

Screening and Scoping Opinion

Harbours Act 1964 (Schedule 3)

Title: Bristol Wind Terminal

Applicant: Bristol Port Company

MMO Reference: HRO/2025/00005

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1 Proposal

On 28 March 2025, the Bristol Port Company ("BPC") wrote to the Marine Management Organisation ("MMO") notifying us of their intent to apply for a harbour revision order ("HRO") under section 14 of the Harbours Act 1964 ("the Act").

The proposed works are to build port facilities to facilitate the offshore wind sector. These port facilities will include:

- reclamation, below MHWS ("Mean High Water Springs") of 25 hectares ("ha"),
- a new quay of 780 metres in length, capital dredging to create an approach channel, turning circle and berthing pocket,
- installation of a rock mattress, turbine sub-structure,
- extension of port rail infrastructure, roads and supporting buildings/facilities.

The programme of works is proposed to run from 2027 to 2030, with terminal operation proposed to start in 2031.

1.1 Project Background

The project proposes a development on the Avonmouth site to service the offshore wind sector with a floating offshore wind (FLOW) installation. This will form part of the wider Bristol Energy Transition Hub. This is to support the FLOW supply chain, providing an area for the storage, manufacture, assembly, and operation of Celtic Sea and other offshore wind developments

2 Location

The Bristol wind terminal is to be located at the Avonmouth site and is displayed in Figure 1 below.

Figure 1: Bristol Wind Terminal



3 Environmental Impact Assessment (EIA)

As the proposed application would authorise, either directly or indirectly, a project which causes a physical intervention in the marine environment, the MMO was required by Schedule 3 of the Act to screen the proposed application against Council Directive 2011/92/EU ("the EIA Directive").

Council Directive 2011/92/EU (as amended) on the assessment of the effects of certain public and private projects on the environment ("the EIA Directive") aims to protect the environment and the quality of life by ensuring that projects which are likely to have significant environmental effects by virtue of their nature, size or location are subject to an EIA before permission is granted.

The MMO considers that the proposed works are capable of falling under Annex II of the EIA Directive, specifically:

10(e) - Construction of roads, harbours and port installations, including fishing harbours (projects not included in Annex I); and

10(k) - Coastal work to combat erosion and maritime works capable of altering the coast through the construction, for example, of dykes, moles, jetties and other sea defence works, excluding the maintenance and reconstruction of such works.

4 Screening Opinion

This is a large development including a large carpark, so whilst it is somewhat typical of the surrounding port area, the specific site is not currently used for the purposes proposed.

A 25ha area below MHWS will be reclaimed, it is anticipated that there will be changes to the hydrodynamic regime as a result of this. This will include changes in waves, currents, and erosion.

Although the area is within a busy port and industrial area, the noise and vibration produced by construction and use of the project will exceed existing levels, as it will facilitate more use by vehicles, vessels, people, and machinery. The intended use for the area to also accommodate wind turbines will also have a similar substantial visual impact and change to noise levels. Although the existing port is part of the landscape, changes as per plans to the scenic value of the area cannot be disregarded, and it is noted that the installation of wind turbines will significantly change the seascape.

Several species of concern in the area are mobile or migratory and therefore will be sensitive to the increased noise and visual disturbance. Additionally, there are also risks to a number of protected sites which incorporate important species and habitats. These are:

- Severn Estuary SSSI
- Portishead Pier to Black Nore SSSI
- Severn Estuary SPA
- Severn Estuary SAC
- Severn Estuary Ramsar

There will be a large increase in the amount of waste produced and carbon released throughout the three-year construction period, as well as by the operation of the finished site. Local air quality may be affected, and with the increased traffic there is a risk to human health. There will be an impact on residential areas, schools, care homes, and places of worship by both the length of the construction and the operation of the constructed site. Users of the sea will also be impacted, due to the length of the construction and then the increased vessel traffic during the operational phase of the port facilities.

Due to the close proximity of the site to environmental receptors the MMO considers that there may be risks alone from the proposed development as well

as cumulative effects with other developments or activities, most notably the construction activities and during the operational phase of the project.

It is therefore the opinion of the MMO that the proposed activity as described will have significant effects on the environment and is thereby screened into requiring an Environmental Impact Assessment under the Act.

5 Scoping Opinion

In accordance with Schedule 3 of the Act, if the MMO decides that the proposed application relates to a project which requires an EIA, the MMO must give the applicant an opinion, in writing, about the scope and level of detail of the information which the proposed applicant will be required to supply in an Environmental Statement ("ES"), if the application is made. The MMO's opinion is set out in this document.

