



Department for  
Energy Security  
& Net Zero

ES/2022/009

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Dear [REDACTED]

**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING  
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS  
2020**

**NOTICE UNDER REGULATION 12(1)**

Hynet Carbon Dioxide Transportation and Storage Project - Offshore

The Offshore Petroleum Regulator for Environment and Decommissioning (“OPRED”) acting on behalf of the Secretary of State for Energy Security and Net Zero (“the Secretary of State”) is currently considering the Environmental Statement (“ES”) in relation to the above project. Liverpool Bay CCS Limited is hereby required to provide further information in relation to the following:

**General Comments:**

1. OPRED notes that throughout the Environmental Statement (ES) there is information relating to Policy and Legislation that is inconsistent, inaccurate or incorrect particularly with regards to the Consenting Regime. The Environmental Statement should provide an overview of the relevant Legislation and Regulations that applications will be submitted. Please provide further clarity.
2. The ES should define the boundaries of the project so that it is clear what activities of the project are within Welsh and English waters. In addition, it has to be clear what activities are being undertaken within or adjacent to conservation sites.

Please note that the definition of the Project and what activities are covered by the project is inconsistent throughout the ES. Clarity must be provided on what are the activities associated with the project, including the environmental assessment of those activities.

3. The ES should illustrate with drawings, what activities will be undertaken and where. For example, the location of topsides removal and replacement, location of new and existing wells and location of pipelines and cables (either to be replaced, reused or new). Please also include in these illustrations/drawings the boundaries of all protected areas in relation to the activities above. Furthermore, please tabulate in relation to the detail above, approximate timings of when the work is scheduled to be undertaken.
4. The information presented in the Non-Technical Summary regarding the location and reuse of infrastructure in Welsh and English waters and the associated assessment of the environmental effects is not clear. Additionally, the interpretation of the National Policy Statements and how they have been used to undertake the assessment of the reuse of existing offshore oil and gas infrastructure for the HyNet project does not assist that assessment. Please provide further clarity on the activities linked to existing infrastructure and the location of those activities.
5. The ES provides detail on information related to the proposed cable laying between Point of Ayr and the proposed Douglas installation within Welsh waters. The environmental effects of the whole project have not been assessed and little information has been provided on the other activities such as cables and pipelines associated with the repurposing of existing infrastructure. In addition, the ES should provide details of the number of planned wells, assessment of the effects of drilling those wells including information on the type of rigs to be used, if any stabilisation material is required such as scour protection and anchor and chain placement. The intended scheduling and duration of the proposed activities is also unclear.
6. Throughout the ES the resolution of the Figures could be improved. They could also be used to provide further clarity on the location of activities. It is also noted that the Liverpool Bay SPA has been omitted from a number of figures within the ES which provide details on the Protected Sites and Species identified as being relevant to the proposed development.
7. Within the ES it is noted that study areas for the topic-specific assessments are highly variable. OPRED understands that the developer has included a wider study area to ensure that the correct receptors have been considered in relation to the activities. OPRED would recommend that area assessed is proportional to the project and fully assessed the associated activities.
8. It is noted that UXO clearance has not been assessed for benthic and intertidal receptors. The application should provide sufficient information to assess the size and depths of craters within the ES and clarify how you would limit impact on sensitive benthic receptors.

9. Please note that while diadromous fish are highly mobile, consideration should be made in relation to activities, particularly within coastal waters in sensitive seasons, which may disrupt diadromous fish movements between protected sites.
10. Please amend the assessment for Permanent Threshold Shifts (PTS) from piling and Unexploded Ordnance (UXOs) to ensure it is based on underwater noise modelling without Acoustic Deterrent Devices (ADDs).
11. Disturbance and displacement from airborne sound, and presence of vessels and infrastructure has been included as an impact pathway, but there is limited information on anticipated vessel movements presented on offshore ornithology. Given the pressures on Red Throated Diver and Common scoter, both of which are designated features of Liverpool Bay SPA, efforts should still be made as a matter of best practice to minimise and mitigate disturbance to the receptor species. Indication should be given as to where construction and maintenance vessels are likely to sail from as well as the likely increase in vessels activity within the Liverpool Bay SPA. As a minimum, routes through the Liverpool Bay SPA should follow best practice protocols (including adhering to existing routes wherever possible) to minimise disturbance to common scoter and red-throated diver. Consideration also needs to be given to when construction activity within Liverpool Bay SPA would be undertaken, it should be noted that whilst the overwintering period is from 1<sup>st</sup> November to 31<sup>st</sup> March inclusive there is also the potential for significant numbers of the designated species to be present at the site in the between October and April.
12. The Habitat Regulations Assessment (HRA) has not been carried out with reference to the specific conservation objectives of qualifying features of SPAs. In order to inform the conclusion of no Adverse Effect on Site Integrity for the Liverpool Bay SPA alone or in-combination the following amendments are requested:
  - A clear description of what works are happening, when the works are happening, and in what locations is needed.
  - The assessments of pressures should be based on the spatial and temporal presence of receptors. For example, if works associated with cables are only occurring during the breeding season, there is no need to carry out an assessment of cable works on non-breeding features.
  - Vessel transit movements need to be considered, at least to the point of a commitment to transiting via designated shipping lanes as much as possible to limit vessel disturbance.
  - To inform the HRA, impacts need to be assessed in relation to the conservation objectives of each site in question.
  - The red-throated diver qualifying feature of the Liverpool Bay SPA has an objective to restore the distribution of the feature and therefore the appropriate

mitigation measures must be put in place for vessel activity during the wintering periods.

- An assessment of disturbance by vessels should use a relevant buffer around each vessel. For red-throated diver this buffer should be 2km from each vessel (creating an impacted area of at least 13km<sup>2</sup> per vessel). For common scoter this buffer should be 2.5km from each vessel (creating an impacted area of at least 20km<sup>2</sup> per vessel). Therefore, activities occurring outside the Liverpool Bay SPA may exert a pressure on features of the Liverpool Bay SPA, and hence these activities should be included in a vessel disturbance assessment.
- For the purposes of the HRA, the seasons and reference populations used should be those relevant to the SPAs. The latest population estimates for the SPA should be used to assess the magnitude of impact. This is relevant where conservation objectives refer to population size. Where conservation objectives refer to the distribution of the feature, the area impacted should be quantified. The size of the SPA should be used to assess the magnitude of impact.
- A clear in-combination assessment needs to be carried out, considering the presence of operational wind farms and vessel activity related to a range of activities.

**13.** Throughout the ES the developer has deferred to the use of embedded mitigation measures adopted to reduce the potential for impacts. It is noted that many of these measures are high level or contained within an overarching document or plan and it is therefore unclear how the development of, and adherence to this serves to mitigate the potential effect and reduce the impact to an acceptable level. Please provide further detailed information on the assessments and the conclusions in order to understand if there are any impact of the proposed work on European protected sites and species.

**14.** There are inconsistencies in the proposed amount of submarine power cables that will be installed across chapters. As a result, there are concerns that the worst-case scenario may not have been assessed. Please confirm the number of submarine power cables that will be installed and that this number has been used for the worst-case assessment.

**15.** Further information is required to agree with cumulative assessment of impacts of suspended sediment concentrations (SSC), sediment deposition and changes to seabed morphology. It is recommended that further evidence is required to support the assessment to impacts from SSC and associated deposition on benthic habitats, the Dee Estuary Cockle Beds and prey species of Breeding Terns and Red-Throated Diver.

**16.** It is noted that the route of the proposed development goes through the limited foraging range of Little Terns associated with the Dee Estuary SPA. Timing of the proposed works to avoid impacts to Little Terns and their prey is therefore crucial. It is recommended that seasonal restrictions should be considered for offshore construction to avoid impacts to Red-Throated Diver and Common Scoter. Please clarify and amend as necessary.

17. Please assess the implications of routing the cable through or around West Hoyle sandbank on the major grey seal haul out site.
18. Please provide further evidence to determine the contaminant levels of the sediments in the region of the cable corridor along with further details of the proposed methodology for asset burial.
19. There is discrepancy in the application with reference to the proposed cable route which is described as passing through West Hoyle Bank and conversely described in figures as West Hoyle Spit, which are separate features. West Hoyle bank (as annotated on the admiralty charts) is to the East of the site of the proposed works straddling the SAC boundary and potentially outside of the Zone of Influence (Zoi). Please clarify this difference in the ES to avoid confusion.
20. General comments on ornithology relating to the development.
  - It is noted that the route of the proposed development appears to go through the very limited foraging range of Little Terns associated with the Dee Estuary SPA and the Gronant Dunes and Talacre Warren SSSI. Please clarify if the intent is to follow the recommendations of the Little Tern Foraging Distribution Technical Report that work in the nearshore waters could be carried out outside of the Little Tern breeding season (mid-April to mid-July).
  - Impacts on Little Terns as a result of effects on fish populations (e.g., due to high suspended sediment concentrations (SSC)) need to be considered. Further clarity is needed on the worst-case scenario for fish mortality, as well as clarity on the timings of the works. Work should be planned so that both SSCs are reduced, and prey availability is restored before breeding Terns arrive at the colony in April.
  - Impacts on Red-Throated Diver as a result of effects on fish populations (e.g. due to high SSCs) also need to be considered.
  - To avoid disturbance and displacement of Red Throated-Diver and Common Scoter, both of which are designated features of Liverpool Bay SPA a vessel traffic management plan is advised which should consider measures such as, but not limited to, restricting vessel movements to existing navigation routes.
  - To avoid disturbance and displacement of Red-Throated Diver and Common Scoter, seasonal restrictions on offshore construction activity within Liverpool Bay SPA within the winter period (1<sup>st</sup> November to 31<sup>st</sup> March inclusive), noting that there can also be large numbers of birds present in October and April should be considered.
  - Due to the potential for disturbance to both breeding and overwintering receptors, a clear timetable for the proposed works should be supplied.
21. Marine Mammals. Please address the following:

- The proposal to use a harbour porpoise density of 0.086 per km<sup>2</sup> is considered to be lower than the more up to date densities supplied from the latest edition of the Marine Mammal Atlas (Evans & Waggit, 2023), therefore either the most precautionary or the most scientifically robust values should be taken forward to the assessment. For harbour porpoise use of densities taken from the Marine Mammal Atlas (Evans & Waggit, 2023) is recommended given their greater robustness, and that the results within the ES are revised.
- There is insufficient justification and insufficient quantification of the effects of vessel noise and geophysical / seismic surveys to be able to agree with an overall magnitude of low.
- The adopted screening distance of 20 km for vessel noise, 13 km for geophysical and seismic surveys, and the Liverpool Bay area for vessel collision for the purposes of the cumulative assessment is not considered to be appropriate.
- There is inadequate justification for the conclusion that the effects on marine mammal receptors are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase or when considered in conjunction with other topics addressed in the ES.

**22.** The ES refers to differing methodologies for asset burial along the proposed route for the works in Welsh territorial waters. Please make this clear what burial techniques are intended to be used and at what specific points along the route the proposed techniques are planned to change. Please also provide details of the methodology change relative to an appropriate datum (such as MHWS) to aid understanding of the nature of the proposed works in the intertidal zone, the near-shore and offshore areas.

**23.** Throughout the ES the impacts are assessed as construction phase / operational and maintenance phase / decommissioning phase. It is unclear what each phase actually involves and what the impacts are at the different sites i.e. impacts to operations at Lennox may be different to impacts to the new Douglas installation. Please clarify and confirm that the impacts of the entire project have been assessed at all different phases and at each site.

