Marine Management Organisation

Scoping Opinion

Harbours Act 1964 and Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) ("the Regulations")

Title: Port of Holyhead – Holyhead Port Expansion

Applicant: Stena Line Port Ltd

MMO Reference: DC10119

Contents

1. Proposal

It is the intention of Stena Line Ports ("Stena Line") to apply to the Marine Management Organisation ("the MMO") for a harbour revision order ("HRO") under section 14 of the Harbours Act 1964 (as amended) to authorise construction of a deep water cruise terminal and associated terminal buildings, as well as improvements to the access roads. As the HRO would directly authorise a project, Stena Line have submitted a 'notice of intention to make the application' under paragraph 3 of Schedule 3 of the Harbours Act 1964.

An application has also been made to Natural Resources Wales ("NRW") for screening and scoping opinion under the Marine Works (EIA) Regulations (2007) for those activities requiring a marine licence.

The Environmental Scoping Report ("the report") identified areas, considered by the applicant, where there is the potential for significant environmental impacts from the construction and operational phases.

1.1 Project Background

The Port is a private Ro-Ro ferry port owned by Stena Line currently operating at near full capacity, with no space available for expansion to meet current or future operational demands. The Port also supports the cruise industry, with an increase in passengers of around 40% from 2014 to 2015. Cruise ships currently dock at the Orthios jetty, however, this jetty may be required for ships supporting the biomass industry in the near future and as such, a new deep water cruise berth is required.

The proposed scheme is to reclaim three areas to provide new berths and utilise the associated landside areas for port related use. The three areas are intertidal/subtidal and the scheme also includes dredging of an approach channel (Figure1):

The Port is located in Holyhead on the western side of Anglesey and forms the principal link for surface transport from north Wales and central northern England to Ireland.

Area A

This reclamation area will form approximately 68,230m^2 of new port land and requires approximately 697,000m^3 of fill material. A steel tubular combi-wall, approximately 340m long, will form the quay face, with a reinforced concrete capping beam, carrying bollards, fender panels and safety ladders. The combi-wall would require an anchor wall several metres back from the main wall connected with large diameter tie bars linking the two walls together. Fill from the dredging of the approach channel would be pumped behind the wall forming the land mass. This would be compacted and then surcharged to remove excess water.

This area would provide a new deep water multi-purpose berth for larger vessels as well as for cruise vessels that currently use the Orthios Jetty. In addition, the proposed reclamation would provide additional Ro-Ro standage. It is proposed that

this area could be used to support the construction of Wylfa Newydd Nuclear Power Station. The area would be serviced by two ship to shore cranes and warehouses.

Area B

This reclaimed area will form approximately 25,540m^2 of new port land and will require 156,000m^3 of fill material. A steel tubular combi wall, approximately 280m long, with a reinforced concrete capping beam carrying the bollards, fender panels and safety ladders. The combi-wall would require an anchor wall several metres back from the main wall connected with large diameter tie bars linking the two walls together. Fill from the dredging of the approach channel would be pumped behind the wall forming the land mass. This would be compacted and then surcharged to remove excess water.

As well as providing an additional multi-purpose berth at the Port, this area would be used to facilitate vehicles entering and leaving Salt Island. The current arrangement causes congestion and this proposal would help alleviate this.

In addition, this area provides the option to build additional custom and excise facilities if required. The port service lane that currently runs to the north of Area B would be re-aligned to provide vehicle access to Area B.

Area C

This reclamation area will form approximately 16,830m^2 of new port land and will require approximately 143,000m^3 of fill material. A 190m long quay wall will be constructed and the existing landing stage will be demolished. Reinforced concrete caissons precast in a nearby location would be floated into position and then placed on a prepared seabed. A reinforced concrete capping beam carrying the bollards, fender panels and safety ladders cast along the top face of all the caissons. Fill from the dredging of the approach channel would be pumped behind the wall forming the land mass. This would be compacted and then surcharged to remove excess water. Any dredging required to prepare the seabed would be placed in the reclamation area, where possible.

This area will provide a multi-purpose berth for smaller vessels. It is also proposed that this area could be used to support the emerging tidal energy market, through the provision of landside storage and heavy load on/load off facilities, serviced by mobile cranes. The area is currently used as a commercial fishing port; the fisherman's wharf will be enhanced to enable this industry to continue at Holyhead Port.

Approach channel dredge

To allow navigable access to the port by larger vessels, an approach channel will be dredged to -9m below Chart Datum. The resulting total sediment volume is approximately 1,044,670m^3. It is anticipated that the outer third of the approach channel, comprising approximately 348,223m^3 of finer material, would be dredged using either a trailer suction hopper dredger (TSHD), requiring disposal of the dredged material, or using a hydraulic method, such as Water Injection Dredging (WID), which requires no disposal as the material is re-suspended and transported away naturally by the action of gravity and currents. The inner two thirds, comprising approximately 696,466m^3 of coarser material, would be dredged using a cutter suction dredger (CSD). Where possible, all dredged material will be recovered and

used as fill for the reclaimed areas. Should a TSHD be used, or for any other material not suitable to be used in the reclamation, the material would need to be used/disposed of elsewhere. The closest licenced offshore disposal site is Holyhead Deep (IS040).

2. Location

The reclaimed areas are located within the Port of Holyhead, which is displayed in Figure 1 below. The approach channel and turning circle are shown in Figure 2. The proposed works are located in the vicinity of a number of national and international marine protected areas, which are displayed in Figure 3.