The applicant has produced a report detailing the proposed project and providing information on likely topics to be included in the ES. The applicant has submitted "Bristol Wind Terminal; Screening and Scoping Report" (referred to as the "scoping report") to the MMO for review.

The MMO agrees with the topics outlined in the scoping report and in addition, we outline that the following aspects be considered further during the EIA and must be included in any resulting ES.

5.1 Conservation of Habitats and Species Regulations 2017

5.1.1 The ES must thoroughly assess the potential for the proposal to affect designated sites. European sites e.g. designated Special Areas of Conservation ("SAC") and Special Protection Areas ("SPA") fall within the scope of the Conservation of Habitats and Species Regulations 2017. In addition, paragraph 118 of the National Planning Policy Framework requires that potential SPAs, possible SACs, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

If the proposal outlined within the scoping document has the potential to significantly affect features of the internationally designated sites and the activity is not directly connected to the management of any designated site it should be assessed under regulation 63 the Conservation of Species and Habitats Regulations (2017). Should a Likely Significant Effect on an Internationally designated site be identified or be uncertain, the competent authority the MMO may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.

- 5.1.2 The MMO advise that pressure pathways relating to accidental spills, leaks, and invasive non-native species (INNS) must be scoped in, as mitigation through a construction environmental management plan (CEMP) cannot be used to scope out such pressures at this stage.
- 5.1.3 The pressure pathway 'Permanent loss of intertidal and subtidal species and habitats within the footprint of the proposed development' should be considered in the ES. This impact will occur during the initial construction phase rather than the ongoing operation of the development, so should be considered.
- 5.1.4 The MMO advise a maximum Zone of Influence (ZoI) be designated to quantitively establish the region that may be affected by the proposed project. For example, with respect to suspended sediment concentration (SSC) plumes, maximum spring tidal excursion ellipses are advised as a suitable maximum ZoI.

The development site could have a potential impact on the following designated nature conservation sites:

Severn Estuary SPA

- 5.1.5 Natural England do not have a formal conservation advice package for the Severn Estuary SPA, so the advice on operations for other designated sites for the relevant features must be considered
- 5.1.6 The submitted Environmental Scoping Report is relevant to the wind terminal development only and the associated habitat creation scheme has been scoped separately. We advise that these projects are intrinsically linked and therefore, consideration of the impacts on the natural environment of both schemes should be made in tandem.

Severn Estuary/Môr Hafren SAC

5.1.7 Natural England do not have a formal conservation advice package for the Severn Estuary SAC so the MMO encourages the consideration of the advice on operations for other designated sites for the relevant features.

5.1.8 European eel *Anguilla* anguilla is part of the Severn Estuary SAC and Ramsar site. The MMO advise the species is considered within the assessment for the protected sites. All dredging activity (capital and maintenance dredging) will have to comply with the Eels (England and Wales) Regulations 2009.

Lundy Island SAC & Pembrokeshire Marine SAC

5.1.9 These sites have been identified as of particular importance for grey seals. The MMO encourages consideration of this area as seals are a mobile feature and could be affected by construction and operation of the terminal. Pembrokeshire Marine SAC is particularly significant, as it supports the majority of grey seal pupping within the Celtic and Irish Seas.

North Somerset and Mendip Bats SAC

5.1.10 Consideration must be given to the potential impact of light disturbance and introducing more light into the area on Lesser and greater Horseshoe bats, that are mobile features of this SAC.

Bristol Channel Approaches SAC

5.1.11 At page 49 of the scoping report it states this SAC is 128km away, however at page 105 it states a distance of 134km. The MMO requests that this be clarified and corrected.

5.2 Other Nature Conservation

- 5.2.1 The following designations are also nearby the proposed site:
- Severn Estuary SSSI
- Portishead Pier to Black Nore SSSI
- Horsehoe Bend, Shirehampton SSSI
- Ham Green SSSI

Habitats and Species evaluation

- 5.2.2 Further information on the location of SSSIs and their special interest features can be found at www.magic.gov.uk. The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within the above SSSIs and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.
- 5.2.3 The MMO advises that Natural England's 'Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards' is used. Although this advice doesn't currently formally refer to assessments required to support port activities, it is advised that the ES should be fully informed by this best practice advice. Access to the advice documents must be requested from neoffshorewindstrategicsolutions@naturalengland.org.uk.
- 5.2.4 The potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within the ES in accordance with appropriate guidance on such matters. Guidelines for Ecological Impact Assessment (EcIA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.
- 5.2.5 The ES should assess the impact of all phases of the proposal on protected species. (including, for example, pinnipeds (seals), cetaceans (including dolphins, porpoises whales), fish (including seahorses, sharks and skates), marine turtles, birds, marine invertebrates, bats, etc.). Information on the relevant legislation protecting these species can be reviewed on the following link https://www.gov.uk/government/publications/protected-marine-species
- 5.2.6 The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. In order to provide this information, there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. For land-based impacts, there is standing advice available for protected species, which includes links to guidance on survey and mitigation. This is available on the following link https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications
- 5.2.7 The scoping report suggests that otter and water vole are species which potentially require further survey, and the MMO recommends that Eurasian beaver is also included as this species is expanding its territories along the Bristol Avon river.