**24.** Please include results of any environmental baseline surveys that have been carried out paying particular attention to identifying any existing areas of gas seepage, identification of mobile sediments due to gas disturbance, pockmarks or other indicators of previous and or ongoing bubbles at seabed.

**25.** Please include any other oil and gas activities within Liverpool Bay any potential CCUS activities into all relevant sections where cumulative impacts are assessed.

**26.** General Comments relating to Climate Change. Please address the following:

- Section 13 Volume 2 presents Greenhouse gas emissions (tCO<sub>2</sub>e) from associated construction, operation, and decommissioning, but does not include consumption data or the emission factors. The assessment methodology provides a high-level information source of data. Please provide more granular information in the emissions data.

- Pollutants have not been assessed. Volume 3 Air Quality Technical Report attempts to justify why no pollution data or AQ assessment is provided however, on the basis of this there is not considered to be sufficient information or evidence to substantiate that the impact during construction is negligible and data or an AQ assessment needs to be provided to substantiate the ambient air quality effect is not considered significant.
- In Section 13.11.2 the proposed development GHG impacts (tCO<sub>2</sub>e) are stated for the UK carbon Budget periods, but there is no information as to how the net emissions have been calculated at each stage? Please clarify. It is also noted that UK budget allocations are incorrect for 2028-2032 and 2033-2037.

**27.** Volume 2 Chapter 9. Please confirm if vessel activities associated with geological surveys have been included into this section.

**28.** Please provide further detailed information on the assessments and the conclusions to understand if there are any impact of the proposed work on European protected sites and species.

### **Non-Technical Summary Comments**

**29. Section 1.2.2 Table 1.1.**

Please include the OPRC regulation into Key Legislation into "drilling".

**30. Section 1.2.3.**

Please include OPEP to the list of consents required for drilling operations.

**31. Section 1.3.2.**

It is stated that existing topsides will be removed and new purposed built topsides with CO<sub>2</sub> injection capabilities will be installed. This is contradictory to other parts of the ES where it is stated that the existing topsides will be repurposed for the project. Please clarify:

- a) Will the existing topsides be repurposed?
  - ai) If so, will this be carried out on site, or will they be taken onshore to carry out the work?
  - aii) How long will each of the jackets sit without topside? (Lennox, Hamilton Main and Hamilton North)
- b) If new topsides are to be installed
  - bi) When will the existing topsides be removed from each installation?
  - bii) When will the new topside be installed for each installation (Lennox, Hamilton Main and Hamilton North)
- c) Will the Douglas CCS Platform be installed when the existing Douglas Process platform is still in situ

- ci) If so, for how long will all four platforms be in site (3 existing Douglas & 1 new)
- cii) If not, what is the planned commencement of removing existing topsides and when will the work start and complete for the new platform?

### **32. Section 1.3.3.**

Please clarify what the fate is for Hamilton East (in terms of partial decommissioning) as it is tied back to Hamilton Main and any other installations/structures tied back to Douglas oil and gas installation.

### **33. Section 1.3.5.**

Please provide further clarity on the following:

- Why is flow control not required for the offshore configuration during Stage 2 – Compression at PoA.
- Stage 3: Please clarify if there are any heating units to be installed at the Douglas NUI or satellite platforms?

### **34. Section 1.3.6.**

Please provide further clarity on how the Leak Detection and Repair (LDAR) program will minimise any fugitive emissions. It is not clear in the document who or what the CRA is or who sets the Monitoring, Measuring and Verification (MMV) program. Please clarify.

### **35. Section 1.5.3.3 - Table 1.4.**

In view of the dual significance descriptors in the table, it is recommended that the applicant provide further explanation on the criteria for how a decision is made when judging the significance of an effect.

### **36. Section 2.1.**

The effects of the project on the Liverpool Bay Special Protection Area should be assessed.

### **37. Section 2.1.**

More clarity is needed in terms of what new habitat is being introduced and what is the environmental effect of that habitat. New habitat was concluded to be of minor significance, but limited context provided throughout the ES to support that statement. Please provide further evidence in support of the conclusion reached.

### **38. Section 2.2.2.1.**

The lack of available information for the sensitivity of benthic species to sediment bound contaminants is noted. It is also noted that there is an inconsistency in approach in how to deal with a lack of available information between this



statement and the proposed acceptance of lack of evidence used to assess the impact of sediment disturbance. Please review and amend as appropriate.

**39. Section 2.2.2.3.**

Please provide a copy of the noise modelling and assessment.

**40. Section 2.3.1.**

It is stated that the displacement results were evaluated for different project phases, including the construction phase and the operations of the Douglas platform. It is not clear which phases were evaluated and if the Lennox, Hamilton Main and Hamilton North were considered? Please clarify.

**41. Section 2.3.1.**

Please clarify why a foraging range of 315km has been determined for assessing potential impacts to birds, and why only a southerly direction has been assessed. The ES should also detail the seasonal impacts to birds in relation to when the activities will be undertaken. Please provide further detail assessing the seasonal impacts to birds in relation to the time of year, the schedule of work being undertaken throughout the year, and the cumulative impacts to birds throughout the year.

**42. Section 2.3.2.**

It is noted that in some sections ten windfarm developments have been mentioned and yet these do not appear to have been included within the Assessment of Significance of Other Sea Users. Little consideration appears to have been given other users of the sea, including oil and gas activities. Please provide clarity.

**43. Section 2.4.2.**

This section assesses the significance of shipping and navigation. It is unclear if there has been an assessment of the cumulative effect of all the operations happening within a relative limited area i.e. the construction of the CCUS project and the Decommissioning of the oil and gas infrastructure. Both projects will require many vessels and there is no indication within the ES if these activities will be happening simultaneously or staggered. Please confirm if this assessment has been undertaken.

**44. Section 2.5.**

Fisheries data is available for the year 2022. Please review 2022 years data, to compare to the trends of previous years and to confirm if the updated data impacts the current assessment/conclusions.

**45. Section 2.8.1.**

This section states "Land within the Climate Change study area that is not currently occupied by OP foundations, pipelines and cables, consists of various subtidal habitats of mixed sediments (including coarse sediment, sandy mud, fine sand, muddy sand, and deep sand) supporting benthic communities". Please clarify this in terms of how it relates to climate change.

#### **46. Section 2.8.1.**

It is noted that there is limited reference to the North Sea Transition Deal Targets. Please reference specific offshore oil and gas commitments to reduce emissions through the North Sea Transition Deal and Energy White Paper. Please discuss the commitment to these targets.

#### **47. Section 2.10.2.**

It is incorrectly stated in the ES that any comment on the Storage Permit Application to the North Sea Transition Authority should be communicated to OPRED. Please note any representation related to the ES should be submitted to OPRED.

### **Comments on Volumes and Chapters**

#### **Volume 1 Chapters 1-5: Introductory Chapters**

##### **Volume 1 – Chapter 1: Introduction**

#### **48. Section 1.**

Please note the ES has been submitted to OPRED under the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020. It is essential that the ES clearly outlines the location of all the planned activities in Welsh and English waters.

#### **49. Section 1.3.**

Please note the ES has been submitted to OPRED under the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020. The submission should assess environmental effect of the activities associated with the project as outlined in the Storage Permit Application submitted to the NSTA.

#### **50. Section 1.3.3.**

It is noted that major accidents and disasters arising from a CO<sub>2</sub> release have been scoped out of the assessment. Please provide an assessment of the potential impacts arising from:

- a major CO<sub>2</sub> release
- loss of diesel inventory from a drilling rig.

### **51. Section 1.8 - Table 1.2.**

Please confirm if underwater noise modelling has been undertaken, and whether a vessel (noise) disturbance assessment been undertaken, and what the results and conclusions of both these assessments were.

## **Volume 1 – Chapter 2: Policy and Legislative Context**

### **52. Section 2.4.2.**

It is noted that there are a number of inconsistencies between the content of the Storage Licence application and the Environmental Statement. The following are of note and require further clarification:

- The Storage Permit Application outlines a 4-phased approach to the Project whilst the ES details Construction, Maintenance and Decommissioning Phases
- The Storage Permit application outlines potential for future work on infrastructure which has not been referred to within the ES
- The surveillance plan gives details on geophysical monitoring will be undertaken which have not been clearly outlined within the ES. For example, are these downhole, site surveys or regional? Have these been undertaken or are these planned as routine operations as part of the project.
- The Monitoring Plan reference a micro seismic network referred to in this section. No reference has been made to the potential requirements for deposits within the Environmental Statement.

### **53. Section 2.5.5.**

This section states that "Of the cetacean species occurring within UK waters, the following species are known to occur in Welsh waters". There are no details provided for English Waters. Please clarify and amend as necessary.

### **54. Section 2.5.5.**

Please clarify the last paragraph on page 24 as OPRED is aware that NE does not issue disturbance licences offshore.

### **55. Section 2.5.6.**

This section includes reference to a disturbance licence for basking sharks in Welsh waters. Please confirm if English Waters has been considered?

## **Volume 1 – Chapter 3: Proposed Development Description**

### **56. Section 3.1.**

Please clarify if there might be more injection into the store in the future?

**57. Section 3.2.**

There is detail for the existing OP's that are depleted, however OSI and Conwy are not included. Please clarify.

There is also information stating that for the existing NUI's (Hamilton North, Hamilton and Lennox), the existing topsides will remain, however other parts of the ES state that these platforms will have new topsides. Please clarify this discrepancy.

**58. Section 3.2.**

Please include detail all the existing and proposed offshore activities within Liverpool Bay area (including existing oil and gas infrastructure and potential future CCUS / gas storage projects).

**59. Section 3.2.**

Please include the Mostyn Energy Park extension project in the list of other projects and plans occurring within the proposed development location.

**60. Section 3.3.**

To understand the CO2 flow from the Point of Ayr to the proposed injection points please provide a provide process flow diagram. The location of UK ETS meters should be illustrated as appropriate.

**61. Section 3.3.5.1.**

Please confirm:

- If the co-ordinates provided are correct
- Table 3.1 please detail the NavAids and UPS into this table
- Table 3.2 will there be any emergency shelters on the satellite NUI's?
- Will the new topsides to the NUI's be smaller or larger than existing topsides?

**62. Section 3.3.5.3.**

Please clarify if the "flotel" that is to be stationed adjacent to the new Douglas NUI is considered as a support vessel, a jack-up vessel or stand-alone within the underwater noise impact assessment. If it has not been considered, then please include into the assessment.

**63. Section 3.3.6. & Section 4.1.**

It is noted that in the Storage Licence application describes the project in a series of phases which are not reflected in the Environmental Statement. The Storage Licence application also refers to future pig traps and pipelines that will be installed later, as part of Phase 2. Please clarify:

- whether these activities have been outlined within the Environmental Statement.
- any activities that are planned for future phases of the project which may be subject to a future submission.

#### **64. Section 3.3.6.**

Please clarify that the correct operators have been identified in Figure 3.8, and that the correct operators have been detailed throughout the ES. Please confirm that all grout bags to be used throughout the project will be biodegradable.

#### **65. Section 3.3.6.1.**

The existing 12" gas injection pipeline is numbered inconsistent to the existing OPEP. 1036A is export pipeline in OPEP and 1036 is the injection pipeline. Please double check and confirm.

#### **66. Section 3.3.6.1.**

Inconsistencies in the reported amount of external protection that will be used. Please clarify the following:

- Volume 1, Chapter 3, Section 3.3.6.1 (page 42). PL1030 may also require some external protection in the form of concrete mattresses over approximately 400 m of its length. However, Table 3.3 Design Envelope reports a different number (110 concrete mattresses of 6 x 3 x 0.3 m).