Figure 1: Proposed reclamation areas A, B and C.

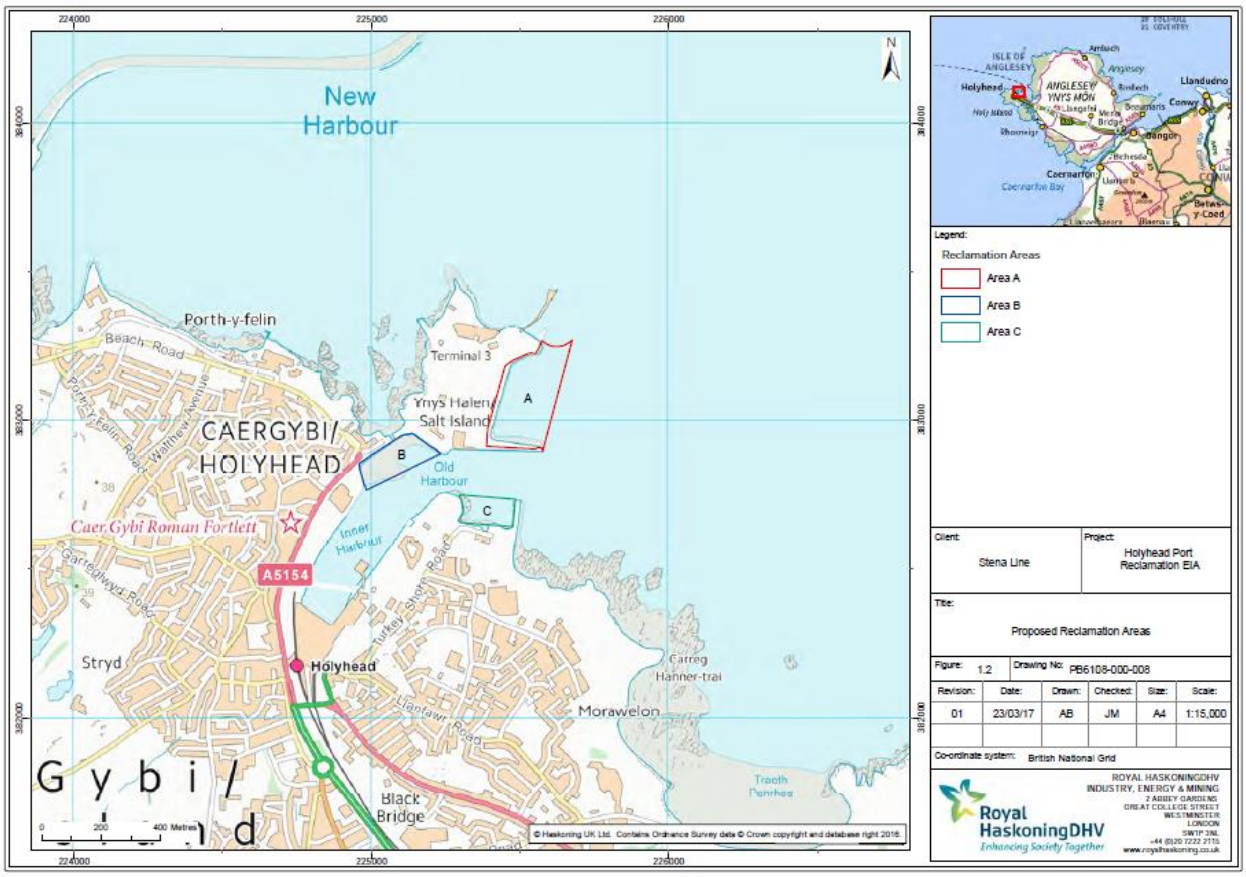


Figure 2: Proposed dredge area for approach channel and turning circle.