- 5.2.8 The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local Biodiversity Action Plan. Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:
 - Any historical data for the site affected by the proposal (e.g. from previous surveys);
 - Additional surveys carried out as part of this proposal;
 - The habitats and species present;
 - The status of these habitats and species (e.g. whether priority species or habitat);
 - The direct and indirect effects of the development upon these habitats and species;
 - Full details of any mitigation or compensation that might be required.

The local record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

Underwater noise and increased vessel use impacts

- 5.2.9 The MMO does not believe that it is appropriate to scope out underwater noise from dredging. the scoping report acknowledges that "underwater noise as a result of dredging activity has the potential to cause disturbance responses in marine mammals". Given this, the MMO advises that the assessment should include consideration of behavioural disturbance caused by dredging noise, a comparison against a recognised behavioural disturbance threshold, and a clear and detailed rationale to support the conclusions.
- 5.2.10 For assessing the impacts of dredging on marine mammals, the MMO suggests using a simple noise model (such as a logarithmic model of the type 15LogR) to estimate the disturbance range. This should be done by applying an appropriate behavioural disturbance threshold. Examples of this include: Lucke et al 2009 (174 dB SPLpk-pk or 145 dB SEL) for harbour porpoise, and NMFS 2005 (120 dB SPL rms) for all other species.

- 5.2.11 The MMO do not agree with the decision to scope out potential effects associated with an increase in vessel numbers as sufficient justification of this has not been given. The MMO recommends that this potential impact be scoped in for both the construction and operational phases of the project. The MMO asks that the project plans provide a more detailed assessment, including at a minimum the expected number of vessels and how this compares with current vessel activity in the port and surrounding areas. The MMO disagrees that the effects will be temporary as there is the potential for repeated or frequent events. The assessment should consider the cumulative impact of multiple vessel movements, based on the expected number of vessels using the area over time. The scoping report states that "the integration and assembly of floating wind turbines within the proposed development would generate a small level of underwater noise, this is unlikely to be significantly higher than would be expected from typical port operations." The MMO does not consider this to be a sufficient assessment to justify scoping out operational underwater noise effects. The MMO requires a more detailed evaluation of this impact, including, at a minimum, the expected number and frequency of operations, and how these compare to existing typical port activity.
- 5.2.12 The scoping report states that any marine mammals would become habituated to the sound. The MMO believes this has not been properly justified and advises the applicant to reconsider this in future assessments. Wisniewska et al. (2018) demonstrated tagged harbour porpoises responding to fast ferry passages by making deeper dives, increasing swimming effort, and ceasing echolocation and foraging for several minutes. Although these individuals lived in highly trafficked coastal waters, they did not seem to have habituated to vessel noise. Similar findings were made by Pirotta et al (2013, 2015) Dyndo et al (2015), Oakley et al (2017) and Marley et al (2017a, 2017b).

Mammals

5.2.13 It is considered that the current HRA approach lacks detail in relation to marine mammals, in particular with regard to the methodology used for screening distances and the selection of designated sites. It appears that consistent criteria, such as the use of marine mammal management units have not been applied. The MMO advises further reference be given to the position statement on the use of marine mammal management units in the HRA. The MMO advises that the Natural Resources Wales / Marine mammal management units in habitat regulations assessments guidance is used.

- 5.2.14 The MMO note that Marine Mammal Management Units (MMMUs) for grey seals have not yet been developed by the Inter Agency Marine Mammal Working Group (IAMMWG). Therefore, we encourage the use of OSPAR Region III: Celtic Seas as a suitable management unit for initial screening purposes. The MMO recognises that this region may be overly broad for some practical assessment purposes. Therefore, we suggest using an intermediatescale unit. Recent population modelling work by NRW and Bangor University (unpublished) has used ICES divisions 7a, b, e, f, g, h, j as alternative study areas, informed by seal movement studies. These areas may provide a more pragmatic and evidence-based alternative for assessing potential impacts on grey seals. Clear justification must be provided for whichever management unit is selected. Use of SMUs will ensure that relevant Welsh SACs designated for grey seals are included in the assessment. The assessment should include consideration of behavioural disturbance caused by dredging noise, a comparison against a recognised behavioural disturbance threshold, and a clear and detailed rationale to support the conclusions.
- 5.2.15 The MMO suggests that potential effects during operation lighting may have a significant impact on otters and bats and suggests that, where possible, lighting should be directed away from watercourse corridors.

