Schem
		Further, the Applicant agrees that further geoarchae line with Table 11.17: Mitigation relating to Offshore Volume 9, Report 19: Outline Marine Written Schem Deemed marine licence Schedule 10 Condition 12(2 Condition 17 (2) (iii) Condition 18 (2) (a), Condition
HE1.21	Sections 4.3.31 & 4.3.33 states that geoarchaeological assessments undertaken on behalf of the North Falls Offshore Windfarm and Thames REC have been referenced. The location of the sampled cores referred to by these projects should be shown on a figure, so it is clear how this data relates to the proposed scheme. This is important as it is currently not clear how many boreholes have been assessed when developing the preliminary deposit model offshore, what information has been used to develop the preliminary deposit model and therefore how much confidence we can have in the model. Without this information it is difficult to assess how well we understand the potential impact of the proposed Scheme.	The geoarchaeological assessment undertaken on the Farm (North Falls Offshore Wind Farm, 2022) include and not cores. This is outlined within section 4.3.1 we spatial overlap between the VE Array areas and the Falls inter connector cable where only one of the feat bottom dataset (MA3009) and the North Falls Channel association." Further Figure 6.11 displays VE SBP data as well as the Thames REC project (Emu et al., 2009)

nulatively with other windfarms and how the impact is not significant in EIA terms. d or offset as outlined in section 11, that nat have been identified and adopted as ince to the topic, these include project od practice and use of standard ion relating to Offshore Archaeology and

.19 Outline Marine Written Scheme of ubmitted at Deadline 3. It should be therefore any updates will not be

iod or receptor type have been included Details on the palaeolandscape ections 3.8.92-95. Further marsh land is hore Archaeology and Cultural Heritage

d Cultural Heritage Technical Report ies identified in ature surveys and seabed impacts" plogy.

core locations which have been nical cores based on sub-bottom data refined in an activity specific Method also see updates to Section 8.4 in teme of Investigation (OMWSI).

aeological works will be undertaken in re Archaeology and Cultural Heritage, eme of Investigation (OMWSI) and 2(2) (3), Condition 13, 16 (a) (iii), n 19 (2) (a).

n behalf of the North Falls Offshore Wind uded the assessment of sub bottom data which also states that "there is minor ne North Falls array areas, and the North features identified from the VE subnnel, have a clear geographical

as the cannels and features identified by

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HE1.22	 Volume 9, Report 19: Outline Marine Written Scheme of Investigation (OMWSI) Additional detail needs to be provided in this Outline WSI about the specific nature of the proposed works post-consent. Detail is needed in this document as it forms the foundation of later strategies, so it is clear how this work will proceed, and what is expected of the contracting unit(s) responsible for investigating the anomalies and the sites. This includes: the type of techniques that will be applied (geophysical, biological & chemical assessments, palaeoenvironmental and scientific dating) the remains that will be assessed (plant remains, pollen, charcoal, insects, 	This is noted by the Applicant. Relevant sections wi Scheme of Investigation [APP-251] have been upda Deadline 3.
HE1.23	diatoms, phytoliths, ostracods, foraminifera etc.) It is noticeable that Glossary does not include "heritage assets" and that the interpretation of Marine Written Schemes of Investigation should be clear that it is the purpose of these documents to explain the techniques and methodological approach to survey investigations, as much as detail regarding mitigation methods and avoidance strategies. It was also unnecessary to include WSI twice in the Glossary.	 "Heritage assets" has been added to the glossary. Outline Marine Written Schemes of Investigation ha of Investigation (WSI) and Marine Written Schemes retained. The definition of the Marine Written Schemes of Inv line with the guidance document; Archaeological W Offshore Wind Farm Projects (The Crown Estate, 2)
HE1.24	 Section 1.1.2 we are not satisfied by how this outline WSI is structured. The document should have content prioritised as follows: > Roles and responsibilities > Techniques and methodologies for archaeological actions > Proposed mitigation strategies and completion of archaeological programmes 	No change. Section 1.1.2 details what is included in provided on page 8 within Archaeological Written S Wind Farm Projects (The Crown Estate, 2021) which Investigations is and what should be included.
HE1.25	There is no need for this document to include known and potential marine heritage receptors as this is duplication of information already provided in the ES chapter and Offshore Archaeology and Cultural Heritage technical report (Ref: PINs Examination APP-128).	No change. As per page 8 within Archaeological We Offshore Wind Farm Projects (The Crown Estate, 2 Schemes of Investigations is and what should be imp potential archaeological receptors that could be imp provides a table of Archaeological documents produ of the known and potential marine heritage receptor 2, Chapter 11:Offshore Archaeology and Cultural H Archaeology and Cultural Heritage technical report
HE1.26	Section 1.1.7 - we do not agree with the approach set out whereby an Outline Marine WSI is to inform production of a "Draft Marine WSI" and then "final Agreed Marine WSI". It should be possible for a "final Agreed WSI" to be produced from an outline WSI which is of an acceptable standard.	 No change. As per page 9 section 1.2.11 and page Archaeological Written Schemes of Investigation fo Crown Estate, 2021). <i>"A Draft WSI should then be prepared, in accordance</i> <i>it, containing, for instance, additional details on prop</i> <i>methodologies, appropriate data review"</i>