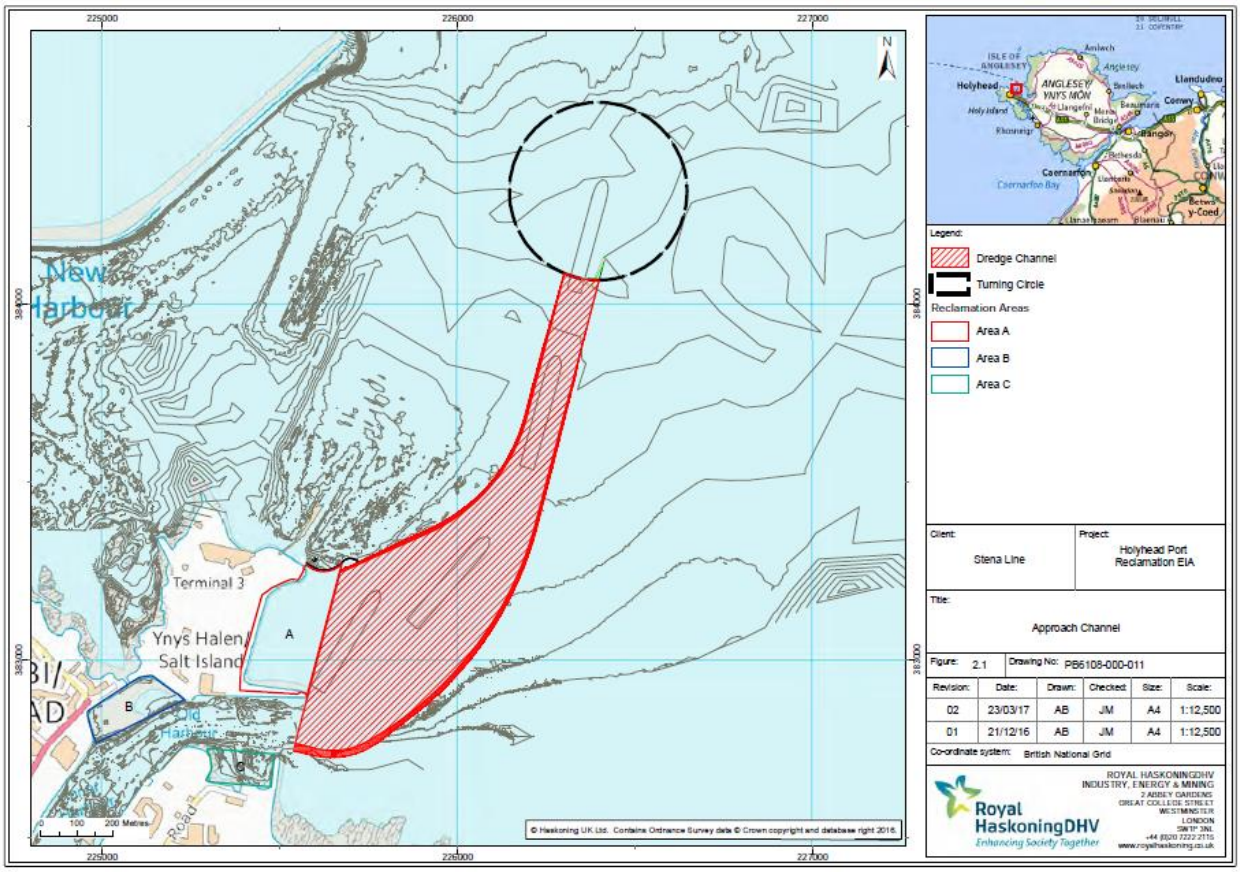
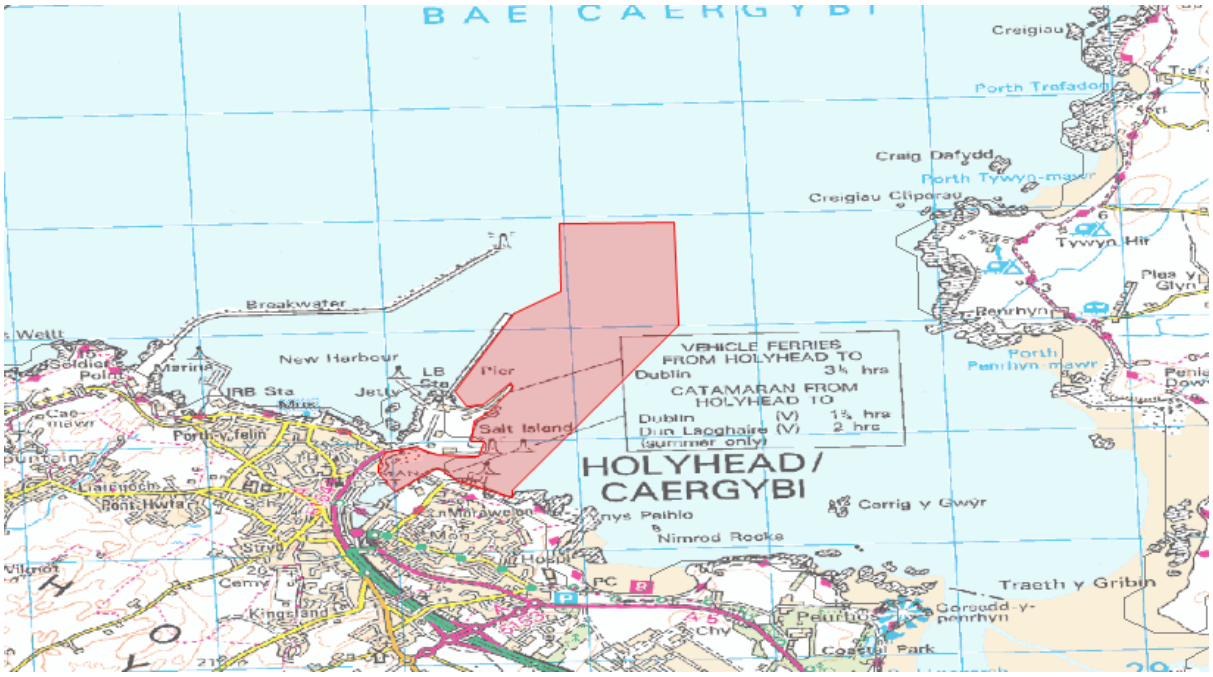


Figure 3: Aerial view of approximate polygon showing indicative location for proposed cruise terminal, approach channel and turning circle.



3. Environmental Impact Assessment (EIA)

The MMO considers the proposed works to be an Annex I project under the EIA Directive 2011/92/EU ("the Directive"), specifically:

Article 8 (b) "Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1 350 tonnes".