#### **67. Section 3.3.7.**

It is stated that "There is planned to be 35,000 m (35km) of Offshore power and FO cables (35 km each for two parallel Offshore power and FO cables) which would lead from PoA Terminal to Douglas OP. Is this correct? If there are two parallel cables, then this would be 70 km of cables. Will the installation of the new power cables result in any cable crossings. In addition, has any consideration been given to the possible need for pipeline protection for existing pipelines and how may this be factored in with any plans for pipeline decommissioning.

#### **68. Section 3.3.7.**

Please confirm if any grout bags will be required.

#### **69. Section 3.4.**

In the ES there appears to be minimal assessment of the of the Environmental Effects of drilling the wells that are outlined in this section. Please provide clarity.

#### **70. Section 3.4.4**

It is confirmed that there will be no physical changes made to the intra-field pipelines connections from Douglas OP to Hamilton North and Hamilton Main and Lennox OP. It has been noted that 595 m length of pipeline will need to be rerouted to the new Douglas CCS platform. Will any additional protection materials be required for the rerouted pipeline and existing pipelines and if yes please assess the environmental effects.

#### **71. Section 3.4.4.1.**

Please provide a schedule for the decommissioning and removal of the existing Douglas platform. Please also clarify when the topsides and jacket are planned to be removed along with the estimated duration.

#### **72. Section 3.4.4.1.**

It is stated that new sections of pipelines to connect existing pipeline to the new Douglas platform will be required, however, no indication of the start and end dates of this work is provided. Please clarify.

#### **73. Section 3.4.4.1.**

Please clarify why a project plan only been included for the Douglas platform (CCS) and not the complete project.

#### **74. Section 3.4.2.2.**

This section states that two injection wells are planned for Lennox, however it is unclear whether the eastern and western targets are part of the same reservoir. Please clarify.

#### **75. Section 3.5.1.**

There are inconsistencies in relation to the activities outlined in different sections of the ES. Activities outlined in early sections, such as Vertical Seismic Profiles (VSPs) and geological surveys, do not appear to have been fully considered in later sections of the ES. There is also inconsistency between the type of proposed activity and the use of terminology, and it is therefore unclear what sort of survey are planned and the associated frequency. The environmental effects of surveys to be undertaken as outline in the Monitoring Plan submitted to the NSTA should be assessed.

#### **76. Section 3.5.1.3.**

It is noted that the location for potential leaks has been investigated. Please clarify if it the intention to monitor these locations.

### **77. Section 4.3.**

This section states that "For the Proposed Development, the 'Do Nothing' alternative would mean that following the end of life of the natural gas reserves in the Liverpool Bay Area fields, the gas pipeline and existing infrastructure would be decommissioned. Decommissioning would mean removal of all above ground structure as originally intended and would result in a significant increase in the decommissioning scope compared with the Proposed Development." The HyNet development includes the installation of new infrastructure, including a new platform and subsea pipelines and cables, the removal and replacement of the topsides of existing offshore platforms as well as the requirement to maintain and monitor the Project. Please provide further clarity on how the overall work scope can be considered as beneficial to the environment.

### **78. Section 4.5.2.1.**

It is stated that there would be a limitation for people onboard during conversion of the existing Douglas oil and gas platform. Has a walk to work vessels been considered for reaching this conclusion?

## **Volume 1 – Chapter 5: Environmental Impact Assessment Legislation and Guidance**

### **79. Section 5.8.**

It is noted that the applicant has scoped out of the assessment several topics and is reliant on references to the Monitoring Plan or embedded mitigation, details of which are not provided within the ES. Furthermore, it is noted that often the justification for scoping out an impact is because any impact is considered "unlikely" without any references or evidence to support why it is considered "unlikely". Please clarify.

### **80. Section 5.8.**

Please provide the scientific evidence used to scoping out fish and shellfish receptors from underwater noise.

### **81. Section 5.8 - Table 5.3.**

It is stated that no permanent infrastructure is placed on the seafloor within the intertidal zone. Although this is correct, the cables and pipelines will be in place for many years and may need to be removed during decommissioning. Please acknowledge and amend as necessary.

### **82. Section 5.8 - Table 5.3.**

There has been evidence of free spans during the life span of existing oil and gas pipelines. What course of action will be taken if this happened during the CCUS phase, and could this potentially alter the seabed morphology? Please clarify and amend as necessary.

**83. Section 5.8 - Table 5.3.**

Please include OPEPs and SOPEPs which would be required for installations / ships to accidental pollution under fish and shellfish and under marine mammals.

**84. Section 5.8 - Table 5.3.**

Marine mammals. Please clarify what vehicles you will be using offshore.

**Volume 2 - Chapters 6 - 14**

**Volume 2 - Chapter 6: Physical Processes**

**85. Section 6.7.12 and Table 6.8.**

Please clarify why Shell flat and Lune Deep SAC has not been included. If relevant, please include or provide a justification as to why the sites have been omitted.

**86. Section 6.7.12. Table 6.8.**

The Liverpool Bay SPA has been omitted from the list of Designated Sites and Relevant Qualifying Interests for the Physical Processes Chapter. The activities within and adjacent to the site need to be assessed in line with the conservation objectives of the site.

**87. Section 6.9.**

Whilst a significant amount of the construction work is located within the coastal waters, tidal and subtidal zones, the applicant is reminded that there are also activities undertaken further offshore that require a detailed environmental assessment.

**88. Section 6.10 - Table 6.14.**

As part of the mitigation measures set out in Table 6.14 a "suitable implementation and monitoring of cable protection" has been proposed. Further information is required on the proposed cable protection monitoring and on the future monitoring of cable protection. Geophysical survey reports should review whether the seabed has recovered from cabling work and be designed and conducted to ensure that adequate data is collected for long term comparisons of the effect of change compared to baseline data. Please amend as necessary.

**89. Section 6.11.**

This section outlines drill cuttings however, this has only been assessed for release associated with two monitoring drilling events. Drill cuttings are also associated with the side-tracking of wells, of which there will be four and potentially also with the sentinel wells (which are recompletions). Drill cuttings associated with all wells



should be included within the assessment. Furthermore, the drill cuttings have only been assessed at Hamilton and Hamilton North. Any drill cuttings from Lennox and Douglas should also be discussed.

#### **90. Section 6.11.**

This section does not fully assess the impacts of all the activities covered by the ES and mainly focuses on cable laying. Please include impacts associated with the other activities covered by the ES e.g. pipelines (new and existing) and platform activities (removal and new facilities).

#### **91. Section 6.11.1.1**

Please confirm why drilling from Lennox and new Douglas platform has not been included.

#### **92. Section 6.11.1.**

Further evidence is required to support the conclusion that potential impacts of SSC plumes and associated sediment deposition due to sand wave clearance and cable installation activities associated with the construction phase are of minor adverse significance. Maximum SSC and maximum sedimentation values should be used in assessing the worst-case scenario, but average values are reported (page 49) which underestimates the maximum concentrations and deposition values. This could underestimate the magnitude of the secondary impacts of SSC plumes and associated deposition of suspended sediments. The use of maximum values for SSC and sediment deposition should also be used in the assessment of operation and maintenance and decommissioning phases.

#### **93. Section 6.11.1.**

Clarification on whether the worst-case scenario has been modelled to assess the potential impacts of increased suspended sediment concentrations (SSC) due to cable installation activities between Point of Ayr Terminal and Douglas offshore platform. This section reports 'one cable represents the maximum installation scenario', while Table 6.9, page 39 reports 'two cable lengths.

#### **94. Section 6.11.2.**

Within the cable burial risk assessment, please assess the impact of cable protection installed at cable crossings and provide an assessment that supports the statement that the seabed will accommodate cable burial to the required depth.

#### **95. Section 6.11.2.**

The ES indicates the removal of West Hoyle bank could have significant implications to coastal flood risk and nearshore sediment transport pathways, therefore, an assessment of recoverability in terms of form and function of the sandbank from sand wave clearance (147,000m<sup>3</sup> over two weeks) is required. It

is also noted that a timeframe differentiating between days, weeks or months of expected recoverability is not presented. Due to the magnitude of the sand wave clearance and proposed dredging works, compared to the size of the sandbank, a quantitative assessment of recovery is recommended.

It is recognised that the dynamic nature of sediment transport and morphological features is widely accepted within the scientific community, however, a baseline understanding of the magnitude or variability of the role West Hoyle Bank plays in controlling sediment exchange with the coastline is not provided. It is advised that this section requires more detailed evidence such as sand wave migration rates to establish a baseline understanding of the physical processes controlling this feature before the potential impacts of the proposed works are considered.

**96. Section 6.11.2.2.**

It is noted that additional cable protection measures have not been assessed as part of the operation and maintenance (O&M) phase. However, there is information regarding another development in the area (the East-West Interconnector), where cables have become exposed and required cable protection twice in 3 years. One of the Kilometre Points (KP) that has become exposed is near this development's proposed cable route. This information should be considered when informing any decision not to include the requirement for cable protection during the O&M phase. Please amend as required.

**97. Section 6.11.2.2.**

Further clarity is requested on the commitment and ability for cable protection height to affect no greater reduction in water depth than 5% where cable crossings are required in 5.8m water depth, equating to protrusion of no more than 0.29m.

**98. Section 6.11.2.2.**

The commitment to conduct a detailed Cable Burial Risk Assessment and Burial Assessment Study, which will be included within the Cable Specification and Installation Plan (CSIP) prior to cable laying is noted, and that 'where practical' no more than 5% reduction in water depth (referenced to Chart Datum) will occur at any point along the cable corridor without prior written approval from the Licensing Authority in consultation with the Maritime Coastguard Agency (MCA). It is not clear whether this commitment means that the height of the cable protection above the seabed will be altered in relation to the given water depth at that point along the export cable corridor. Further clarification on the course of action in the event the commitment to 'no greater reduction in water depth than 5%' is not practical is requested.

**99. Section 6.12 - Table 6.15.**

The following projects have not been included in the list of other projects, plans and activities considered within the CEA: Area 457 aggregate extraction renewal licence (EIA/2023/00003) and Mersey Tidal Power Project (due to submit EIA

scoping report in Q3 2024). These projects should be included in the CEA section.

**100. Section 6.12.1. - Table 6.16.**

The importance of clearly outlining where the scope of work is located, other infrastructure and other users of the sea and European Sites and species to fully understand the cumulative effects is emphasised. Noting the information that has been presented with the Maximum Design Scenario for the Assessment of Cumulative throughout the ES. It is unclear if all the activities associated with infrastructure and geological surveys has not been included within the assessment. Please clarify.

**101. Section 6.13.**

Average values of modelled SSC and sediment deposition values are not considered to represent the worst-case scenario required to appropriately assess secondary impacts to other receptors such as Benthic, Fish and Ornithology. Maximum values of SSC and sediment deposition values are required to determine the significance of secondary impacts of elevated SSC and sediment deposition values arising from the proposed seabed preparation and cable installation works, before cumulative impacts can be considered appropriately. The assessment should clearly state how maximum values of SSC and sediment deposition vary with time and distance because of works included in the construction phase.

**102. Section 6.13.1.**

It is noted that the structure and content of the ES is heavily weighted towards assessing the installation of the new Douglas Platform and cable from Point of Ayr to this platform. The maximum design scenario has not included assessment of all the appropriate activities of the Project and the appropriate Conservation Sites, most notably the Liverpool Bay SPA We therefore consider that further clarification and assessments are required to support the conclusions stated.