5.3 Benthic Ecology

- 5.3.1 In addition to the consideration of benthic characteristics in the wider area, benthic characterisation studies used to inform EIA should seek to assess the following biological characteristics of a project area:
 - Description of benthic communities present within and adjacent to a project area, including described biotopes, covering biodiversity, function, abundance, extent, species richness, representativeness, rarity and sensitivity. This should cover the range of water depths across a site and include both infaunal and epifaunal communities.
 - Identification of any INNS and species non-native to UK waters.
 Information should also be provided on species non-native to the local habitat types (e.g. hard-substrate specialists in a wider sedimentary habitat).
- 5.3.2 The report contains consideration of INNS and suggests mitigation through measures included in the CEMP. The MMO recommend that consideration is also given to the potential for built infrastructure to be colonised by INNS during operation and the associated environmental impact should this occur.
- 5.3.3 The report has not included monitoring measures for benthic ecology receptors. The results of the benthic ecology survey and data sourced as part of the assessment on marine and coastal ecology will inform potential monitoring measures.

- 5.3.4 The MMO encourages the applicant to adhere to the relevant processing guidelines contained within Worsfold et al. 2010. to process marine benthic invertebrate samples.
- 5.3.5 The MMO require full consideration of the potential effects of the release of contaminants on benthic communities, or fish and shellfish during maintenance dredging and associated alterations to sediment disposal during the operational phase of the proposed works.
- 5.3.6 The MMO require full consideration of the potential effects due to changes in suspended sediment concentration for coastal processes and benthic communities for the proposed works during operation. The EIA should clarify if these impact pathways have been considered and appropriately justify where any potential impacts have been screened out for further assessment.
- 5.3.7 The MMO advise that additional impact pathways relating to the introduction of hard substrate and change of seabed type via new port structures are scoped into these assessments. MMO advise that a realistic worst-case scenario footprint is factored into HRA/EIA assessments for the construction and operational phases with regards to the extent of the rock mattressing.
- 5.3.8 The MMO also recommends that additional impact pathways be assessed with regards to entrainment and smothering of benthic features during construction and operation.

5.4 Coastal Processes

- 5.4.1 In terms of coastal processes, the compensatory habitat proposed for Steart Peninsula is unconnected to the site of construction and operation. Therefore, at this stage, it cannot be considered as a mitigation of coastal processes impacted at the proposed site. The MMO therefore wish to highlight the need for further consideration of this issue.
- 5.4.2 The MMO acknowledges that a detailed methodology is not available at this stage however would recommend that, should the proposed methodology have more unusual or complex components, that details be provided as early as possible, this could be given as a broad methods framework if suitable.
- 5.4.3 The MMO advise that potential changes to the propagation of waves, currents and sediment transport caused by the direct modification of the seabed level through dredging during the construction phase of the proposed project should also be scoped into the HRA and EIA assessments.
- 5.4.4 The MMO notes that no decommissioning plans are included within the report, however reference is made to the terminal being used up to 2050. The MMO requests more information is given as to what additional function may be provided, and to present any future impacts that might be expected.

- 5.4.5 The MMO ask that consideration be given to avoiding the use of dredged material during the breakwater construction to fill breakwater caissons (through schedule or alternative breakwater designs). This is because the large volume of dredged material to be disposed of is expected to exceed the current annual disposal licence.
- 5.4.6 The scoping report states the works could be undertaken in one stage at the start of construction, or in stages in response to developer needs. The dredged sands and gravels would be pumped ashore from the dredger or bought to the site by barge. Please note that as the material is proposed to be placed below MHWS the site will need to be designated as a disposal site for the purposes of OSPAR. The MMO also highlights that under the London Protocol, dredged material which has been 'stored' cannot be disposed to sea. The purpose of this restriction is to avoid the disposal of material which has undergone significant changes in its composition since being dredged, e.g. through the exposure to air and sunlight (and the possible changes in organic matter as a result). However, it is not explicitly stated in the scoping report that the material will be stored, and as the material is stated to comprise sand and gravel, it is likely that the composition change will not materially affect the purpose of the beneficial use and may be acceptable or exempted.
- 5.4.7 The MMO welcomes the proposal to create new modelled results that include a monitoring campaign to collect new measurements for model calibration and a conceptual model for system processes and function. The MMO also expects some element of model validation to be undertaken with this data. Alongside a standard numerical validation, MMO would encourage a qualitative validation of the (interpretation of the) proposed conceptual model, based on model results. The scoping report recognises that the environment is dynamic and changeable (Section 4.1.1.4: "morphology of the Severn Estuary is constantly changing due to the complex hydrodynamics and sedimentary processes... As a result, the subtidal and intertidal sedimentary environments are highly dynamic"). Numerical models with a defined bathymetry do not necessarily allow for the system dynamics that prompt substantial change, but it is also not reasonable to expect a full dynamic model in such complex circumstances. Therefore, a conceptual model would be a significant achievement itself, if it could be shown to produce defensible projections.