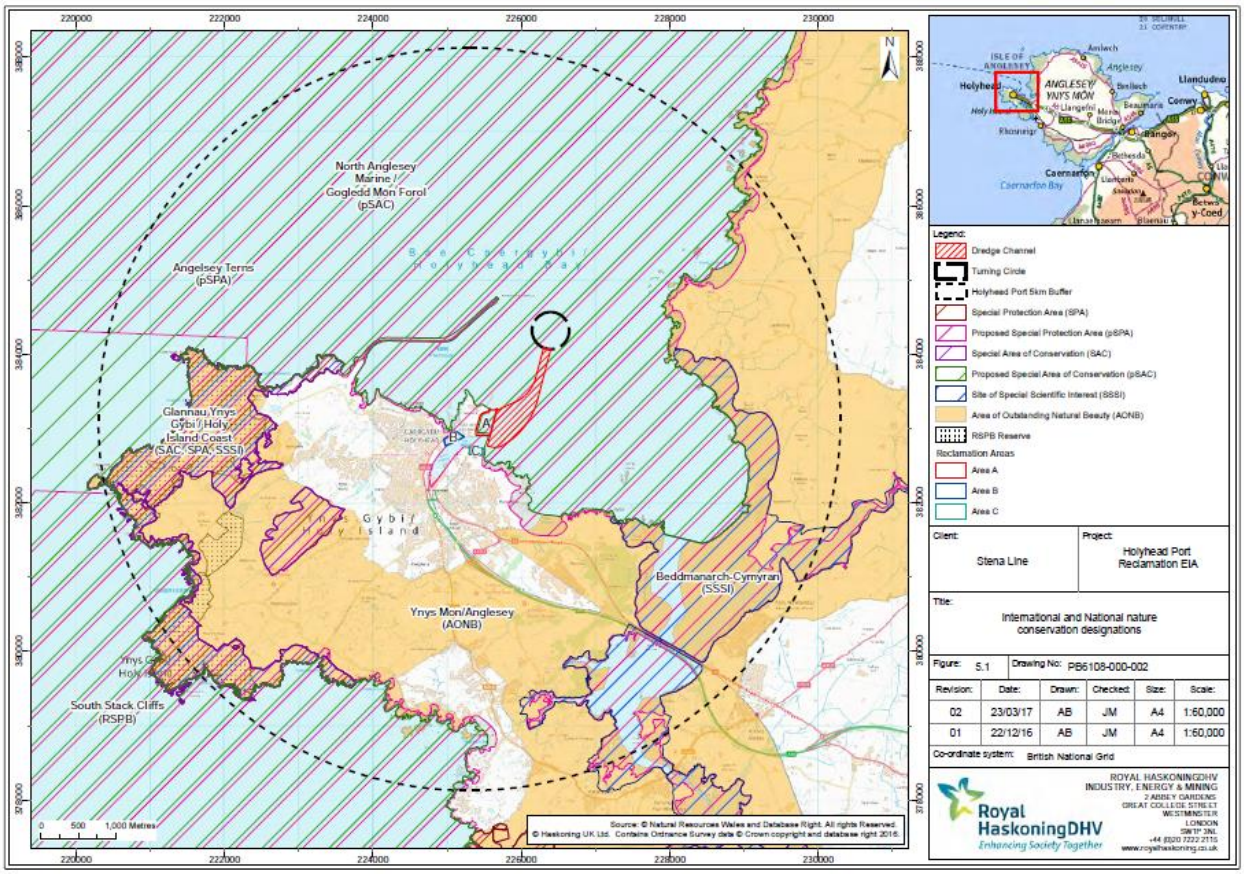
4. Scoping Opinion

Royal Haskoning have prepared a Scoping Report on behalf of Stena Line. The MMO carried out a 28 day consultation to assess the report and where any additional information and/or surveys are required to ensure the scope of the Environmental Statement ("ES") is sufficient to inform the application.

The MMO agrees with the topics outlined in the Scoping Report and in addition, recommends that the following aspects are considered further during the EIA and should be included in any resulting ES.

5. Nature Conservation Designations

Figure 4: International and national nature conservation designations within 5km buffer.



5.1 Special Protection Area ("SPA")

The Holy Island SPA and Anglesey Terns potential SPA ("pSPA") are located within five kilometres of the proposed activities. The proposed development will result in permanent habitat loss due to the intertidal and subtidal reclamation activities. Paragraph 29.1.6 of the scoping report references compensation under the heading 'Mitigation', however compensatory measures cannot be considered as mitigation. Any loss or damage to habitat, considered as part of a project, within a European site that cannot be avoided or reduced, would need to be fully considered in a

Habitats Regulations Assessment ("HRA"). Any potential impacts to these sites will need to be considered in a shadow HRA document that will support the relevant statutory authority in carrying out a formal HRA. Within this supporting information details of any proposed mitigation measures will need to be provided.

5.2 Special Area of Conservation ("SAC")

Holy Island Coast SAC and North Anglesey Marine candidate SAC ("cSAC") are located within five kilometres of the proposed activities. It is important to note that North Anglesey Marine is now a candidate SAC ("cSAC"), rather than a possible SAC ("pSAC") as stated in the scoping report. This should be amended accordingly for the ES.

The scoping report acknowledges that there is the potential for marine mammals from neighbouring SACs to be impacted by the development. There is evidence of connectivity between the development site and SAC populations and, as such, using information on the Marine Mammal Management Units, all SACs in the relevant management units should be considered and assessed. The following SACs are within the relevant management unit and should be included in the assessment:

- Harbour Porpoise: North Anglesey Marine, West Wales Marine, Bristol Channel Approaches (Celtic and Irish Seas Management Unit)
- Bottlenose Dolphin: Pen Llyn ar Sarnau, Cardigan Bay (Irish Sea MU)
- Grey Seal: Pembrokeshire Marine, Cardigan Bay, Pen Llyn ar Sarnau (South and West England and Wales MU)

There is potential for noise disturbance from piling activities to have a significant effect on the harbour porpoise SACs in the management unit including North Anglesey Marine cSAC. Further information on the following points is required to inform an assessment into the likelihood of a significant effect:

- The number of piles
- The number of piling and drilling days
- The pile size
- The type of substrate
- Measure of hammer energy
- The noise source level and frequency of both the vibro-piling and drilling.