**103. Section 6.13.1.1.**

The potential cumulative impacts of drilling and sand wave clearance within Awely Môr array area and the activities of the proposed works are assessed. Please clarify whether the value of 50mg/l represents the worst-case scenario. A value representative of a spring flood tide is used to assess the worst-case scenario is also recommended.

**104. Section 6.13.1.1.**

An assessment of the maximum SSC values in overlap between the Port of Mostyn Energy Park and the development has been provided (up to 100 mg/l for both plumes combined). However, no assessment has been provided of the combined value of sedimentation due to the proposed works and the Port of

Mostyn Energy Park. This value should be provided to support the assessment conclusion that the effect will be negligible.

## **Volume 2 - Chapter 7: Marine Biodiversity**

### **105. Section 7.3.**

The information provided regarding Marine Biodiversity receptors needs to be location specific. The location of the activities should clarify if these are located in English or Welsh waters.

### **106. Section 7.8.**

- please include what mitigation is required to reduce impacts from cable trenching to the Annex I Mudflat and Sandflats feature of the Dee Estuary SAC.
- please assess any potential impacts to the benthic habitats from increased SSCs and associated deposition.
- please assess and confirm if the proposed protection measures for cable crossings in shallow waters would lead to secondary physical impacts such as scour, indirectly impacting benthic habitats.
- please assess any potential impacts to intertidal habitats from the introduction of invasive non-native species.

### **107. Section 7.8.1.8 - Table 7.10.**

Reference to Habitat of Principle Importance (HPI) should be changed to Section 7 habitats listed under the Environment (Wales) Act 2016, as this is the correct legislation in Wales.

### **108. Section 7.8.2.**

Please provide further information on the potentially large spatial and temporal cumulative population scale effect of direct disturbance to fish habitats in combination with indirect effects through underwater noise. Please amend as necessary.

### **109. Section 7.8.2.**

Please provide further evidence to support the assessment SSC figures provided, given as the average amounts over the course of the sand wave clearance. The assessment for fish should provide a full overview of SSC movement to include maximum values, spatial and temporal movements and provide a conclusion based on that.

### **110. Section 7.8.3.5 & Table 7.17.**

Please provide clarity if dual densities will be used for bottlenosed dolphins and provide biologically relevant justification.

**111. Section 7.8.3.5 & Table 7.17.**

The Marine Mammal Densities should be updated to consider of more recent data in the Marine Mammal Atlas (Evans & Waggit, 2023).

**112. Section 7.9.1 - Table 7.21.**

The sand wave clearance parameters in Table 7.21 do not include the total area of the seabed which will be disturbed by sand wave clearance activities. Please include the figures for total area of seabed disturbed by sand wave clearance (m<sup>2</sup>). Please also include within this table, the impacts from drilling of the wells.

**113. Section 7.9.1 - Table 7.21.**

Please provide further information on cable crossings (i.e. specific locations, total area of impact, overlap with Marine Protected Areas (MPAs) etc) and methodology in line with best practice guidance). The potential interruption of sediment transport and resulting morphological change due to the presence of cable crossings near sensitive receptors and pathways should also be considered.

**114. Section 7.9.1 - Table 7.21.**

It is noted that there is the potential for some infrastructure and rock placement to be left in situ. Please clarify the amount and locations of rock placement to be left in situ so that an assessment of the worst-case scenario of the potential impacts is possible. Furthermore, should any hard infrastructure (including rock placement) be left in situ within an MPA during the decommissioning phase this has the potential to undermine the conservation objectives of the site. If any MPAs, sensitive features, or sensitive areas of seabed are likely to be impacted by cable crossings, then the extent of the impact and location should be clearly stated.

A commitment to remove cable protection (i.e. rock armour/hard infrastructure) from any MPA as part of the decommissioning plan is recommended. Existing methodologies are available which could enable the recovery of external cable protection are available and should be considered.

**115. Section 7.9.1 – Table 7.23.**

Please provide details of which of the wells a VSP survey is likely to be required. Furthermore, please provide further information on approximately how many routine geophysical and seismic surveys will be required and the location of these surveys.

**116. Section 7.9.2.**

It is noted that accidental pollution during construction, operation and maintenance and decommissioning phases has been scoped out of the assessment, however, comments made on the scoping ES recommended that the risk of accidental event occurring during these phases was scoped into the assessment. The mitigation outlined within the justification should be expanded to provide the necessary information.

**117. Section 7.9.2 - Table 7.24.**

Impacts to benthic invertebrates due to EMF should not be scope out and should be included within the assessment and placed in the worst-case scenarios as a conservative approach.

**118. Section 7.10.2 Table 7.30.**

Please provide the expected timeframe for recovery from an effect.

**119. Section 7.11 – Table 7.32.**

It is unclear how the development of, and adherence to, a Decommissioning Plan will reduce the amount of long-term disturbance to the environment. Please provide clarity.

**120. Section 7.11 - Table 7.32.**

Please include bubble curtains in the list of possible mitigation measures as well as other piling methods and timing of piling.

**121. Section 7.11 - Table 7.32 & Volume 3 Table 1.47**

Soft start charges should not be used during UXO clearance, and this should be removed from the ES.

**122. Section 7.12. & 7.12.13.2.**

Please clarify that the cut-off of 10 km is an assumption that has been made for the purpose of the application, as current scientific consensus is that while there is a decrease in impulsiveness as sounds travel further away from the source, there is still insufficient evidence to establish a range of distances beyond which these sounds are no longer impulsive.

**123. Section 7.12.1.1.**

Please provide detail regarding what the site preparation activities will be, their location, and schedule. Please also include detail regarding the assessment of drilling of the wells. Further detail is required regarding the drilling of wells at Hamilton and Lennox. It is noted that the developer has used monitoring studies for the Barrow Offshore Windfarm and the depressions associated with the windfarm installation. This needs to be put into context with the footprint associated with drilling rigs for a reasonable assessment to be made. Lennox and

Hamilton NUIs both lie within the Liverpool Bay SPA. Please include this area within the overall assessment.

**124. Section 7.12.1.**

The potential area of Annex I Mudflat and sandflats not covered by seawater at low tide feature impacted from the use of a cable trenching machine is larger than that of the plough due to the area of sediment potentially compacted under the tracks of the machine as highlighted above. Whilst this impact will be temporary, the difference in the potential area impacted using cable trenching technique is greater. Please consider the use of a cable trenching machine and suitable mitigation methods, such as matting and reduction in tyre pressure, to reduce compaction of the sediment and reduce the potential area of impact to the Annex I mudflat and sandflat feature of the Dee Estuary SAC.

**125. Section 7.12.1.**

Please provide further evidence to support the conclusion that impacts to the Annex I Mudflat and Sandflat feature from trenching in West Hyle Bank will be minor and that the habitat will recover in the short-medium term.

**126. Section 7.12.1.**

Within the justification provided it is stated that there are no site-specific sediment chemistry values for the intertidal zone and, therefore, an assessment of the Mudflats and sandflats IEF is not possible for this impact. It is noted that cable trenching will be carried out over an Annex I feature of a designated site, which will result in the mobilisation of significant amounts of sediment. The potential impacts to intertidal habitats from release of sediment bound contaminants should therefore be scoped into the assessment.

**127. Section 7.12.1.1.**

The assessment has identified a temporary habitat loss of 0.017% of Annex 1 mudflats within Dee Estuary SAC by means of cable installation. Please provide the total area of impact as well as the percentage.

**128. Section 7.12.2.**

Please provide further evidence to support the assessment to the impacts from increases in suspended sediment concentration and associated deposition (siltation and turbidity effects) on the Dee Estuary Cockle beds.

**129. Section 7.12.2.**

Please clarify what the sedimentation levels are predicted to be over the cockle beds, as it is unclear from the figures provided in the Physical Processes Technical Report. It would also be useful to understand how quickly this sediment is expected to re-suspend.

### **130. Section 7.12.2.**

The potential impacts from increased SSCs and associated deposition have not been assessed for the 'operations and maintenance phase', despite up to 37,500m<sup>2</sup> of cable which is expected to be reburied within the lifetime of the project (500m of cable every 5 to 10 years). These activities are deemed to have the potential to impact benthic habitats and should therefore be appropriately assessed in the ES.

### **131. Section 7.12.3.**

It is unclear at present where the proposed cable crossings are located and whether any of these are in shallow waters that could result in secondary physical impacts such as scouring. Please indicate where the cable crossing will be in relation to water depth.

### **132. Section 7.12.5.**

Further details of the outputs of the temperature modelling conducted should be presented to support the assessment conclusions. It is recommended that the magnitude of impact should be considered as low and not negligible.

### **133. Section 7.12.6.1.**

Potential impacts to intertidal IEFs from the introduction of invasive non-native species should be assessed within the ES due to the significant movement of machinery (e.g. cable trencher, boats, barges) required for the cable laying installation during construction.

### **134. Section 7.12.6.1.**

It is noted under Table 7.37, sensitivity of the benthic suboral and intertidal ecology IEF have not been assessed for this potential impact pathway due to "insufficient evidence". The *Opheothrix fragilis* and/or *Opheothrix nigra* brittlestar beds on sublittoral mixed sediment IEF has a medium sensitivity to the introduction or spread of invasive non-native species (INNS) according to MarESA. It is advised that this table is revised and MarESA is used to assign the relevant sensitivities to this pressure to the different IEFs (including to intertidal IEFs).

### **135. Section 7.12.7.**

It is stated that "The four biotopes and were not assessed for any of the defined MarESA pressures for this impact, as shown in table 7.38, however evidence has been provided where available." It is unclear what this means. Please clarify this statement.

### **136. Section 7.12.8.**



Within the ES there are numerous references to quantitative values (e.g. the maximum design scenario accounts for 1.92 km<sup>2</sup>), however, it is not always clear how these quantitative values have been calculated or what part of the project they are relevant too. Further clarity needs to be provided on the effects of the scope of work that is scheduled to be undertaken as part of the project (e.g. Douglas installation, drilling work - including the impacts of rigs and any associated deposits, pipeline work, topsides removal and replacement). Please provide further information on the area of impact of activities outlined within the ES, including assessment of activities within and adjacent to conservations sites.

**137. Section 7.12.11.**

It is advised that there is not sufficient evidence that fish flee away from noise sources in a consistent and directional way therefore soft-start mitigation measure is not effective and should be removed from the list of viable mitigation for protected fish species.

**138. Section 7.12.11.**

The unique trait of lamprey parasitism is not considered during the sensitivity discussion. Lamprey reliance on prey availability in the marine environment results in a heightened sensitivity to noise. Should prey vacate the area due to underwater noise then this constitutes a predictable, negative impact to lamprey. Please amend the sensitivity of lamprey.

**139. Section 7.12.11.**

Please include a map showing where subtidal habitat loss overlaps with suitable sand eel habitat.

**140. Section 7.12.11.**

Please review the statement 'overall the proposed development was largely unsuitable and subprime' for sand eel. When calculating the areas that are suitable within the two development areas, the areas that were suitable for sand eel in the CCS area was 65% and 52% in the decommissioning area.

**141. Section 7.12.11.**

Please review the figures used for cod spawning and nursery areas and associated impacts on the species using Campanella and Van der Kooij report together with the timing of planned piling and other noisy activities.

**142. Section 7.12.11.**

Please quantify the overlap of noise contours with juvenile herring locations.