within 9.19 Outline Marine Written dated to Revision B and submitted at

has been removed while Written Scheme es of Investigation have both been

nvestigation has been updated to be in Written Schemes of Investigation for 2021).

in this document and follows guidance Schemes of Investigation for Offshore hich states what a Written Schemes of

Written Schemes of Investigation for 2021) which states what a Written included A WSI: "*outlines the known and mpacted by the scheme*" Section 5 oduced to date as well as a brief summary tors detailed further within Volume 6, Part Heritage [APP-080] and Offshore ort [APP-128].

ge 10 within the guidance document for Offshore Wind Farm Projects (The

ance with the Outline WSI but building on roject design, activities and their

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Ref	Summary of Deadline 2 submission OR Excerpt of Deadline 2 submission	Applicant's comments
		The Applicant agrees that if there has been no char on project design, activities and their methodologies from an outline WSI.
HE1.27	Please note Essex County Council is the local curator with responsibilities landward of Mean Low Water (MLW) not MLWS as stated.	Mean Low Water Springs (MLWS) has been update have also been added to the acronym list.
HE1.28	Section 5.1.3 we do not agree that HSC should be included as "material and features."	Section 5.1.3 updated and 5.1.4 added clarifying the features.
HE1.29	Section 5.5.6 - states that"any geoarchaeological assessments should focus on sampling and assessing this deposit where it may be impacted." Therefore, it is incumbent on the OWSI to set out the required techniques and methodological approaches should consent be secured.	A reference to section 8.4 where this is further detain Marine Written Scheme of Investigation [APP-251] I submitted at Deadline 3.
HE1.30	Section 5.6 We note very cursory attention is given to the North Sea Prehistory Research and Management Framework. It is unfortunate that this OWSI has not attempted to demonstrate research questions likely to be forthcoming within any subsequent method statements. We recommend the OWSI is amended and these references added.	No change. This Outline Marine WSI provides a framinvestigations. In support of the OMWSI, detailed an be produced prior to survey or construction work, th 5.6.1 national research frameworks to contribute to the historic environment as well as specific research. The Applicant acknowledges that the research project valuable and when further information on the charact collected are known, the submitted Method Statemet questions.
HE1.31	 Section 6.2.4- lacks clarity. It states that"throughout the lifetime of the project this Outline Marine WSI will evolve from the current Outline Marine WSI to the Draft Morine WSI submitted with the EIA and through to the final Agreed Marine WSI, which will be developed post-consent." Only the Outline WSI is submitted with the DCO Application and therefore the Applicant should explain if a "draft" WSI is to be produced during examination (see also sections 6.8.4 and 6.8.5). Furthermore, any WSI produced post-consent (should permission be secured) should occur prior to any construction activities occurring, so that the final survey campaigns 	Sections 6.2.3 and 6.2.4 has been updated to clarify produced during the pre-construction phase. 9.19 C Investigation [APP-251] has been updated to Revisi
HE1.32	 and design decisions are adequately informed by archaeological analysis. Section 6.7.3 states that there"are currently no designated marine heritage receptors 	See response to HE1.02.
	Section 0.7.5 states that thereare currently no designated manne nemage receptors such as Designated or Protected Wreck Sites or other sites subject to the provisions of the Protection of Military Remains Act 1986 within the proposed development area." We are however aware of the presence of HMS E6 (protected place under the Protection of Military Remains Act 1986) and its location should be readily identified in all relevant project documentation (see also Outline WSI, section 8.11.1). This needs to be amended in all documents.	
HE1.33	Table 6.1 (AEZs for known wrecks and obstructions within the marine archaeology study area) includes HMS E6 (UKHO Ref: 14554) and which is afforded an AEZ of 50 m. The spatial extent of this AEZ should be agreed with the Ministry of Defence.	See response to HE1.02.
HE1.34	Section 6.7.12 it is important that all parties understand that the implementation of a PAD is only to optimise rapid communication and decision making. It does not undo any adverse effects of the development on sites, features or objects of potential archaeological significance encountered and/or recovered during project works. It is only an offsetting operation and not mitigation (see also section 6.7.32 & 33) as damage and destruction is likely to have occurred which is non-recoverable.	Section 6.7.12 has been updated to clarify that the i does not mitigate or avoid direct or indirect impacts Outline Marine Written Scheme of Investigation (AF submitted at Deadline 3.