5.5 Seascape / Landscape

5.5.1 The MMO is of the opinion that further information should be given to the potential noise impacts. Any assessment of operational noise by the EIA should take into account specific guidance on wind turbines and noise along with the documents mentioned in the scoping report.

- 5.5.2 The MMO notes the intention to produce an LVIA as part of the EIA process, and recommends that this takes the form of a Townscape and Visual Impact Assessment (TVIA) supported by a Heritage Statement to ensure that any impact on heritage assets is properly understood and addressed. See the Archaeology/Cultural Heritage section below for further information. The applicant is encouraged to engage with the Local Authority to agree precise locations of views and criteria required as part of the TVIA.
- 5.5.3 The MMO expects that, due to the dynamic nature of the environment of the Severn Estuary, updated marine geophysical survey work should be carried out as part of this assessment process. Any assessment of marine geophysical survey data, whether historic or newly commissioned as part of this process, should include assessment of the reliability of that data. This includes ensuring that the data is up-to-date and remains accurate/relevant to the site in its current state.
- 5.5.4 Details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area should be included. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.
- 5.5.5 The EIA should include a full assessment of the potential impacts of the development on local landscape character using landscape/seascape assessment methodologies. We encourage the use of Landscape and Seascape Character Assessment (LCA/SCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA/SCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed. The Guidelines for Landscape and Visual Impact Assessment, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition) are recommended. The methodology set out is almost universally used for landscape and visual impact assessment.
- 5.5.6 In order to foster high quality development that respects, maintains, or enhances, local landscape / seascape character and distinctiveness, it is encouraged that all new developments consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The EIA process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.

5.5.7 The assessment should refer to the relevant National Character Areas which can be found on the link below. Links for Landscape / Seascape Character Assessment at a local level are also available on the same page https://www.gov.uk/guidance/national-character-area-profiles-information-for-local-decision-making.

5.6 Fish Ecology and Fisheries

- 5.6.1 The MMO recommend that effects associated with underwater noise due to vessel movements during the construction phase are scoped into the EIA. While fish may be habituated to a certain level of baseline noise from vessels, the increase in vessel traffic/noise, in combination with the proposed piling activity may result in a further increase in noise disturbance and a potential inter-related effect during construction. The MMO do not believe there to be sufficient justification for the potential impacts associated with underwater noise due to dredging or increased vessel activities during construction; or due to increased vessel activities during operation and maintenance, to be scoped out for marine mammals or fish and shellfish at this stage. Information must be provided to quantify the increased vessel activity associated with the project.
- 5.6.2 The MMO note that site-specific underwater noise (UWN) modelling will be undertaken to inform the UWN impact assessment. Fish will be categorised according to their hearing capabilities and assessed against the hearing thresholds described by Popper *et al.* (2014). The MMO agree for adult fish, larvae, and eggs to be treated as stationary receptors. The report proposes to treat diadromous fish as moving receptors at a speed of 0.5m/s. There is no further information or citation to peer-reviewed literature to support the use of a speed of 0.5m/s. Furthermore, it is unclear what the speed of 0.5m/s represents in terms of the species of diadromous fish, or the nature of this swimming speed. Therefore, the MMO require an appropriate justification for treating diadromous fishes as moving receptors and support this with peer reviewed publications. The MMO also advise that fish species are not assessed as 'fleeing receptors' within the underwater noise modelling and assessment.