Underwater noise from construction vessels and dredging has been identified in the report as having the potential to impact marine mammals during the construction phase of the scheme. Existing high levels of shipping within the Port, as noted in paragraph 11.5 of the scoping report, contributes to the underwater noise of the site. The underwater noise produced by shipping activities is unlikely to cause physical trauma to harbour porpoise, but it has the potential to impact on disturbance and displacement of preferred habitat. In order to fully assess the potential impacts of underwater noise, underwater noise modelling has been proposed. The MMO supports this proposal, although no further details of the modelling have been given at this stage. We recommend early engagement with the MMO and NRW to ensure that any modelling undertaken is appropriate from the onset.

6. Coastal Processes

6.1 Coastal processes

The date of the some of the baseline data referenced in the scoping report is outdated and may not adequately represent a current understanding of the area regarding marine and coastal processes. Given the historical nature of the data referenced, clarification is needed as to whether further borehole data will be collected. The wave data was collected over 10 years ago for a six-month period. More recent data is required as this is not adequate to inform the ES. Two dimensional modelling is proposed, however given the significant impacts and effects that may be observed throughout the water column this may not be suitable. There is also no information on scale and resolution, calibration or validation. Further information on proposed data collection is required and should be presented in the ES.

It is noted that wave and flow modelling will also inform the coastal defence and flood risk baseline and that it is intended to use the latest climate change guidance available to set up modelling but does not specify which one (Section 21.5, page 81). The guidance on climate change to inform modelling specifications should be clearly specified, if not at this stage, during the design of the modelling scope and checked with the relevant regulatory bodies. The worst case scenario in terms of sea level rise should be considered in the ES.

Considering the information provided in the Scoping report, at this stage the suggested field investigations and numerical modelling together with the data already gathered by the applicants from previous studies (e.g. Deep Green Minesto, etc.) should be sufficient to inform the subsequent stages of EIA and the ES. However, due to the complexity of the morphology of the surrounding area, the long-term nature of the scheme, as well as the issues related to climate change, the MMO strongly advise the consideration of the effects of the scheme on the combined effects of waves and currents as part of the studies on hydrodynamics and eventually the sedimentary regime. This should be done preferably with the evidences provided by modelling, although an expert-based study may be sufficient.

6.2 Hydrodynamic and sedimentary regime

The study area should be defined using evidence of potential impacts of the proposed activities, rather than the use of a standard figure for an area of study. The Welsh Government have a Technical Advice Note on Coastal Planning (TAN 14) which can be found here http://gov.wales/docs/desh/publications/110805tan14en.pdf The document suggests working at the sediment sub-cell level and keeping all sensitive sites scoped in, until the area can be scaled down based on evidence.

7. Benthic Ecology

In the event that WID is undertaken, the potential impacts to fish, shellfish and other benthic species are likely to be greater, when compared to TSHD or CSD methods, as the WID method relies on the re-suspension and natural transportation of material by the action of gravity and currents. The MMO recommend that this should be fully discussed and assessed in the ES.

The proposed approach for the EIA assessment of benthic ecological features includes a benthic ecological survey of the subtidal biotopes within the footprint area. However, given that the study area includes the near-shore intertidal communities the MMO would expect the survey to cover the intertidal area also.

8. Marine Ecology and Fisheries

8.1 Invasive species

The presence of the invasive species *Didemnum vexillum* (Carpet sea squirt) in the adjacent Holyhead marina will be a key consideration in terms of the potential effects of the works on marine ecology receptors. As part of any EIA characterisation and monitoring baseline survey the MMO would expect a full targeted survey for the presence of *D. vexillum* in key areas in relation to the proposal. The last survey for *D. vexillum* in the port area was undertaken in 2015. An update of this survey should include all relevant areas in relation to the proposal as well as identifying other potential marine non-natives species and possibly some other elements of the marine ecology characterisation and baseline monitoring surveys where appropriate.

The potential ingress and onward spread of marine non-natives species during all stages (e.g. baseline surveys for construction, operation and potential decommissioning) of the proposed development should be considered in the ES as part of a biosecurity risk assessment which should include all relevant activities and pathways.

8.2 Fish Ecology

8.2.1 Identified species

In addition to the spawning and nursery grounds identified in the scoping report, the area is also a low intensity nursery ground for anglerfish *(Lophius piscatorius*) and plaice. Whilst plaice and sole are both UK Biodiversity Action Plan (“UK BAP”) species of commercial importance, they are not typically classified as species of conservation importance. The UK BAP was the UK Government’s response to the Convention on Biological Diversity (CBD), which the UK signed up to in 1992. Other species of conservation importance that should be included in the ES are sea lamprey (*Petromyzon marinus*), river lamprey (*Lampetra fluviatilis*), twaite shad (*Alosa fallax*) and European eel (*Anguilla anguilla*); all of which have been recorded off the coast of Anglesey.