ange or further details are not available es a final Agreed WSI can be produced

ted to Mean Low Water (MLW) the terms

hat HSC is not included as material and

ailed has been added. 9.19 Outline] has been updated to Revision B and

ramework for archaeological archaeological Method Statements will these will include as stated in section to the knowledge and understanding of rch questions.

ojects and agendas in section 5.6.2 are racter of samples or cores likely to be ments will include relevant research

rify that a Draft Marine WSI will be Outline Marine Written Scheme of ision B and submitted at Deadline 3.

e implementation of the PAD protocol ts on marine heritage receptors. 9.19 APP-251) has been updated and

Ref	Summary of Deadline 2 submission OR Excerpt of Deadline 2 submission	Applicant's comments
HE1.35	Section 6.7.16 discusses the strategies that will be needed for items removed from the seabed. It is stated that conservation strategies will be included in the relevant method statements, but we would recommend that a relocation and recovery strategy should also be developed.	Section 6.7.17 added to clarify that method stateme ahead of relocation of marine heritage receptors.
HE1.36	Section 6.7.17 states that anomalies of low archaeological potential will not be assigned an AEZ but will be investigated as part of further survey work. This may be carried out in conjunction with ROV and UXO surveys (Section 6.7.18). We are pleased to see that low potential anomalies will be avoided where possible or investigated further if this is not possible. Additional detail is needed in this Outline WSI about the nature of the surveys that will be carried out, such as the approaches used, the resolution of the surveys etc.	Reference to section 8.4 has been added where de
HE1.37	Table 6.3 - Final Agreed Marine WSI, the proposed timescale is unachievable. If we understand what is being proposed, this can only be achieved post consent (if permission is secured) and pre-construction in accordance with conditions stipulated in any DCO.	Timescale has been updated for Final Agreed Mari
HE1.38	Section 6.7.23 states that the proposed development may cause direct impact to deposits which have the potential to be of geoarchaeological interest; the impacts will be restricted to the impact and penetration depths. However, it is noted that the final design of the proposed development has not been finalised, including for example the type of foundations required to secure the turbines to the seabed.	No change. As stated in section 6.7.25, Geotechnic post-consent and prior to construction and will be in archaeologically specific cores and archaeological of Mitigation to offset the impact on the historic environ have the potential to be of geoarchaeological intere
	The different foundation types will have different levels of impact to any buried archaeology. The full impact on the historic environment is therefore far from clear. In addition, as no geotechnical cores have been collected or assessed as part of the work to date, the significance of the deposits and therefore the impact of the proposed scheme has not been fully determined. These statements need to be reconsidered and we recommend this is considered as a risk.	The mitigation strategies are secured through Deen Condition 12(2) (3), Condition 13, 16 (a) (iii), Condit Condition 19 (2) (a)
HE1.39	Section 6.7.24 states that geotechnical campaigns are planned post-consent and prior to construction. This work will include assessments that will meet the objectives of the archaeological programme and will include the collection dedicated archaeological cores (Section 6.7.25) which is good to see. However, details are needed about the specific nature of the proposed archaeological work.	No change. Further details are included in Section 8 section 6.7.26.
HE1.40	 Section 6.7.25 states that the cores will be assessed using a staged approach, as outlined in the Cowrie (2011) report, Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector. The detail of the work will be presented in specific method statements (Section 6.7.26). Additional details are however needed in this Outline WSI about the types of investigations and remains that will be assessed in order to clarify what is expected post- 	No change. Further details are included in Section 8
	consent.	
HE1.41	Section 6.7.33 outlines the PAD that will be implemented to record any unexpected archaeological discoveries. We would recommend that a robust training programme is provided to the project staff to ensure that they are aware of the sort of materials/remains that may be discovered and what they can look like.	Noted by the Applicant, The Applicant also refers to protocol for archaeological discoveries (PAD).