**143. Section 7.12.11.1.**

Whilst diadromous fish are highly mobile, consideration should be made regarding construction, operation, and maintenance phases of the works, particularly within coastal waters in sensitive seasons, which may disrupt diadromous fish movements between protected sites. Where known migratory routes are available, these should be used to produce a map overlaying the development site. Should such information not be available, you should consider seasonal timing or restrictions of works to mitigate for potential impacts on diadromous fish species with the aim of avoiding key migratory periods, particularly for diadromous fish from designated sites.

**144. Section 7.12.11.1.**

Please amend the underwater sound modelling as it should solely be based on stationary receptors rather than fleeing receptor for fish.

**145. Section 7.12.12.**

The section outlines the numerical modelling that has been undertaken to quantify the changes in physical processes, predominantly suspended sediment concentrations, due to seabed preparation activities, the drilling of new monitoring wells and laying of cables. There does not appear to have been consideration of other types of wells which will generate drill cuttings and seabed preparation for incoming drilling rig, anchor patterns and pipeline work.

**146. Section 7.12.13.**

Please ensure that the ES assesses the impacts from the complete project i.e. activities in both English and Welsh waters and that the most appropriate disturbance criteria has been used when assessing impacts.

**147. Section 7.12.14.1.**

Please provide the maximum number of pin piles that may be installed within a 24-hour period.

**148. Section 7.12.14.1.**

The assigned magnitude of impact of low is not considered to be appropriate for PTS, as it is irreversible injury. Please revise the assigned magnitude score for auditory injury. This should also be applied to the cumulative assessment stage.

**149. Section 7.12.14.1 - Table 7.57.**

For completeness, please include the values where Not Exceeded (N/E) have been entered into the tables.

**150. Section 7.12.14.1 & Table 7.32 & Volume 3 Section 1.8.2.1**

The ADD duration for the UXO clearance should be revised as 30 minutes is not considered sufficient for a maximum injury range of 16km. A likely range of UXO

sizes should be presented, and clearance methods each with their specific injury range. The ADD duration should be calculated based on the time it would take an animal to flee that injury range using standard speed. It should further consider the use of bubble curtain. The underwater noise modelling should not include the ADD as it should be based on a true worst-case scenario.

**151. Section 7.12.15.**

Please include consideration of how the implications from UXO detonation may vary with water depth when considering potential physical disturbance to the seabed or chemical release from the UXO.

**152. Section 7.12.15.**

Please amend the chapter to ensure that low order clearance of UXO should be prioritised in line with the following position statement

<https://www.gov.uk/government/publications/marine-environment-unexploded-ordnance-clearance-joint-interim-position-statement>.

**153. Section 7.12.15.1.**

The magnitude of TTS resulting from a high order detonation (UXO clearance) has been concluded as negligible for all IEFs. This score is considered to be too low. A more precautionary approach is advised for this impact pathway. Please revised the magnitude scores for UXO injury. This should also be applied to the cumulative assessment stage.

**154. Section 7.12.16.2.**

Please include any 2D/3D seismic surveys that may be required as part of the Monitoring Plan.

**155. Section 7.12.17.1.**

Please strengthen the conclusion of the overall magnitude of the project alone during the construction phase by showing and using available evidence how vessels slowdowns outlined in the mitigation plan may reduce disturbance for animals. Please amend as necessary.

**156. Section 7.12.18.**

Please clarify the assessment of medium sensitivity for both marine mammals and turtles as avoidance behaviour should not be considered for sensitivity. It is our opinion that this should be classed as High. Please clarify.

**157. Section 7.13 - Tables 7.80 and 7.81.**

No current or planned offshore oil and gas, gas storage or related activities such as geological surveys have been considered within the Cumulative Effects Assessment. Please clarify.

Please clarify whether decommissioning activities relating to the current OPs (Hamilton, Lennox and Douglas, Conwy, OSI) which are likely to overlap with the CCUS development have been scoped into the CEA as these should be scoped into the assessment.

**158. Section 7.13 & 7.13.15 & Table 7.94.**

It is thought unrealistic to assess injury and disturbance from geophysical and seismic site investigation use by “presenting a sum of the impact ranges of all vessels”. No alternative method has been proposed as an alternative to quantify the impact. Please assess this impact pathway adequately and given the extent of the cumulative increase in the number of vessel trips within the relevant management units over the lifetime of the project either justify a cumulative magnitude of low or update this assessment.

**159. Section 7.13.1.**

Cumulative Effects Assessment. Several European Sites (including the Liverpool Bay SPA) appears to have been omitted from the assessment area as outlined in Figure 7.12. Please clarify and amend as necessary.

**160. Section 7.13.1.**

Cumulative Effects Assessment. In this section it is noted that no consideration has been made of any current or potential oil and gas activity or decommissioning work that may be ongoing during the HyNet project timeline. Please Clarify.

**161. Section 7.13.3.1.**

Tier 1 projects have not been scoped into the cumulative impact assessment for temporary habitat loss and/or disturbance impact in the intertidal zone due to their distance from landfall. However, projects such as the Port of Mostyn Marine Energy Park Expansion are considered to have the potential to impact intertidal features of the Dee Estuary SAC and should be scoped into the cumulative impact assessment.

**162. Section 7.13.5.1.**

It is unclear whether potential cumulative impacts from the Port of Mostyn Marine Energy Park expansion have been considered in this assessment. Please clarify.

**163. Section 7.13.13.**

Underwater noise in-combination assessments rely on factors such as ‘fleeing’ and ‘soft start’ to mitigate impacts on fish receptors. There is little evidence that fish react to noise in a directional, avoidant, constant speed. It is advised to use static calculations for fish receptors. Please amend as necessary.

**164. Section 7.13.13.2.**

It is noted that section outlines the potential for clearance of up to 13 UXOs as part of the EnB and BP application for the Morgan OWF. This should be scoped into any cumulative and potential noise assessment alongside the UXO clearance that may be required for the HyNet Project.

**165. Section 7.13.16.**

Please review the information provided within the tables to ensure accuracy as there appears to be inconsistent information between different species and the percentage of the reference population for the Celtic and Greater North Sea and Irish Sea MU.

**166. Section 7.13.16.**

Please confirm if there will be any requirement to carry out reservoir surveys during the lifecycle of the project. If so, please include these surveys within the noise assessments.

**167. Section 7.13.16.**

It is noted that details of modelling that has been used to compare non-impulsive Marine Vibrioses (MV) and impulsive seismic sources (air guns). Unless there are plans to use the MV within the area, can it be clarified how this information is relevant within the assessment?

**168. Section 7.14.**

Given the approach taken to determine harbour porpoise baseline densities (given the snapshot nature of SCANS III and IV), it is recommended that the number of animals disturbed should be revised. Please amend as necessary.

**169. Section 7.15.**

Please note that there is inadequate justification for the conclusion that the effects on marine mammal receptors are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase or when considered in conjunction with other topics. This should be strengthened, and the criteria / method used to arrive at this conclusion should be provided. Please amend as necessary.

**170. Section 7.16 - Table 7.107.**

The significance of the effect sections needs to be revised (where relevant) upon the consideration of impact ranges without 30min ADD as the basis for the magnitude scores. Following the appropriate amendments to the assigned magnitude scores, revise the significance of the effects sections. This should also be applied to the cumulative assessment stage.

## **Volume 2 - Chapter 8: Offshore Ornithology**

### **171. Section 8.4.6.**

Please confirm that the latest versions of the "National Policy Statements" have been used.

### **172. Section 8.5.**

Please confirm which platforms have nesting birds present on and in what numbers. Please also include detail of the nesting bird strategy.

### **173. Section 8.7.**

Please clarify where density figures used for offshore ornithology baseline were derived from.

### **174. Section 8.7.2 – Table 8.6.**

There are several reports that have not been used for the Summary of Key Desktop Reports. It is recommended that the following be included in the assessment:

- The Round 4 Offshore Wind Projects
- Mona, Morgan and Morecambe Generation Assets, and the Joint SNCB Interim Advice on the Treatment of Displacement for Red-Throated Diver (JNCC, 2022).

### **175. Section 8.7.2.**

Please clarify the first bullet point "the Area of Project Physical Work plus a 2 km buffer which overlaps with Liverpool Bay SPA and the Area of Project Physical Work plus a 4 km buffer which overlaps with the Liverpool Bay SPA".

### **176. Section 8.7.2.**

Please clarify the third bullet point - is this a 2km buffer from the new Douglas platform or the existing oil and gas Douglas complex?

### **177. Section 8.7.2.**

Please update to ensure the new NUI topsides are included within the assessment.

### **178. Section 8.7.2.**

Inconsistencies have been noted in the how the displacement assessment has been carried out and it is therefore not clear what area is being considered when calculating the number of birds displaced and number of mortalities. There are

also concerns that whilst a displacement assessment has been carried out for the installation of new power cables, construction of the new Douglas platform and associated construction activities and on the operation and maintenance of the new Douglas Platform, any displacement that may occur because of work to be carried out on the existing offshore platforms has been omitted. The assessment has not been carried out with reference to the specific conservation objectives of qualifying features. Further information, clarification and assessments are required to agree with the conclusion of the impact of the proposed work on European Sites and Species. Please review and amend as necessary.

**179. Section 8.7.3 - Table 8.7.**

Distance is provided in this table for the nearest point of Eni Development area. Please confirm the distance from each installation (Lennox, Hamilton, Hamilton North, new Douglas), and if the new cables run through any of these sites.

**180. Section 8.7.3.2.**

This section states that species density estimates were generated from supplementary material from Waggitt et al. (2020), Bradbury et al. (2014) and Lawson et al. (2016). These studies used visual aerial survey techniques, which are no longer considered best practice. It is recommended that the approach to take is using the HiDef (2023) study to produce densities for receptor species within the Liverpool Bay SPA, as far as the survey area covered, and data from the other studies is used to cover areas that the HiDef survey did not extend to. Please amend this section.

**181. Section 8.7.3.2.**

This section includes species accounts - please include density distribution maps where it is made clear where the relevant infrastructure is located. Furthermore, please include seabird sensitivity maps for each month showing where the different parts of the project are located.

**182. Section 8.7.4.**

Details on displacement during the construction phase and from operations at the Douglas platform are included. There is no consideration given to the replacement of the topsides of Lennox, Hamilton and Hamilton North, the drilling of wells at these locations (MODU would be required to perform these tasks), and any maintenance requirements e.g. if the ISP would come alongside to carry out maintenance as is current practice for the oil and gas NUI's. The reduced surface infrastructure of Douglas will provide less area to nest on (3 platforms moving to 1 platform). Please clarify and amend as necessary. Furthermore, in Section 1.1.2. of the Offshore Ornithology Displacement Technical Report, it is stated "As the Hamilton Main, Hamilton North and Lennox platforms are already in place and do not need to be reconstructed, it is likely that birds have already become accustomed to their presence and any past effects of displacement has likely been accounted for in the baseline assessment. A displacement assessment is

therefore not required." Please clarify why this principle does not apply to the new Douglas platform immediately adjacent to the existing one?

**183. Section 8.7.4 - Table 8.9.**

Please amend the table to take into consideration work undertaken in protected areas.

**184. Section 8.7.4.1.**

Please clarify that the statement "During the operations and maintenance phase, the presence of the new Douglas platform has the potential to directly disturb seabirds leading to displacement from the Proposed Development area including an area of variable size or buffer around it where the birds would usually reside. Additionally, activities associated with the operations and maintenance of the platform may disturb and displace species within the Proposed Development area" may apply to the NUI's.