The species of conservation importance should be presented in the ES in table format showing conservation species by their various conservation/protected statuses. Popper et al. (2014) Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee describes four groups under which fish can be categorised and assessed. The MMO request that any data taken from previous fisheries, egg and larval surveys used in the ES includes or signposts all relevant information, such as dates and times of surveys, locations, gear used, mesh size, duration of tow / soak times. We recommend that the limitations of any data sources used in the assessment are presented within the ES. Impacts to fish should be discussed and mitigation measures provided where appropriate in the ES.

The report identifies bass as migratory species, but the MMO advises that whilst they are found in estuaries and can penetrate some way along rivers, they are predominantly a marine fish and are not considered a migratory species.

Sandeels are an ecologically important species as they are a prey species for a number of marine fish, marine mammals and marine birds. They are particularly vulnerable during the autumn/winter period to disturbance of the sediment through piling and dredging activities. Sandeel nursery grounds are generally located in the same area as spawning grounds. The ES should identify and acknowledge the potential impacts to sandeels.

8.2.2 Potential Impacts

The following impacts to fish resulting from the construction and operational phases on Holyhead port expansion have been identified in the report:

- Underwater noise from piling and dredging;
- Smothering of fish spawning and nursery grounds, and shellfish due to deposition of the dredging plume, during the capital dredge;
- Decreased resource availability to fish species through loss of intertidal and subtidal habitats as a result of the reclamation works and smothering from the dredging plume;
- Increased risk from contaminants through the re-suspension of sediment.
- Loss or smothering of fish spawning and nursery grounds, and shellfish due to changes in the hydrodynamic and sedimentary regimes;
- Smothering of fish spawning and nursery grounds, and shellfish due to deposition of the dredging plume during maintenance dredging.

The report identifies that underwater noise from piling and dredging, during construction, is a potential impact to fish receptors, but does not give further detail on impacts such as disturbance or physical injury. The effects of high levels of noise on fish can include biological, physiological and morphological impacts such as:

- Swim bladder rupture or tissue damage
- Behavioural responses (avoidance of areas affected by increased noise)
- Physical injury
- Auditory tissue damage (including temporary and permanent hearing loss)
- Physiological responses (stress, health and overall wellbeing)
- Mortality

The effects of underwater noise and vibration on fish caused by vibro piling and drilling are likely to be less than those caused by percussive/impact piling. The scoping report states that vibro piling and drilling will be used for the construction of the quay walls, but should piling methods change during the planning process and include percussive piling, then impacts of percussive piling on fish should be assessed appropriately. Further, species such as flatfish, salmonids and bass are considered to be less sensitive to noise and vibration compared to clupeids. For example, where piling activity may be less disturbing to flatfish, the same piling activity could cause disturbance to the migratory movements of salmonids. The

MMO also recommends further information is provided in the ES to identify the source-receptor pathways for these potential impacts.

Although not a consideration in the report, the potential impacts of underwater noise during the operational phase should also be considered in the ES due to increased vessel traffic in the area and what implications this will have for fish and shellfish species.

8.3 Fisheries

The rivers Conwy and Dee to the north of Anglesey are both designated bass nursery areas where a number of fishing regulations have been implemented to protect juvenile stocks. Seabass have been placed under special protection measures as scientific advice has clearly identified the need to drastically reduce catches of this species, following an increase in the fishing pressure and a reduction in reproduction. The ES should consider bass in the context of the current special measures in place i.e. are dredging and piling activities likely to disturb nursery grounds or juvenile fish.

The scoping report states that 3000 tonnes of fish were landed in Holyhead port in 2014, but later states that no demersal or pelagic fish was landed at the port in either 2014 or 2015. Again, this point requires clarification to be included in the ES. Further information on landings, including landing data for the past 10 years, should be provided up to the most recently available and included within the ES.

8.3.1 Shellfish

The survey and assessment methods to be used seem appropriate for the scale of the project. At this stage of the application it has only been highlighted what data will be used in the ES. We would expect the most recently available fisheries data to be used in the ES.

The scoping report states that consultation with NRW and local fishermen will be undertaken. The MMO encourage thorough consultation with fishers and recommend that knowledge gained through such consultations should be used to inform the ES, particularly for the <10m fleet which will be under-represented by VMS/sightings data (and possibly landings data).

Whelks (*Buccinum undatum*) are targeted using baited pots, with whelks being the most valuable capture fishery in the region. This should be included in the fish and shellfish section of the ES, with the other mentioned shellfish species.

There are also a number of shellfish species, which are of particular interest to fishermen in the area, including crabs, lobsters and mussels. Class B mussel beds are located approximately 2km south-east of the proposed scheme which should be referenced in the ES.

In terms of potential impacts to shellfish receptors during the construction phase of the proposed scheme, underwater noise from piling and dredging has been identified, which is appropriate. The report does not give further details on such potential impacts such as smothering, which should be addressed in the ES due to the nature of the proposed activities

Of the proposed dredging options for the outer third of the approach channel the MMO would expect that the WID would have the greatest potential to impact commercial shellfisheries (particularly mussel, cockle and oyster) in the region. This method re-suspends the material causing it to be transported away by currents, rather than remove the material, as such it is expected that this would result in a greater increase of suspended sediment concentrations and settlement of sediment than THSD. The ES should address the potential impacts of the proposed dredging methods.

9. Archaeology

Reclaiming land within the Old Harbour, adjacent to the South Pier and at Salt Island has the potential to directly impact on the settings of numerous historically significant buildings, structures and monuments. The following Grade II listed buildings are at risk of significant direct adverse impacts from the proposed development:

- 14757 Admiralty Pier (Including Sea Wall Between Salt Island Bridge and George IV Arch) Salt Island and
- 14742 South Pier, Turkey Shore Road, and their settings.