HE1.42	Section 7.1.6 - we do not agree that the Applicant "may" engage one or more archaeological contractors to deliver the mitigation measures set out within this Outline Marine WSI. It will be a condition of any DCO secured for this project that a Retain Archaeological Advice service (professional, accredited and experienced as we advised	No change. As stated in section 7.1.6 The Applican to implement the final Agreed WSI but may also en- specific work packages outside the expertise and/or delivery of specific work packages.

ments will be submitted and agreed

details on probable surveys are included.

rine WSI.

nical campaigns are currently planned inclusive of the collection of al objectives

ronment and especially deposits which erest further detailed in section 6.7.26.

emed marine licence Schedule 10 dition 17 (2) (iii) Condition 18 (2) (a),

8.4 as clarified and referenced in

8.4 as referenced.

to Appendix A outline project-specific

ant will engage a Retained Archaeologist engage archaeological contractors for //or capacity of that archaeologist for



Ref	Summary of Deadline 2 submission OR Excerpt of Deadline 2 submission	Applicant's comments
	in our response to the PEIR consultation) will take the Outline WSI and, in consultation with Historic England (and local curatorial service where relevant), as described in section 9.1.1 and 9.1.2, produce a project specific WSI for agreement with the relevant competent authority.	This approach is reflected also on page 11 within th Written Schemes of Investigation for Offshore Wind 2021).
HE1.43	Section 8.1.2 outlines the main standard and guidance documents that will guide the assessment work carried out offshore. Several CIFA documents are cited but it should be noted that some of the guidance documents have been revised recently in 2023. The references made to CIFA guidance documents should therefore be reviewed to ensure that the current version of the document has been cited here and will be utilised as part of this work.	The 2023 references have been updated and applie Written Scheme of Investigation [APP-251] submitte
HE1.44	Details have not been included in the Outline WSI regarding the approaches that will be used to investigate the sampled material or the sort of remains that will be assessed. This detail is needed to ensure that it is clear what is expected post-consent. We would therefore request that detail on the different techniques and approaches and remains (as set out above) are included in the Outline WSI.	Details on potential approaches and methodologies deposits of geoarchaeological potential have been a
	Providing additional detail in the Outline WSI will also highlight all those issues that need to be considered. For example, the challenges of dating some of the deposits present offshore has been noted in the Marine Technical Report and so these issues should be considered as part of the Outline WSI. This should include the sort of techniques that will be applied and the material that will be sampled. For example, some of the deposits that will be targeted as part of the geoarchaeological assessment are older than the upper limit of radiocarbon dating.	
	In this approach alternative dating techniques would also need to be applied; some of these techniques, such as OSL dating need to be collected and stored following very specific protocols to ensure that the material preserves the archaeological information of value, which needs to be recognised.	
HE1.45	Section 8.4.9 states that the potential locations of geoarchaeological cores have been highlighted on Figure 11.3. The figure shows nine locations in total, but this does not seem to be enough considering the number, size and complexity of possible channels or old land surfaces potentially identified within the marine study area.	No change. The illustrated core positions represent archaeological cores within a larger geotechnical ca project progresses.
HE1.46	Section 8.4.13 outlines the scope of the Watching Briefs (referred to as Archaeological Monitoring and Recording in the revised CIFA guidance, 2023). We would recommend that there is scope within the Watching Brief to carry out more in-depth assessments if significant remains are discovered.	The reference has been updated and more detail ac significant remains has been added to section 8.4.2
HE1.47	Section 8.12.1 states that all recovered artefacts will be subject for a Conservation review. We would recommend that the Conservation Review document should be drafted in consultation with a relevant specialist in conservation.	Section 8.12.2 has been updated to state "conserva