- 5.6.3 In studies which have sought to quantify swimming speeds in fish, swimming performance is categorised into sustained, burst and prolonged swimming (Beamish, 1978; Cano-Barbacil et al., 2020), which are defined in the literature as follows:
 - Sustained swimming is aerobically generated and can be maintained for periods of time without muscular fatigue (excess of 200 minutes).
 - Burst swimming is the maximum achievable swimming speed, this type of swimming is anaerobically generated and can only be sustained over short periods (20-30 seconds).
 - Prolonged swimming is a transitional speed between burst and sustained swimming which can be maintained for intermediate lengths of time (1-200 minutes).
- 5.6.4 The MMO request that the limitations associated with fisheries data should be acknowledged in the environmental statement, such as the method/gear type by which the fish were caught, and the timing of surveys in relation to seasonality of fish presence/absence.
- 5.6.5 The MMO advises that some of the diadromous species listed will also spend time residing within the Severn Estuary and impacts during their marine residency phase should be assessed.
- 5.6.6 The MMO advises that consideration should be given to impact pathways on the entrainment and smothering of fish/fish eggs during dredging, and the impact of changes in dissolved oxygen from elevated suspended sediment concentration levels. The impairment of the respiratory function of fish through suspension of sediment and water quality must be considered for both the construction and operational phases of this proposal.
- 5.6.7 In section 4.4.2 (construction) of the scoping report, there is no inclusion of the entrainment/impingement risks to fish associated with the dredging activity. The MMO advise that the long-term monitoring of fish impingement on the intake screens of Hinkley Point B continued to 2018, with ad-hoc intensive surveys conducted in 2009/10 and again in 2021/22, data is used within the assessment.
- 5.6.8 Whilst no spawning grounds were identified in the area by Coull et al. (1998) and Ellis et al. (2012), this is because none of the data/surveys used in these studies were from depths of <20m and none were in the Severn Estuary. The MMO advise that several marine fish species are likely to spawn in the Severn Estuary, and these must be considered as a feature. Additionally, the smothering of any spawning ground during construction must be considered.

- 5.6.9 It is the opinion of the MMO that grouping species for assessment will not be sufficient for the majority of species. Many fish species will have different sensitivity and vulnerability to the impact pathways depending on their life history traits and population status. We advise assessing impacts by species where necessary depending on the impact pathway or identifying key sensitive/vulnerable species within groups for each impact pathway. For example, assessing the impact of habitat loss beneath the footprint of land reclamation and capital/maintenance dredge areas on sandeels.
- 5.6.10 As mentioned above, European eel Anguilla anguilla is part of the Severn Estuary SAC and Ramsar site, or the Severn Estuary SSSI. The MMO reiterates that the species must be considered within the assessment for the protected sites. All dredging activity (capital and maintenance dredging) will have to comply with the Eels (England and Wales) Regulations 2009 (referred to hereafter as the 'Eel Regulations'). The methodology of dredging would need to be reviewed by the Fisheries, Biodiversity & Geomorphology Team from the Environment Agency to ensure compliance with the Eel Regulations. This needs to be referenced in the ES.
- 5.6.11 The ES is required to consider the impacts of dredging (both capital & maintenance) across the confluence of the Bristol Avon River with the Severn Estuary on fish migration into and out of the Bristol Avon River and consider if this could delay migration of some species.
- 5.6.12 The impacts of introduction of light (especially along the estuary bank adjacent to the Avon Estuary) should be considered on fish receptors.
- 5.6.13 The MMO advise that the following additional datasets are considered during project development:
 - <u>Natural Resources Wales / Marine ecology datasets for marine developments</u>
 - NRW Forage fish report by Cefas (Campanella and van der Kooij, 2021) which updates Coull et al. (1998) and Ellis et al. (2012) for several species. CP017-04-F5 Cefas Report Template (birdwatchireland.ie); https://data.cefas.co.uk/view/21465
 - Salmon and sea trout fisheries statistics Salmon Stocks and Fisheries in England and Wales 2023 (publishing.service.gov.uk)
 - <u>Eel management plan reporting Implementation of UK Eel Management Plans (2017 to 2020) GOV.UK (www.gov.uk)</u>
 - Environment Agency fisheries surveys -<u>https://environment.data.gov.uk/dataset/11254005-e58b-4354-9c56-0d459665d1b8</u>

5.7 Shellfish

- 5.7.1 The MMO agrees with the receptors scoped in for shellfish during the construction and the operation phase. In the proposed approach to the EIA, it is stated that "species will be assessed as groups based on shared life-history traits (resulting in broadly shared sensitivities)". the groups being "elasmobranchs, demersal fish, pelagic fish, and diadromous fish". The MMO has considered above that grouping species will not be sufficient, however also would expect to see shellfish included on any list.
- 5.7.2 The MMO advise to contact Devon and Severn IFCA (Inshore Fisheries and Conservation Authority) to identify any additional information for shellfish.