**185. Section 8.7.4.2.**

It is stated that "Both common scoter and red-throated diver are near the 1% threshold however the effects are predicted to be very temporary in nature only lasting one season. Therefore, no cumulative mortality will be caused year on year." This is not consistent with previous statements in Section 3.4.2.5 which suggest that more than one season will be affected by works. Please clarify and amend as necessary.

**186. Section 8.7.4.2.**

Please clarify why 0.5 - 1% mortality rate is appropriate for the construction phase?

**187. Section 8.7.4.2 - Table 8.10.**

Please clarify where these figures come from and how they have been calculated. E.g. it is suggested that there could be 330.8 % Common scoters killed during the non-breeding season.

**188. Sections 8.7.6. & 8.8.1.**

Reduced prey abundance for breeding Little Tern has been shown to correspond with declines in Little Tern foraging success and lead to colony-level effects, such as high levels of egg abandonment and lack of chick hatching (e.g. Perrow et al 2011). For the proposed development, Volume 2, Chapter 8, Section 8.8.1 states that Little Tern prey availability may be affected by underwater noise and sediment loads (i.e. suspended sediment concentrations). Section 8.7.6.3 states that sediment loads are likely to surpass 1000mg/l level in the nearshore waters and that these levels could cause injury or mortality to adult fish, and that lower levels may cause mortality to juvenile and young fish. However, this does not give expected suspended sediment concentrations in the nearshore waters within



the Little Tern breeding season, or effects on fish populations which could impact Little Tern. It is advised that further information and assessment on how this might affect the Conservation Objectives of the Dee Estuary SPA, Liverpool Bay SPA and effects on the Little Tern feature of Gronant Dunes and Talacre Warren SSSI is needed. Delayed effects of this potential loss of prey availability on birds should be considered when planning the timing of the works to ensure that suspended sediment concentrations have reduced, and fish populations have recovered before April ahead of Little Terns returning to the colony. Clarity is needed on the potential amount of fish death that is the worst-case scenario and on the optimal time to finish the works so that suspended sediment concentrations have reduced, and prey availability is restored before Breeding Tern arrive at the colony in April. It is also advised that any impacts of fish death (e.g. due to high suspended sediment concentrations) on Red-Throated Diver should also be considered.

**189. Section 8.8.1 Table 8.16.**

Please confirm the following:

- Does the number of days to drill a well include contingencies?
- The number of vessels used during the different stages
- The use of only 1 helicopter in the operation and maintenance phase
- That accidental pollution includes from the drilling rigs and not only vessels
- Will roosting habitats be reduced with the creation of roosting habitats when compared to existing potential roosting habitats? If so, what is the impact?

**190. Section 8.11.**

Please review table 8.16 as not all impacts have been assessed. Please amend as necessary.

**191. Chapter 8.11.**

It is noted that in referenced Offshore Ornithology Displacement Technical Report that the Great Cormorant was not assessed for displacement despite being a qualifying feature of a nearby SPA within foraging range whilst the displacement technical report stated that the Great Cormorant was screened into the assessment. Please clarify this disparity.

**192. Section 8.11.**

Please clarify what the construction and decommissioning phase within this section consists of. It only appears to include cable laying. None of the other operations i.e. the replacement of topsides on NUIs, drilling of wells, construction of Douglas NUI and the connections with existing pipelines to Douglas NUI are included. Please amend as necessary.

**193. Section 8.11.**

Please include:

- any seasonal impact to birds in relation to the work to be carried out
- information regarding how the significance of effect has been determined as this appears to be inconsistent within the ES.

**194. Section 8.11.7.**

Although disturbance and displacement from airborne sound and presence of vessels and infrastructure has been included as an impact pathway, information on anticipated vessel movements is limited. Please indicate where construction and maintenance vessels are likely to sail from along with the increase in vessels activity. Subject to more information being provided, the need for seasonal restrictions may require consideration (1<sup>st</sup> November – 31<sup>st</sup> March inclusive).

**195. Section 8.11.13.**

It is stated that it is extremely unlikely that any of the migratory waterbird species would make more frequent movements across the Development area. Please clarify the basis for how this statement has been provided.

**196. Section 8.11.24.**

Please clarify which platforms will be reconfigured with new modules, will be removed, and have new purpose-built topsides.

**197. Section 8.11.25.**

Birds using existing infrastructure for roosting and nesting should be considered within the ES. Whilst it is acknowledged the applicant has undertaken nesting bird surveys on the existing platforms (LBA Survey Report, 2022), it is unclear how impacts to existing nests have been assessed within the ES. Please clarify this.

**198. Section 8.11.25.1.**

The commitment to the creation of new nesting habitat for Kittiwake is noted. Please confirm if this is at the re-purposed Douglas CCS platform, or other locations in Welsh Waters? How many additional breeding Kittiwakes are estimated to use the new structure(s) and how does this compare to the number of birds which use the existing Douglas platform for breeding?

**199. Section 8.12.**

It is noted that apart from a selected few tidal energy development the only activity that has been considered with any detail are offshore wind farms, and any

oil and gas, gas storage or CCUS activities have been omitted from any Cumulative Effects Assessments within the ES. Please note that there are other oil and gas installations which are of relevance and near both the development area and which lie within European Sites. Any information (e.g. decommissioning work, planned seismic surveys or drilling) relating to oil and gas, gas storage or CCUS or other projects/plans need to be considered within the assessment. Please review and amend as necessary.

**200. Section 8.12.**

Please clarify how the significance of effect is determined. There appear to be inconsistencies with some of the outcomes e.g. in Table 8.37 and 8.38.

**201. Section 8.13.**

Please clarify if this section only relates to the construction of cables. If so, has this been considered for the rest of the project? Please clarify if there are any cumulative impacts to birds from the other parts of the project.

**202. Section 8.13.**

It is noted that information in the in-combination/cumulative assessment is now out of date. For example, for Mona offshore windfarm it states that no quantitative data is available for disturbance and displacement of birds. However, now Mona have submitted, data on red-throated diver displacement should be available. Please update the in-combination/cumulative assessment as required.

**203. Section 8.13.2.1.**

Please provide evidence of where using soft starts have been effective at reducing disturbance to waders and wildfowl (in relation to mitigation for construction disturbance to birds at Mostyn).

**204. Section 8.13.10.**

Please provide further detail in this section including any site-specific potential effects, and how the project in its entirety could affect birds.

**205. Section 8.16.**

Please clarify the impacts from the whole project on birds, along with any cumulative effects.

**Volume 2 - Chapter 8: Offshore Ornithology - Offshore Ornithology Displacement Technical Report**

**206. Section 1.1.2 & Table 1.3.**

This section states that the operation and maintenance of the new Douglas platform may result in "Loss of foraging grounds due to new platform, with the

presence of the platform itself potentially disturbing and displacing species within the direct vicinity of the platform and potentially within the surrounding area (up to 2 km).” This infers that displacement may therefore occur beyond the platform itself, which may mean disturbance to features of the Liverpool Bay SPA. Please clarify why a displacement assessment of the Douglas platform has not been carried out.

#### **207. Section 1.5.1.3.**

This section states that common scoters are displaced by vessel traffic at distances from 40m to 3,200m, therefore the area of impact is 40m<sup>2</sup> to 3,200m<sup>2</sup>. However, this is not the case. The area of impact would be 32km<sup>2</sup> per vessel. Therefore 12 vessels would result in an impacted area of 386km<sup>2</sup> (assuming areas of impact do not overlap). A 2.5km buffer around each vessel is advised for the assessment of 100% displacement of common scoter (Fliessbach et al., 2019). Therefore, one vessel may have an area of impact of 19.6km<sup>2</sup>; multiplied by the 12 vessels this results in an overall area impacted of 235.6km<sup>2</sup> (assuming areas of impact do not overlap). Please revise the assessment and amend as necessary.

Please also clarify that the displacement assessment is based on the cable corridor plus relevant buffer. It is not clear what area is being considered when calculating the number of birds displaced and number of mortalities: the cable corridor plus buffer, or a buffer around 12 vessels.

#### **208. Section 1.5.1.4.**

It is stated that red-throated divers are displaced by vessel traffic at distances from 250m to 1,700m, therefore the area of impact is from 0.6km<sup>2</sup> to 1.7km<sup>2</sup>. However, this is not the case. The area of impact would be 9km<sup>2</sup> per vessel. Therefore 12 vessels would result in an impacted area of 109km<sup>2</sup> (assuming areas of impact do not overlap). A 2.0km buffer around each vessel is advised for the assessment of 100% displacement of red-throated diver (Burt et al., 2022, Burger et al., 2019). Therefore, one vessel may have an area of impact of 12.6km<sup>2</sup>; multiplied by the 12 vessels this results in an overall area impacted of 150.8km<sup>2</sup> (assuming areas of impact do not overlap). Please revise the assessment and amend as necessary.

Please so clarify that the displacement assessment is based on the cable corridor plus relevant buffer. It is not clear what area is being considered when calculating the number of birds displaced and number of mortalities: the cable corridor plus buffer, or a buffer around 12 vessels.

### **Volume 2 - Chapter 9: Shipping and Navigation**

#### **209. Section 9.4.**

Please clarify why Consent to Locate requirements have been omitted.

## **Volume 2 - Chapter 11: Marine Archaeology**

### **210. Section 11 – Table 11.9.**

Table 11.9 has included details for the drilling of both new wells and existing well, however, the drilling has not been scoped into other Maximum Design Scenarios. Please clarify.

It is also noted that the use of jack-up rigs for the new wells has been included, but this has been omitted from existing wells. It is also not clear whether the potential requirement for rig stabilisation material has been included within the assessment? Please clarify and amend as necessary.

## **Volume 2 - Chapter 12: Infrastructure and Other Sea Users**

### **211. Section 12.**

It is noted that whilst this section includes details of activities relating to oil and gas blocks, cables, offshore wind farms etc., that gas storage licence applications appear to have been omitted from the assessment. Please amend as required.

## **Volume 2 - Chapter 13: Climate Change**

### **212. Section 13.11.1.3.**

Please clarify if the project will be wholly reliant on the use of electricity as a power source from the outset. Furthermore, please clarify if there will be the requirement for any secondary fuel sources should they be required in the case of a power outage.

### **213. Section 13.4.1 - Table 13.1.**

Please assess the climate change and emissions impacts of this development against UK, North West Region and Welsh targets.

### **214. Section 13.4.1 - Table 13.1.**

Please clarify what the impact of the GWP CO<sub>2</sub>e are for each stage of the lifecycle phase of the development (pre installation, installation, injection, post closure and decommissioning) as these emissions will go straight to atmosphere.

### **215. Section 13.5 and Table 13.3.**

Please include assessment of impact against the air receptor and include a breakdown of pollutant species prior to converting them to a GWP and an assessment of impact on the climate.

### **216. Section 13.7.**

Please provide further clarification on why the baseline emissions are zero. The baseline should reflect actual emissions. It is stated that "Land within the climate change study area that is not currently occupied by OP foundations, pipelines and cables, consists of various subtidal habitats of mixed sediments (including coarse sediment, sandy mud, fine sand, muddy sand, and deep sand) supporting diverse benthic communities. This is confirmed in volume 2, chapter 7." Please provide further information on what this is referring to.

**217. Chapter 13 Section 13.10.**

Please include what steps are being taken to reduce emissions from this project.

**218. Sections 13.11.1.3 & 13.11.1.4 - Tables 13.11 & 13.12.**

Please clarify how the total emission figures have been calculated.