the guidance document Archaeologica	
nd Farm Projects (The Crown Estate,	

lied throughout 9.19 Outline Marine tted at Deadline 3.

es for the assessment and analysis of added to this section.

nt an initial assessment of potential campaign which is to be refined as the

added on further assessment of .29.

vation specialists."



2.2 ONSHORE COMMENTS

 Volume 6, Part 3, Chapter 7: Historic Environment Volume 6, Part 6, Annex 7.1: Historic Environment DBA Volume 6, Part 6, Annex 7.2: Onshore Geophysics report Volume 6, Part 6, Annex 7.3: Geoarchaeological DBA Volume 6, Part 6, Annex 7.4: Archaeological and Geoarchaeological monitoring of Ground Investigation works Volume 6, Part 6, Annex 7.9: Archaeological and Palaeolithic Evaluation Phase 1 Volume 9, Report 23: Onshore WSI The Applin provides f Volume 9, Report 23: Onshore WSI The Applin provides f target di transitional di transition	ant's comments
	plicant is reviewing these comments and d to discuss in detail and clarify a numb sider revisions to documents at a future the pre-application phase, as is normal had to balance undertaking enough sur plogical effects with the impacts to arab gns along the whole route. The Applica flexibility to microsite around potential a prmation from the non-intrusive and intr assessment are sufficient at this stage t ance of effect resulting from the project
	ng the mitigation in accordance with the mitted, Annex 7.4 Archaeological and G

and is seeking a meeting with Historic ober of points. If necessary the Applicant are deadline.

al for offshore wind farm projects, the urveys to understand the potential able farms of extensive trial trenching cant focussed on the OnSS where there archaeology.

atrusive surveys, alongside the desk to allow for a robust assessment of the ct and also to inform future intrusive

NPS and professional guidance which estigation only in so far as is needed to ssment as the first stage, followed by

and the provision of "no more" detail impact of the proposal on the h 5.9.10). The hierarchy of only moving assessment is insufficient is clearly set plicant has followed this process with nvestigations. Sufficient detail to allow ate to understand the impact on the the NPS, is therefore before the

ittle Clacton Road Evaluation Report for litional trial trenching since submission, ady known for this landscape. No further e prior to the close of the examination. ology surveys is planned pre-56]. The Applicant intends that the work ts the start of a phased approach to eing prepared for agreement by the t, and updated based on previous . The Applicant will work with the Local ric England) to ensure that the ective means of controlling and he DCO Requirements.