5.8 Archaeology / Cultural Heritage

- 5.8.1 The MMO advises consideration of the potential impact of the development on heritage assets, most notably the Grade I Listed Kings Weston House and the surrounding Grade II Registered historic Landscape, which are notable for their elevated position above the flood plain of the Severn and their landmark character. It is also noted that the site boundary encompasses two Locally Listed buildings, namely the Edwardian pumphouse for the lock gates and the granite lighthouse on the northern breakwater.
- 5.8.2 The MMO notes the intention to produce an LVIA as part of the EIA process. It is recommended that this takes the form a Townscape and Visual Impact Assessment (TVIA) supported by a Heritage Statement to ensure that any impact on heritage assets is properly understood and addressed. The TVIA should demonstrate an understanding of the historic setting of Kings Weston House and grounds, identify key views, draw on Bristol Council's 2014 Conservation Management Plan policies for the estate, and propose mitigation where appropriate. The applicant is encouraged to engage with the Local Authority to agree precise locations of views and criteria required as part of the TVIA.
- 5.8.3 The MMO recommends that the Local Authority and the Historic England Scientific Advisor is consulted and involved as part of the future process.

5.9 Navigation / Other Users of the Sea

5.9.1 The MMO welcomes that a Navigational Risk Assessment is to be produced in support of the HRO and proposed marine licence applications. This must be considered and agreed by BPC in its role as the Statutory Harbour Authority SHA and in accordance with the Ports & Marine Facilities Safety Code (PMSC) and its Guide to Good Practice. BPC will need to develop a robust Safety Management System for the project under the PMFSC. The MMO highlights Section 10.14 of the PMFSC Guide to Good Practice - Regulating harbour works as of being particularly relevant to the applicant.

5.9.2 The MMO welcomes the suggestion of conducting a hazard workshop with relevant navigational stakeholders.

The MMO expects no effects to be scoped out of the assessment with regards to shipping and navigation, pending the outcome of the Navigation Risk Assessment and further stakeholder consultation.

5.10 Air Quality & Climate

- 5.10.1 The ES should take account of the risks of air pollution and how these can be managed or reduced. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk). Further information on air pollution modelling and assessment can be found on the Environment Agency website.
- 5.10.2 The proposed development includes a potential railhead and freight terminal. Associated construction and operation could lead to emissions to air and therefore MMO recommends the applicant includes any such emissions within its proposed assessments of impacts to local air quality. The final development may include manufacturing facilities and activities with point source and fugitive emissions. If such emissions are present, further assessment would be expected within the EIA.

5.11 Water Quality

- 5.11.1 Increases in SSC during construction and operation (e.g. future dredging works) have the potential to smother sensitive habitats. The ES should include information on the sediment quality and potential for any effects on water quality through suspension of contaminated sediments. The EIA should also consider whether increased suspended sediment concentrations resulting are likely to impact upon the interest features and supporting habitats of the designated sites as listed above.
- 5.11.2 For activities in the marine environment up to 1 nautical mile out at sea, a Water Framework Directive (WFD) assessment is required as part of any application. The ES should draw upon and report on the WFD assessment considering the impact the proposed activity may have on the immediate water body and any linked water bodies.
- 5.11.3 There is a permitted discharge outlet to the Severn Estuary, located within the proposed site plan (NGR ST 50500 78950). This must be considered to ensure there is no damage to the underground/outlet pipes.

5.12 Seabed / Land / Soil Quality

- 5.12.1 Given the heavy industrial historical use of the area, as well as the existing consideration of existing ground contamination, intrusive ground investigation will also be required. Consideration should be given to whether any remediation has been carried out or is planned. The MMO expects the proposed Geo-Environmental Desk Study and Preliminary Risk Assessment will be completed and form an appendix to the Ground Conditions and Contamination ES chapter.
- 5.12.2 The methodology for dredging has not yet been established in regard to the method of dredging that will be preferred. The MMO advise that all potential dredging methods for this project be considered to consider realistic worst case scenario of environmental impacts.
- 5.12.3 The MMO notes that there is a forecasted volume of fine sediments (2.5-3.5 million m³) associated with the proposed capital dredging activities alone and therefore advise that the capacity of existing licenced disposal sites is scoped into the HRA/EIA assessments. Consideration should also be given to the disposal method of material arising from maintenance dredging associated with the project. If the capacity of licenced disposal sites cannot be demonstrated, new disposal sites may need to be considered to support the disposal of material that is not suitable for beneficial use within the proposed project.
- 5.12.4 The marine aggregates industry coordinates the Regional Seabed Monitoring Plan (RSMP) which includes monitoring of licenced dredging areas within the Severn Estuary. The MMO advise the RSMP data resource should be considered within the characterisation of baseline conditions in the HRA/EIA assessments.

5.13 Population and Human Health

- 5.13.1 The MMO notes that the document refers to the Bristol Local Plan (2011), it is encouraged that reference is also made to the Site Allocations and Development Management Policies document (2014) as several policies would likely be applicable to the proposed development. These include (but are not limited to):
 - DM13: Development Proposals on Principal Industrial and Warehousing Areas
 - DM14: The Health Impacts of Development
 - DM18: Avonmouth and Kings Weston Levels.
 - DM19: Development and Nature Conservation
 - DM20: Regionally Important Geological Sites
 - DM32: Pollution Control, Air Quality, and Water Quality
 - DM34: Contaminated Land
 - DM35: Noise Mitigation.