**219. Section 13.11.**

Please include or confirm:

- is there any potential for carrying out geological surveys throughout the lifecycle of the project
- the anticipated number of surveys that have been included within the Monitoring Plan
- It is noted that venting has been considered in the context of CO<sub>2</sub> and is mentioned through maintenance activities, please confirm if any venting or flaring will be carried out over the lifecycle of the project.
- will there be any requirement for well intervention operations during the lifecycle of the project? If so, has this been scoped into the assessment
- The emissions stated throughout this chapter do not include consumption data. Please include. Please also state what Emission Factors have been used
- Why is there no consideration to pollutant emissions during the construction, operational and decommissioning phases? As above point if the fuels and fuel consumption are provided an assessment can be made of the combustion pollutant emissions
- Within Section 13.11.1.5 indicative venting emissions have been provided, quoted as the total an average of 89.15 tCO<sub>2</sub> per year, or 2,318 tCO<sub>2e</sub> over the Proposed Development's operational lifetime. The development over a 25-year lifetime period would provide an average of 92.7tCO<sub>2</sub> not 89.15tCO<sub>2</sub> which suggests a 26-year lifetime? Please clarify

- In Table 13.15 the proposed development GHG impacts (tCO<sub>2</sub>e) are stated for the UK carbon Budget periods below, but there is no information as to how the net emissions at each stage have been calculated. Please clarify

UK budget allocations are incorrect 2028-2032 and 2033-2037:

UK Carbon Budget Order 2016 - 1,725,000,000

UK Carbon Budget Order 2021- 965,000,000?

**220. Section 13.11.1.1.**

Please review this section regarding how emissions are presented. Some parts include embodied materials CO<sub>2</sub>e, and vessel emissions associated with the installation and other sections do not. Please be consistent or clarify why the difference.

**221. Section 13.11.14.**

Please include information on the current decommissioning activities i.e. what it involves and how much material will be recycled.

**222. Section 13.11.15.**

This section refers to the potential for fugitive emissions, and on the basis that a LDAR (leak detection and repair) programme will be in place. Please confirm the coverage and sensitivity of the LDAR. Further reassurance of the effectiveness of the LDAR is needed before this can be an appropriate mitigation measure.

**223. Section 13.12 - Table 13.16.**

Please clarify why the operational, venting and fugitive emissions are significantly higher for the 'HyNet Carbon Dioxide Pipeline TCPA application' in comparison to the 'Proposed Development' and HyNet Carbon Dioxide Pipeline DCO application?

**Volume 2 - Chapter 14: Inter-Related Effects**

**224. Section 14.6.2 - Table 14.7.**

This table appears to have omitted the potential for effects of underwater noise during the operational phase relating to geological surveys that have been committed to in the Monitoring Plan. Please amend as necessary.

**Volume 3 – Technical Reports**

**Volume 3 – Enhancement and Monitoring Commitments**

**225. Section 1.1 - Table 1.1.**

This report should include commitments on any intentions to reduce any atmospheric emissions from the project from venting / fugitives / leaks/ vessel emissions etc.

**226. Section 1.1 - Table 1.1.**

Under the justification tab, trenchless techniques are noted as being used for cable installation. Please revise this as the worst-case scenario presented within the ES is cable trenching.

**Volume 3 – Report to Inform Appropriate Assessment (RIAA)**

**227. Section 1.1. & Table 1.135.**

This section refers to the drilling of two new monitoring wells, however, later within this chapter in table 1.135 provides a significant amount of detail has been included on the work that is planned to be carried out on wells at each of the platforms. Please amend and confirm the correct information.

**228. Section 1.1.2.**

The information provided within this section is inconsistent with the details provided within the Design Notification which suggests that new pipelines will be required from the Douglas Platform to the three satellite NUIs. Please clarify.

**229. Section 1.4.3 - Table 1.2.**

The potential impacts of increased SSC and sediment deposition during the construction phase should be scoped in for the Annex I Estuaries feature of the Dee Estuary SAC. Modelling results presented in the Physical Processes Technical Report show the predicted sediment plume extent and impacts to sedimentation rates to reach into the estuary and therefore could impact sensitive habitats and species.

**230. Section 1.6.**

The conclusions of Volume 3 RIAA Section 1.6, Little Tern Foraging Distribution Technical Report note that work in the nearshore waters could be carried out outside of the Little Tern breeding season (mid-April to mid-July) to avoid disturbance to Little Tern. This, however, differs to that proposed in the Habitats Regulations Assessment Stage 2 - Report to Inform Appropriate Assessment, Section 1.9.3 which says, “work is still needed to define the sensitive egg laying and chick rearing period”. Please clarify the reasons for this discrepancy.

**231. Section 1.6.1.1.**

Conservation objectives for the Dee Estuary SAC should be taken from the regulation 33 advice package, as these are the agreed conservation objectives for cross border sites. Dee Estuary-Reg33-Volume 1-English-091209\_1.pdf (naturalresources.wales).



**232. Section 1.6.2 & 1.6.2.1.**

Please obtain site specific sediment characteristics (SPA and contaminant) data and use this information to inform a conclusion for intertidal habitats and species.

**233. Section 1.6.2.1. & Table 1.10.**

It is stated that under the MDS, sediment will be disturbed up to 3 m below LAT however no evidence is presented to suggest that sediment is mobilised to this depth under natural conditions-of sediment bound benthic contaminants (along cable connection only). Disturbance of this additional sediment has the potential to remobilise previously bound contaminants. Please amend as necessary.

**234. Section 1.6.2.1 - Table 1.4.**

It is recommended that this table is revised to include only the Maximum Design Scenario (MDS) for those impacts that have the potential to impact the Dee Estuary SAC and its designated features. It is also noted that some of the assessments within the RIAA discuss the potential impacts from the total footprint of the proposed works, but do not clarify how much of that is relevant to the relevant protected area alone.

**235. Section 1.6.2.1.**

Whilst the mitigation measures proposed are acknowledged, please note embedded mitigation measures cannot be considered at Stage 1 Assessment in the HRA. It is therefore advised that the following potential impacts to the Dee Estuary SAC features should be screened in for further assessment:

- Increased risk of introduction and/or spread of INNS
- Accidental Pollution
- Mitigation measures outlined can then be considered at Stage 2 appropriate assessment. These should also be screened into the in-combination assessment.
- Increased SSC and associated deposition.

**236. Section 1.6.2.**

Please only use TTS thresholds as a proxy for assessing disturbance from UXO clearance. Please amend where relevant.

**237. Section 1.6.2.2 - Page 56**

It is noted that no in-combination effects were predicted for the operation and maintenance or decommissioning phases for the Mostyn Energy Park Expansion. However, the proposal for Mostyn Energy Park includes maintenance, dredging

and disposal activities during the operation of the project and it is therefore recommended that the project should be scoped in for potential in-combination effects for the operation and maintenance phase. Please amend as necessary.

**238. Section 1.6.3 & 1.6.3.1.**

Please provide further assessment to the Dee SAC for the cable corridor and pipeline overlap. The Estuary features (with sub-features of subtidal sediments & intertidal hard substrate communities) must also be considered. Please amend as necessary.

**239. Section 1.6.3.1.**

Further information is required to support the conclusion that the impacts to the Annex I Mudflat and sandflats feature will be temporary, and that the habitat will recover within the short-medium term. Please amend as necessary.

**240. Section 1.6.3.1.**

Sand waves are to be cleared along the cable route in two locations, south of the existing Douglas platforms, and at West Hoyle Bank, however this will happen at significant distance from the Dee Estuary SAC and therefore will not affect the SAC." The suspended sediment plume generated from dredging a channel at West Hoyle Bank will extent into the Dee Estuary SAC, as shown in Volume 2, Chapter 6: Physical Processes It is advised that potential impacts to Annex I feature of the Dee Estuary SAC within the identified zone of influence are appropriately assessed in the HRA. This is particularly relevant to the Annex I Estuaries feature which supports cockle beds which are sensitive to smothering.

**241. Section 1.6.3.1.**

Page 60-66 states that "Sand waves are to be cleared along the cable route in two locations, south of the existing Douglas platforms, and at West Hoyle Bank, however this will happen at significant distance from the Dee Estuary SAC and therefore will not affect the SAC." However, in the Physical Processes Technical Report the suspended sediment plume generated from dredging a channel at West Hoyle Bank will extend into the Dee Estuary SAC.

**242. Section 1.6.4 – Page 67.**

Please provide additional information/evidence for the conclusion that there is no risk of an adverse effect on the integrity of the Dee Estuary SAC and provide clarity on how the assessment was derived.

**243. Section 1.7.2 - Table 1.18.**

This contains information regarding mitigation measures around electromagnetic field (EMF) impacts, however, EMF is not mentioned as a potential impact in the text above. It is noted that the reasons for scoping out EMF are listed in Volume 2, Chapter 7. Please include EMF impacts in Table 1.18.

**244. Section 1.7.2 - Table 1.18.**

The Marine Mammal Mitigation Plan (MMMP) is listed under the fish receptor section as a relevant mitigation. Measures to mitigate against impacts to marine mammals are not appropriate, due to the lack of evidence on their effectiveness for fish receptors. Please amend as necessary.

**245. Section 1.7.2 - Table 1.18.**

It is acknowledged that 'ramping up' and 'soft start' are standard industry techniques used to reduce the impact of piling on animal receptors, however, there appears to be no evidence that these measures are appropriate/ successful in mitigating the impulsive noise impact for fish receptors. Please amend this table as necessary.

**246. Section 1.7.2. - Table 1.18.**

Please extend the mitigation zone for piling activities to 1 km and use a single pile as the worst-case scenario. If the injury range is 1km or less, then it is advised that ADDs should not be used.

**247. Section 1.7.2 - Figure 1.8.**

Please clarify why many protected areas of a large distance away, are scoped in if the potential range for behavioural disturbance is as detailed within the figure.

**248. Sections 1.7.2 & 1.7.3 - Tables 1.20 - 1.22.**

Please include the impact from UXO detonation into the underwater sound assessment for fish. This should include mortality, TTS and behavioural changes.

**249. Section 1.7.3.2 - Table 1.25.**

Underwater noise impact should be considered in the operation and maintenance phase due to geophysical and seismic surveys. Please amend the table and assess the risk to species for all relevant phases of development.

**250. Section 1.8.2 – Pages 187 & 190.**

Report to Inform Appropriate Assessment. Please clarify why there is a potential for UXO clearance to take place.

**251. Section 1.8.2.**

Please ensure the most up to date published literature on behavioural noise thresholds and dose response curves is used e.g. Graham et al (2017, 2019), Russell et al (2016), Whyte et al (2020), Tougaard (2021), Southall et al (2021), and Sinclair et al (2023).

**252. Section 1.8.2 - Table 1.46.**

Please clarify why geophysical surveys have been scoped out of the decommissioning phase.

**253. Section 1.8.2 - Table 1.47.**

Please confirm if you are planning on using autonomous operated vehicles (SBPs) to carry out any geophysical surveys.

**254. Section 1.8.2 – Table 1.47.**

Please extend the mitigation zone for piling to 1 km. Where the impact radius is smaller than 1km, ADD should not be used.

**255. Section 1.8.2. & Table 1.48.**

In Welsh waters the appropriate MMMU for grey seals is the OSPAR Region III Area. This should be included in the text when discussing management units for seal species and additional contextual information provided.