Geoarchaeological Monitoring of epeat of Annex 7.7 Onshore

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	Please note that this appears to be the same document as Annex 7.4?	Archaeological and Geoarchaeological Monitor ECC [APP-166]. Annex 7.4 should have instea monitoring of the boreholes installed at the lan- monitoring Landfall GI works"), this will be sub-
HE2.03	Code of Construction Practice and DCO wording CoCP We welcome that the submitted Five Estuaries Code of Construction Practice (CoCP, Vol 9 Report 21, March 2024) includes an archaeological discovery protocol in its site staff induction section (3.4.1).	See summary response to HE 2.05 below. The relevant Consultees to refine and develop the wording of these documents, so that the policies be mutually acceptable, and provide an effective the mitigation. The Applicant notes that the Co
	The CoCP does however not address archaeology further, except to cite the OWSI as a document to read in parallel. We consider this document is unacceptable in its current form and does not provide any comfort in relation to the schemes approach.	
	We recommend that the CoCP be revised to include a more detailed section on archaeology so that headline project principles around the timings, scope and implementation of fieldwork, as well as summary protocols for unexpected discoveries, the potential need for public engagement and the monitoring and maintenance of 'no dig' areas are also highlighted in this key control document.	
	The CoCP could also be used to address marine and offshore heritage and approaches to the management of assets, geotechnical works, surveys and mitigation within the project boundaries.	
	As set out in our relevant representation and above in our main representation we would want to ensue there is a mechanism to ensure engagement and support appropriate monitoring. This links the DCO to the OWSI via the CoCP	
	In the event of the project being consented, we would also want to ensure that there is adequate mitigation and we will be providing comments on the DCO wording, and the CoCP and WSI documents.	
HE2.04	The DCO The Draft Development Consent Order (Ref: Section 3.1, March 2024: Doc Ref: APP-024) Onshore Archaeology Requirement 11 (1) states	Requirement 11: The Applicant does not consi will consult to this requirement, that is a matter depending on the application before them.
	'No stage of the onshore works may commence until for that stage on archaeological written scheme of investigation in accordance with the outline onshore written schemes of investigation as appropriate for the relevant stage has been submitted to and approved by the relevant planning authority.	Schedule 11, part 2, Condition 13(2): the Appli the addition of 'and Essex County Council' to the Council interest ends at low water and they have majority of the licenced works. The Applicant do that the MMO can appault the Council under the
	We recommend wording is added to provide names parties which would need to include Historic England, and the County archaeological service (Essex Place Services) as advisors to the LPA.	that the MMO can consult the Council under th will only has a remit in a small area of the work them on all of the works where these do not im
	In addition Condition 13(2) requires amendment to:	
	"Subject to condition 13(3), the licensed activities or any relevant stage of those activities must not commence unless no later than six months prior to the commencement a marine written scheme of archaeological investigation for the stage in construction has been submitted to and approved by the MMO in writing, in accordance with the outline marine written schemes of	

toring of Ground Investigation - Onshore ead been a separate report describing andfall area ("Geoarchaeological ubmitted at Deadline 4.

he Applicant will work with HE and other e OWSI and CoCP to review and revise cies and processes set out in them can ctive means of controlling and achieving CoCP only relates to the onshore works.

nsider it necessary to add who the LPA er for determination by the LPA

plicant note that this change amounts to o the existing wording. The Essex County have no remit for the considerable t does not consider it necessary to add this condition but notes that the Council orks and it is unnecessary to consult impact the intertidal area.