There is also the risk of significant adverse impact on the setting of the Grade II listed building 14758 Lighthouse on Admiralty Pier and Telford Graving Dock, as well as Holyhead Harbour which is not listed but is possibly a monument of national importance. The Admiralty Pier, has been identified as being of international significance as the most intact and architecturally and historically interesting parts of the early 19th century harbour, whilst the other monuments designated as listed buildings are thought to be of national significance.

The MMO recommend that the ES should fully consider the significance of, and potential impact on, the above mentioned historic assets, in addition to the historic environment.

The potential for impacts on as yet unidentified archaeological remains, in particular wrecks and archaeological deposits within the marine environment, is also high. Without further data such as results of marine geophysical survey, geoarchaeological assessment data and dive surveys, it is not possible to identify the nature, character, extent or significance of the potential archaeological resource likely to be affected in the three areas identified. As such, further nationally or internationally important sites may yet be identified as part of any future assessment within these areas.

The proposals have the potential to have a significant impact by directly or indirectly affecting remains of national or international significance and as such the nature of any impacts should be fully investigated within the ES. The MMO recommend that a detailed Written Scheme of Investigation is agreed with all relevant parties in advance of commissioning any such work.

It should be noted that the Welsh Government has recently issued a series of documents to assist in the management of historic assets including one on the "Setting of Historic Assets".

Chapter 19 of the scoping report briefly discusses the listed buildings and other designated assets potentially affected by the proposals. The report utilises data from Archwilio and Coflein to develop a baseline. Neither of these datasets are designed to be used for commercial or development management purposes. The statutory Historic Environment Record (HER) and the Royal Commission on Ancient and Historic Monuments of Wales (RCAHMW) should be contacted to obtain up to date and fully referenced data.

10. Landscape / Seascape

Given the proximity of the Anglesey Area of Outstanding Natural Beauty ("AONB"), conservation areas and Grade II listed buildings, it is recommended that a Landscape and Visual Impact Assessment is undertaken in order and included in the ES to understand the proposed scheme's potential impact on the area's visual setting.

During the construction and operational phases there is the potential for adverse impacts from noise in relation to residential properties, as well as additional lighting impacts. Lighting impacts pose a potential risk to bird and marine mammal populations. These potential impacts should be covered as part of the ES.

11. Tourism / Recreation

Due to the nature of the proposed development, it is not clear why tourism is scoped out of the ES. The MMO recommends that the ES includes measuring and assessing the potential impacts of the proposed developments on the tourism sector.

Careful consideration should be given to the impacts on the ferry and cruise activities due to the presence of construction related vessels and increased vessel activity during the operational phase around the port. Mitigation measures to tackle any negative impacts should be provided. In addition, details of any planned consultations with affected parties should be provided.

Visual impacts from a tourism perspective need to be identified fully. Negative effects of the construction phase should be taken into account. Noise disturbance is another matter which requires assessment (both in terms of visitors and local residents to the development). It is suggested that the visual and noise impacts on tourist and residential receptors are assessed within the ES and that mitigation measure are identified. In addition, details of the expected increase in passenger numbers during the operation stage is expected to be reflected within the assessment.

12. Navigation and Other Users of the Sea

12.1 Navigation

Consideration should be given to the impacts on the ferry and cruise activities due to the presence of construction related vessels and increased vessel activity during the operational phase around the port which should also include a Navigational Risk Assessment to be included in the ES. Mitigation measures to tackle any impacts should be provided. In addition, details of any planned consultations with affected parties should also be provided in the ES.

12.2 Noise and Vibration

Reference in the scoping report to new concrete quay walls being manufactured nearby does not indicate the location of impacts such as noise. Reference to the concrete batching does not indicate impacts from: vehicles, noise, vibration, dust, pollutants etc. The ES will need to consider each of these impacts and also include assessment of impacts to air quality.

12.3 Socio-Economics

An Economic Impact Assessment should be used to demonstrate any positive impacts from the proposal. Points for consideration for this assessment include:

- Direct and indirect benefits to local employment and business opportunities through the introduction of contract staff to the area and use of the local supply chain;
- Impact on the local economy and community services through increased local population from contractor migration;
- Impact on tourism and access to facilities through the presence of a large contractor workforce which has the potential to cause disruption.

Evidence is required to assess passing trade, local expenditure, and significant effect on facilities, commercial interests or tourist destinations during the operational phase. This would enable an informed view on the likelihood, and robustness of the predicted positive local outcomes generated by the proposed works. Details with regards to jobs (numbers; types; quality; breakdown (construction/ operational), and further information is required regarding supply chain opportunities. Details of the number of workers likely to require accommodation (including type and duration of stay) should be assessed, including the consideration of increased pressure on local accommodation and benefits to local providers due to increased income generation.

Commercial fishing opportunities should be maintained or enhanced on top of berthing for smaller vessels in the long term.

Details of the expected impact on transient visitors to and from the port as a result of the expected increase in road traffic should be provided. Consideration should also be given to the benefits of other means of travel (i.e. rail). As a result of expected increase in road traffic during both the construction and operational phases of the scheme, a community benefits agenda should be considered as part of the project to ensure local benefits are maximised.