**256. Section 1.8.2.2 - Table 1.69.**

Maximum Design Scenario Considered for the in-combination assessment of impacts on Annex II Marine Mammals. It is not clear whether this maximum design scenario is covering the entire development area or just the activities relating to the installation of the new Douglas NUI and cables. Please clarify.

**257. Section 1.8.3 - Table 1.106.**

Please update the in-combination assessment with quantitative data which is available for the Mona Generation OWF Project.

**258. Sections 1.9.1 & 1.9.3.**

The Little Tern Foraging Distribution Technical Report states that it was based on the methods of Parsons et al. (2015) which collected data across three breeding seasons, including one season of boat-based work. The Little Tern Foraging Distribution Technical report has only collected data across one Little Tern breeding season and does not include boat-based work, further understanding on the likely implications of this on the conclusions of the report are therefore required, e.g. clarity on how this compares if applying the older data from Parsons et al. (2015) which covers more breeding seasons and includes boat-based transects and explanation for the reason for any differences.

**259. Section 1.9.2 - Table 1.135**

- It is noted in this section that all wells that the developer is planning to carry out work at have been scoped into the assessment, however, these have been

omitted from other sections of the ES. Please confirm that these have been considered in all relevant sections.

- Please confirm the plans for the decommissioning of pipelines.
- Disturbance and Displacement from airborne sound and presence of vessels and infrastructure. Please confirm that the figures are consistent with similar figures on vessels within other sections of the ES.
- No information is provided of the potential numbers of birds (red-throated diver and common scoter) that may be displaced when work is carried out on the offshore platforms within the Liverpool Bay SPA, particularly if any work is planned to be carried out during the overwintering period (1<sup>st</sup> November to 31<sup>st</sup> March inclusive). Please confirm.
- Creation of roosting and nesting habitats among project infrastructure. It is unclear whether this is a benefit or otherwise. Please clarify.

#### **260. Section 1.9.3.1.**

The area of impact from 12 vessels is stated as the area of displacement impact, but then the displacement assessment (in the Offshore Ornithology Displacement Technical Report) appears to be based on the cable corridor plus relevant buffer. It not clear what area is being considered when calculating the number of birds displaced and number of mortalities: the cable corridor plus buffer, or a buffer around 12 vessels. Given the variability in density of red-throated diver and common scoter across the Liverpool Bay SPA, it is recommended to calculate densities in specific locations of vessel activity, rather than using a mean density across a large area. Please amend.

Furthermore, the displacement of red-throated diver and common scoter is calculated based on the cable corridor plus 4km, and hence vessel activity within this region. However, according to section 3.4.5.2, cable laying is scheduled to take place from April 2026 for 3 months, and cable pull in from May 2027 for 2 months. Therefore, the only vessel activity along the cable corridor is outside the wintering period for red-throated diver and common scoter. However, vessel activity associated with all four platforms is scheduled to occur during the wintering period. It is recommended to base a vessel disturbance assessment on these locations for red-throated diver and common scoter plus any transit routes if these are outside of existing shipping routes. This includes works associated with the installation of the new Douglas platform, removal of the existing Douglas platform, and installation of pipelines to connect the new Douglas platform, should these overlap with the wintering period (1<sup>st</sup> November to 31<sup>st</sup> March inclusive). The schedule of removal of the existing Douglas platform and installation of pipelines to connect the new Douglas platform are not given in the ES. Please amend as necessary.

If construction does occur during winter period, the following questions must be addressed:

- What density of red throated diver (RTD) and common scoter (CS) will be present in the disturbed area and thus used in the disturbance calculations?
- Where has this bird density data been obtained from? This should be obtained from Liverpool Bay specific data sources, Lawson et al (2015) is recommended
- Please include a map in the RIAA of the area wherein RTD and CS are assessed as being disturbed from for the construction and the operational phase. What % of birds are likely to be disturbed from this area
- How long will the disturbing activity last for in the construction phase?
- The RIAA needs to describe the proportion of the SPA population that is likely to be disturbed
- What proportion of the available foraging habitat in the SPA will be excluded to RTD and CS as result of the disturbance? What are the implications of this exclusions, considering the conservation objective targets for 'bird distribution' and 'distribution of supporting habitats' are defined as 'restore' in the SNCB conservation advice due to the presence of infrastructure causing an ongoing impact, meaning further deterioration should be avoided.

Disturbance and displacement from airborne sound and presence of vessels and infrastructure is assessed in relation to mortalities impacting the qualifying populations of the SPA and the conservation objective regarding population size. However, no reference is made to how the loss of habitat due to vessel disturbance impacts the conservation objective regarding distribution of the feature(s).

The assessment has not been carried out with reference to the specific conservation objectives of qualifying features. Of note is one of the conservation objectives for red-throated diver, which is to restore the distribution of the feature. Due to this objective, it is recommended that all vessel activity within and 2km around the Liverpool Bay SPA is undertaken outside of the wintering period (1<sup>st</sup> November to 31<sup>st</sup> March inclusive). It is recommended that, as a minimum, mitigation measures are put in place for vessel activity during the wintering period, namely using established shipping routes to transit through the SPA, slow vessel speeds, and avoiding over-revving of engines.

Using all the above information and recommendations, please provide further reasoning as to why the conclusion of a negligible adverse effect upon the integrity of the Liverpool Bay SPA alone has been reached.

#### **261. Section 1.9.3.1 - Table 1.136.**

Please clarify why conservation objectives 1, 2, and 3 have been scoped out of the disturbance and displacement from airborne sound and presence of vessels and infrastructure, Indirect impacts from changes in prey availability and accidental pollution in the surrounding area.

**262. Section 1.9.3.1 - Table 1.137.**

Please clarify how these figures have been calculated.

**263. Section 1.9.3 - Table 1.137.**

The excess mortality caused by displacement (%) is the same as that calculated in the Offshore Ornithology Displacement Technical Report, however this used BDMPS seasonal definitions and regional population sizes. For the purposes of HRA, the non-breeding season should be used for red-throated diver and common scoter (1<sup>st</sup> November to 31<sup>st</sup> March inclusive.) as presented in the sites Conservation Advice package to calculate the number of individuals potentially displaced, along with population estimates of the Liverpool Bay SPA, to calculate excess mortality.

The methodology used to calculate the figures provided within the ES is likely to underestimate impact on the SPA conservation objectives and further clarity is required to assess the level of impact to the red-throated diver feature of the Liverpool Bay SPA. Please amend as necessary.

- What is the implication of the excess mortality of RTD and CS described within the table to the conservation objectives of the SPA, what affect does this have on SPA population?
- How has the likelihood of mortality from disturbance been calculated i.e. what is the relationship between disturbance and mortality that is being assumed?
- What mitigation will be built into the operating procedures to minimise impacts, for example a Vessel Management Plan to limit the spatial area wherein vessels are operating and minimise the footprint of disturbance during construction. Furthermore, during operation would vessels be directed into defined routes/stand by areas.

**264. Section 1.9.3 - Table 1.138.**

Please provide information regarding any potential for work to be undertaken during the overwintering period and if there would be any mitigation to reduce the potential disturbance to the features.

**265. Section 1.9.3.1 - Table 1.138.**

Best efforts should be made as a matter of best practice to minimise and mitigate disturbance to the receptor species of the Liverpool Bay SPA. A Vessel Management Plan (VMP) which provides details of the appropriate mitigation measures is required and should be specified within the ES so that the conclusion of no Adverse Effect on Integrity of Site (AEoI) for Liverpool Bay SPA alone or in-combination can be agreed. Please amend.

**266. Section 1.9.3.6 - Table 1.146.**

Please clarify if this should refer to the Aberdaron Coast and Bardsey Island SPA and not the Ribble and Alt Estuaries. If so, please include into the table if not please provide clarification as to why not.

**267. Section 1.9.3.11 - Table 1.156.**

Please clarify the conclusion for all objectives that there will be no adverse effects to the protected bird species.

**268. Section 1.9.4.**

Is the figure of <1% or >1% of the baseline mortality of the reference population for a qualifying feature a standard protocol? Please clarify.

**269. Section 1.9.4.**

Please note that multiple small impacts can act in-combination to have a significant effect. Therefore, the ES should include the less than 1% baseline mortality into the in-combination effect assessment.

**270. Section 1.9.6.1 - Table 1.160.**

Please provide clarity on how the increase in baseline mortality (%) has been calculated and if the scheduled timing for the planned activities within the Liverpool Bay SPA have been considered.

**271. Section 1.9.6.1.1.**

It is not clear what aspects of the in-combination projects have been screened into the assessment of Temporary habitat loss leading to displacement/disturbance of birds. Please clarify what is included in the area of impact for the wind farms e.g. from construction vessels related to transmission assets or vessels associated with the construction to the wind farm?

Transmission assets for all wind farms in the vicinity of the Liverpool Bay SPA should be clearly laid out and explained regarding which impacts from which element of the projects are being screened into the assessment. It is also stated that there is temporal overlap of these projects with the proposed project, but not which elements, and the duration of this temporal overlap. Please clarify. No reference is made to how the loss of habitat due to vessel disturbance impacts the conservation objective regarding distribution of the feature(s). Please clarify.

**Volume 3 – Water Framework Directive (WFD) Report**

**272. Water Framework Directive (WFD) Report**

Throughout this report there is insufficient detail presented to appropriately review the WFD with respect to hydro morphology. Please amend as necessary. Furthermore, please address the following:



- Please provide clarity of the proposed methodology for asset burial e.g. where trenching/ploughing stops and where the HDD begins to approach the intertidal zone
- The WFD must include all the activities within the Zone of Influence that may impact chemical quality in the water body from the HWS out to 12nm
- Please ensure that the assessment of adverse effects on the Dee Estuary SAC considers the Estuary
- Please supply sediment contamination (PSA and contaminant) data for the intertidal Zone and areas of sand wave clearance within the vicinity of the Dee Estuary SAC.

**273. Section 1.9.**

Please clarify the following statement that phytoplankton is not expected to bloom in response to nutrient availability:

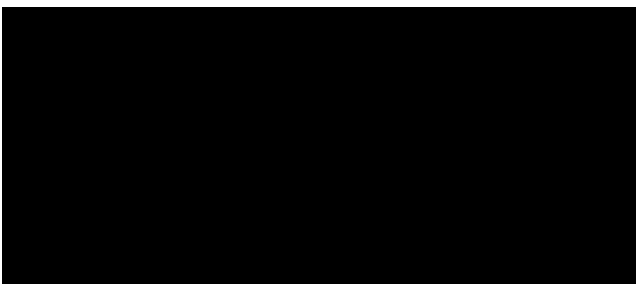
“Increased SSC from installation and decommissioning of the power and FO cables is expected to disperse rapidly (i.e. within four days) at distances of hundreds of metres from cable installation works and phytoplankton is not expected to bloom in response to nutrient availability.”

It is suggested that the assessment could conclude that phytoplankton is not expected to bloom since any increase in SSC is likely to disperse rapidly. Please amend as necessary.

Your response will be reviewed, and consideration given as to whether the information provided ought to be made public because the information is directly relevant to reaching a conclusion on whether the project is likely to have a significant effect on the environment. If so, OPRED will notify Liverpool Bay CCS Limited under Regulation 12(3), and Liverpool Bay CCS Limited will have to take further steps to publish information and make provision for further public consultation under Regulations 12(5) to 12(9).

OPRED looks forward to receiving your response so that we can progress our consideration of the ES.

Yours sincerely





**Environmental Manager**

The Offshore Petroleum Regulator for Environment and Decommissioning  
For and on behalf of the Secretary of State for Energy Security and Net Zero