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HE2.05	historic body and Essex County Council to include" Concluding Comments	The Applicant welcomes HEs statement that th
HE2.05	Concluding Comments	principle.
	As set out above Historic England do not object in principle to the proposal and the information	principier
	provided in the application is in our view adequate for the purpose of the examination. The	The Applicant notes that HE acknowledges the
	information provided with ES is however not without issues.	consequent effects on the extent on the fieldwo
		position that the extent of intrusive evaluation is
	We have identified a series of concerns with the way in which the applicant has set out the	significance of unknown and/or buried archaeo
	information for the historic environment in both the marine and terrestrial chapters and these are	Limits. Nevertheless, the Applicant maintains the
	set out above in our comments above.	does allow for meaningful consideration of the
		Development, and the likely effectiveness of th
	In our view there are text issues and errors that need to be addressed by the applicant as soon as	ES. The Applicant considers that it is unrealistic
	possible. We recommend the key documents are corrected or an erratum issued as appropriate	every potential archaeological feature has its s
	pefore the end of the examination.	determination. Rather, the Applicant considers
		Assessment, together with geophysical survey
	One of the key issues is the lack of appropriately worded detail in the CoCP and we would	investigation along with geoarchaeological ass
	recommend this document is revisited with urgency. Other recent DCO projects have set out	geotechnical investigations allows for an appro
	excellent polices for archaeology through a CoCP or REAC documents that give both comfort and	which permits informed decision-making to be
	assurances that archaeology would be appropriately managed. This is a key document that links the DCO requirements to the WSI, and if appropriately detailed	As set out in HE2.01 above that NPS EN1 requ
	would provide assurance to curators that archaeology will be appropriately and responsibly	provision of "no more" detail "than is sufficient
	considered and managed.	the proposal on the significance of the heritage
		hierarchy of only moving to intrusive investigati
	Likewise, we would consider the changes to the DCO wording to be important to ensure	insufficient is clearly set out in paragraph 5.9.1
	appropriate checks and balances within the programme of work. We would ask the ExA to	followed this process with desk based assessn
	support these word changes.	Sufficient detail to allow the Examining Authori
		understand the impact on the significance of he
	One of the key concerns for both the terrestrial and marine environments is the lack of physical	is therefore before the Examining Authority
	evaluation of known archaeological assets. This renders the assessment of value presented in	
	the ES as effectivity a draft value, as it has not been possible to characterise those deposits	The Applicant further considers that the mitigat
	except via geophysical survey.	Written Scheme of Investigation (OWSI) are pr
		based on a phased investigation (post-determi
	This presents considerable risk to the both the loss of important information and proposed	appropriate), combined with the ability to be fle
	embedded mitigation, which relies upon micrositing away from important anomalies is potentially	within the order limits, especially with regard to
	at risk, should extensive and important archaeological deposits be identified post consent.	The Anniherman environment for the invest
	It is important that the employed columnul dates that this environch could result in high value consta	The Applicant recognises the need for the invo
	It is important that the applicant acknowledges that this approach could result in high value assets	Consultees) to be involved in the refinement of
	relating to the historic environment being encountered that could risk the projects timetable and key milestones.	a phased process of archaeological mitigation, produced as needed and being updated based
	key milestones.	produced as needed and being updated based
		The Applicant notes that HE considers that furt
		provided in the OWSI, and in the CoCP. Whilst
		are the start of an iterative process, the Applica
		relevant Consultees) through the Examination
		documents, so that the policies and processes
		acceptable, and provide an effective means of
		mitigation.

they do not object to the Proposals in

he restriction on access with the work surveys. The Applicant notes HE's is insufficient to establish the eological remains within the Order that the level of information provided e potential impacts of the Proposed the mitigation measures outlined in the stic and disproportionate to expect that significance fully assessed prior to rs that the combination of Desk Based ey, targeted (albeit limited) intrusive ssessment and observations of ropriate characterisation of the baseline, e applied at a broader scale.

quires a proportionate approach and the t to understand the potential impact of ge asset" (paragraph 5.9.10). The ations where desk based assessment is .11 of NPS EN1. The Applicant has sment and proportionate investigations. ority and Secretary of State to heritage asset, as required by the NPS,

ation measures set out in the Outline proportionate and achievable. This is nination and pre-construction as lexible in micrositing of infrastructure to the cable works.

volvement of HE (and the other relevant of the OWSI which it sees as the start of n, with subsequent detailed WSI ed on the results of preceding phases.

In the detail and tighter wording can be st noting that the provided documents cant intends to work with HE (and other in to review and revise wording of these is set out in them can be mutually of controlling and achieving the



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