13. Waste and Use of Resources

13.1 Dredge and/or Disposal

The MMO recommends undertaking pre-application sampling analysis to ensure the appropriate number of samples are taken and tests are carried out. NRW will review the samples and results to ensure the evidence is sufficient to inform the application. Volumes and depths should be confirmed for the final ES as this will inform the number of sediment samples required for chemical characterisation as evidence, and also the disposal sites that can be used.

From the volumes of material stated in the scoping report, it is noted that an additional 299,534m^3 of material is required to make up the 996,000m^3 required for land reclamation. Clarification is required on the source of the additional 299,534m^3 of material intended for infill as it is not advised to take the additional sediment out of the marine environment is not advised. An assessment is required on the potential impact to the sediment budget in the area and maintenance dredging will need to be considered to understand operational commitments. The MMO advises the ES includes assessments of plume effects, sediment dispersion, settling and fugitive behaviour from any dredging and construction activities.

The remaining capacity of the proposed disposal site should be identified and taken into consideration, particularly as disposal of maintenance dredge material will need to be considered.

A specific output to be included in the ES should be the integration of the plume and sediment transport modelling to predict future Maintenance dredge volumes and locations.

13.2 Water and Sediment Quality

Further information on the potential impacts of an extra 348,223m^3 of sediment to be deposited at Holyhead Deep is required. The following points require consideration in the ES
:

- The depth which the current channel levels dredged to;
- How often is maintenance dredging undertaken and what are the current volumes of material;
- How this will change moving forward, and;
- What the -9m bed level commitment based on, as set in section 2.1.2 of the scoping report.

The impacts of the disposal activities on marine receptors at the offshore disposal site should also be included in the ES.

13.3 Resource Use and Waste

The scoping report states that where possible, material will be used in the construction and where this is not possible Holyhead Deep (IS040) (now Holyhead North (IS043)) will be used. Under the Waste Framework Directive the ES should fully consider the potential for alternative use and or recycling of materials.

The additional storage required for fuel should be addressed during construction and operational phases, if capacity will increase during the operational phase. Visual impacts, hazardous substances, pollution impacts, health and safety and security should all form part of the consideration in the ES.

Whist consideration has been given to the inert waste arising from dredging; there is no consideration to other waste sources or quantities that may arise- from the development either during construction or during operation. The ES should demonstrate further consideration of the impact on permitted sites in North Wales as well as cumulative impacts of other projects in the area, namely waste arising from the proposed National Grid pylon route/tunnelling and Wylfa Newydd.

14. Habitats Regulation Assessment

The footprint of the proposed development overlaps with European designated sites (as described above) and will result in permanent habitat loss due to the intertidal and subtidal reclamation activities. Any loss or damage to habitat, considered as part of a project, within a European site that cannot be avoided or reduced, would need to be fully considered in a Habitats Regulations Assessment ("HRA"). Any potential impacts to these sites will need to be considered in a shadow HRA document that will support the relevant statutory authority in carrying out a formal HRA. Within this supporting information details of any proposed mitigation measures will need to be provided.

15. Cumulative Impacts

The disposal site Holyhead North (IS043) has historically been used for the maintenance disposal of dredged material from the Holyhead Port. This disposal site is also due to receive material as part of the Wylfa project as well as this port expansion. The ES should assess whether or not the combination of these projects will have an adverse impact on the marine environment.

The "Land and Lakes" development should be included in the assessment and there are also developments associated with the Horizon project nearer to the proposed development at Park Cybi that should be considered. Should other proposed major developments such as Wylfa Newydd, Orthios and the third Menai crossing be undertaken at the same time, this could result in a significant impact on local labour, supply chain, accommodation, tourism etc. The cumulative impact assessment should demonstrate whether there are any significant effects on other developments.

16. Additional Comments

16.1 Major Comments

In Section 2.4, page 11, it is stated that there are no plans to decommission the infrastructure, as it is planned to be used for port use in the future, and, therefore, further consideration of the decommissioning phase is not deemed as required. However, the various elements of the new infrastructure will have a limited time-life and therefore, decommissioning options should be anticipated and considered as

part of the EIA process for replacement of elements or termination of their functionality.

16.2 Minor Comments

References to volumes of material in the ES should be standardised and not alternate between cubic metres and tonnes, to prevent confusion.

In Sections 10.2.1 and 10.2.2 there are some minor typographical errors for spotted ray *Raja monatgui* (should be *Raja montagui*) and Raitt's sandeel *Ammodytesd marinus* (should be *Ammodytes marinus*).

Within the fish and shellfish section, it is stated that a mussel fishery is located 2km to the SE of Holyhead whilst in the commercial fisheries section it is stated that a mussel fishery is located 4.5km SE of Holyhead, with no mention of one 2km to the SE. This requires clarification to be included in the ES.

It is recommended that the EIA should detail the criteria for the evaluation of the best option of the scheme (i.e. "optioneering" process) as they are not clear in the Scoping Report.

In several figures, offshore of the dredged area there is a circle drawn and referred to as "Turning Circle". It probably refers to navigation operations, but there is no reference to it within the text of the report and this should be amended to improve understanding of the project design.

Detailed information regarding the construction works to be undertaken in the marine environment have not been given at this stage. The MMO would expect specific information to be included in the EIA regarding the number and size of the piles to be installed.

16.3 Terrestrial Ecology

It is recommended that the study area for potential impacts of the proposed scheme on the terrestrial environment be agreed in writing with the relevant statutory consultees.

17. Conclusion

The topics highlighted in this scoping opinion should be assessed during the EIA process and the outcome of these assessments should be documented in the ES in support of the marine licence application and the 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.

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