There is also reference to the emerging Local Plan, which is currently at examination. The scoping report recognises Policy E4: Avonmouth and Bristol Port, however relevant policy areas for consideration within the emerging Local Plan (in its current iteration) include (but are not limited to):

- Biodiversity and Nature Recovery
- Net Zero and Climate
- Design and Conservation
- Health, Wellbeing and Food Sustainability
- 5.13.2 The scoping report refers to existing infrastructure and utilities in section 4.1.6. There should be an assessment to consider if there is sufficient water supply available for the construction and operation of the proposal. This assessment should refer to the latest Bristol Water Resource Management Plan and also identify if any water supply network reinforcements are required.
- 5.13.3 Any assessment of operational noise should take into account specific guidance on wind turbines and noise, as well as the documents mentioned in the scoping report.
- 5.13.4 If electrical infrastructure were to be added to the proposed development, as implied in section 2.2.8.2, the applicant should assess the potential public health impact of electromagnetic fields (EMFs) arising from any electrical equipment associated with the facility. For more information on how to carry out the assessment, please see the accompanying UKHSA reference document. Alternatively, a statement should be provided that explains why EMFs can be scoped out.

- 5.13.5 The England Coast Path (ECP) is a new National Trail that will extend around all of England's coast with an associated margin of land predominantly seawards of this, for the public to access and enjoy. We would encourage any proposed development to include appropriate provision for the ECP to maximise the benefits this can bring to the area. The MMO suggests that the development includes provision for a walking or multi-user route, where practicable and safe. This should not be to the detriment of nature conservation, historic environment, landscape character or affect natural coastal change. Consideration for how best this could be achieved should be made within the Environmental Statement.
- 5.13.6 The EIA should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

5.14 Cumulative Impacts & In-Combination Impacts

- 5.14.1 The MMO requires a full cumulative effects assessment of the pressures on all construction and operation activities for all relevant features. This will include but is not limited to the rationale for selecting or excluding projects, such as the screening distances used, relevant cut-off dates, and other criteria. These matters should be clearly stated and supported by robust evidence.
- 5.14.2 The MMO acknowledge that current cumulative impacts are widely unknown due to a lack of availability of methods of construction, we request that these methods and impacts will be more developed and assessed at the next stage of the application so as to allow full consideration and consultation on the project.

- 5.14.3 The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):
 - Existing completed projects;
 - Approved but uncompleted projects;
 - Ongoing activities;
 - Plans or projects or which an application has been made and which are under consideration by the consenting authorities; and plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in combination effects.
- 5.14.4 Changes to sediment transport and erosion/accretion due to changes in maintenance dredging have been scoped in, but not the cumulative effects of a sustained maintenance dredging regime (i.e., one without changes). An assessment must consider the cumulative impacts on long term coastal sediment dynamics.
- 5.14.5 The MMO advises that the wind terminal development and the associated habitat creation scheme be considered in tandem when considering the impacts on the natural environment, and a holistic approach is encouraged.
- 5.14.6 Given the location of the proposal, the MMO recommends that the Wales National Marine Plan is also referred to in the ES, specifically policy GOV_02 in relation to cross-border and plan compatibility. Reference to the Environment Act (Wales) 2916 and the Wellbeing of Future generations Act (2015) should also be included.

5.15 Risk of Major Accidents and Disasters Relevant to the Project (including those caused by Climate Change)

- 5.15.1 The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The National Planning Policy Framework (NPPF) requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 174), which should be demonstrated through the ES.
- 5.15.2 Climate change allowances should be included in both the characterisation of baseline conditions, and in impact assessments.

- 5.15.3 The MMO notes that a Flood Risk Assessment (FRA) will be prepared and appended to the ES. In addition to the points mentioned in the scoping report, the FRA will need to include the following points:
 - Maintain flood defence line;
 - Demonstrate clearly that the proposal does not adversely affect third party land;
 - Demonstrate no adverse impact to coastal erosion/deposition;
 - Ensure development is flood resilient and safe for the lifetime of the development;
 - Consider appropriate climate change impacts over the lifetime of the development.

6 Conclusion

The topics highlighted in this scoping opinion must be assessed during the EIA process and the outcome of these assessments **must** be documented in the ES in support of the harbour order, the marine licence and any associated planning application(s). This statement, however, should not necessarily be seen as a definitive list of all EIA requirements. Given the scale and programme of these planned works other work may prove necessary.

Fiona Gray

Marine Case Officer

24 June 2025

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