



# **Hornsea Project Four**

## **Net Zero Teesside Development Consent Order**

### **Responses to the ExA's Second Written Questions**

**Deadline: 6, Date: 23 August 2022**

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## **1 Introduction**

- 1.1 Following the issue of Second Written Questions by the Examining Authority (ExA) on 9 August 2022, Orsted Hornsea Project Four Limited (Hornsea Four) has set out answers to those questions that ExA has asked for its response on in the table below.

**Table 1: Orsted Hornsea Project Four Limited’s responses to ExQ2.**

ExQ2	Question to:	Question	Orsted Hornsea Project Four Limited Response
DCO 2.14	Orsted The Crown Estate	<p>At D5 [REP5-002] the Applicants proposed amendments to Article 49 which provide for Modification of the Interface Agreement. The EM [REP5-005] explains the effect and purpose of the provision.</p> <p>Orsted and The Crown Estate are asked to comment on the revisions to Article 49 including whether, in their view, the proposed changes would remove the need for Crown consent.</p> <p>Comments on the EM are also invited.</p>	<p>Article 49 no longer seeks to disapply the Interface Agreement in its entirety but instead seeks to remove the liability of bp (the Carbon Entity) to Hornsea Four (the Wind Entity) under that agreement. Hornsea Four maintains its position that the Applicant has failed to evidence why these changes are necessary to deliver the NZT Project. If accepted, this change would materially alter the operation of the Interface Agreement, meaning that the tripartite agreement no longer operated as intended. Hornsea Four has made detailed legal submissions against the disapplication of the IA in REP2-092, which apply equally to the revised version of Article 49, but are not repeated here. Hornsea Four maintains its position that the disapplication of provisions of the Interface Agreement would be to deprive Hornsea Four of its contractual rights in an unprecedented manner, which is not in the public interest, and that there are alternative means freely available to the parties to revisit compensation quantum via renegotiation of commercial terms.</p> <p>The compensation provisions are unnecessary and unworkable. Firstly, they are unnecessary as the Interface Agreement already provides a framework for compensation as agreed between the parties only as recently as last year (where no renegotiation was sought). Secondly, the provisions are unworkable. Hornsea Four will not obtain certainty as to whether compensation is payable until the Longstop Date, with payment not being made until some years later. Therefore, this will have an impact on the ability of Hornsea Four to make informed decisions about its project and to seek to ensure that the project can be built out within the timescales required. The required timescales for delivery of Hornsea Four are driven by a number of factors including Government policies on tackling climate</p>

			<p>change and energy security, supply chain constraints and the operation of the CfD regime. .</p> <p>Hornsea Four maintains that such a provision requires consent from The Crown Estate, which has not been provided. This is because the Interface Agreement and any provisions affecting the Interface Agreement relate to Crown land (being the seabed in the overlap zone). The Crown Estate submitted at Deadline 8 of the Hornsea Four DCO Examination (REP8-025) its response to the BP proposed protective provisions seeking to modify the interface agreement, and maintains that its consent is required, and confirms that it is not currently minded to agree to disapplication of any part of the Interface Agreement.</p> <p>The Explanatory Memorandum (EM) summarises the applicant’s proposed revisions to article 49. Hornsea Four has commented in full on these changes and has no specific comments on the EM.</p>
<p>DCO 2.15</p>	<p>Orsted The Applicants</p>	<p>In the Position Statement between the Applicants and Orsted Hornsea Project Four Limited [REP5-022] Orsted commented (paragraph 2.1.5) that the need for and appropriateness of a provision in the NZT DCO which interferes with the Interface Agreement should be fully examined in the NZT examination and considered by the SoS in the context of the facts and circumstances at the time of the NZT DCO decision. The Applicants’ Summary of Oral Submissions for ISH3 [REP5-025] provides documents which had been submitted to the Hornsea Four Examination, namely the Interface Agreement and NZT’s commentary on the Interface Agreement.</p> <p>Orsted and the Applicants are asked to confirm whether there are any other documents submitted to the Hornsea Four Examination which are of relevance to, and have not yet been submitted to, this Examination.</p>	<p>Please find attached at Appendix 2 the following documents submitted to the Hornsea Four Examination which are of relevance to this Examination:</p> <p>REP7-087 BP Closing Remarks          REP7-039 Updated Draft Development Consent Order (Clean) – Schedule 9 Part 8 being of relevance to this Examination          REP8-025 The Crown Estate Deadline 8 Submission - Comments on responses submitted for Deadline 7</p>

DCO 2.17	Orsted	<p>In the Position Statement between the Applicants and Orsted Hornsea Project Four Limited [REP5-022] and its Written Summary of Oral Case at ISH3 [REP5-038] Orsted stated that it considers that the need for and appropriateness of a provision in the NZT DCO which interferes with the Interface Agreement should be fully examined in the NZT examination.</p> <p>i) Does Orsted consider that the NZT DCO could or should provide for interference with the Interface Agreement given the lack of direct physical conflict between the development proposed in the NZT DCO and HP4?</p> <p>ii) Explain why it is considered that the introduction of a provision to disapply or otherwise address matters in the Interface Agreement would be a material change to the NZT DCO.</p> <p>iii) Noting Orsted's comment at 2.1.8 of the Position Statement, Orsted is asked to comment on the re-drafting of Article 49.</p>	<p>i) Hornsea Four considers that the Applicant has failed to evidence why the requested changes to the Interface Agreement are necessary to deliver the NZT Project. Hornsea Four maintains that the DCO should not provide for interference with the Interface Agreement. This is for the reasons previously set out in the legal submission (REP2-092) and maintained in response to ExQ2 DCO 2.14.</p> <p>ii) A provision to modify the Interface Agreement so as to remove all liability of the carbon entity to the wind entity under it is a material change to the DCO application. The introduction of Article 49 was an entirely new matter raised after acceptance of the application for a development consent order. If accepted by the ExA for inclusion in the NZT DCO, this would have a material impact on Hornsea Four Offshore Wind Farm.</p> <p>As noted in response to ExQ 2.14, the effect of Article 49 would be to deprive Hornsea Four of its contractual rights in an unprecedented manner, which is not in the public interest, especially given there are alternative means freely available to the parties to revisit compensation quantum via renegotiation of commercial terms. The Interface Agreement was entered into in respect of Hornsea Four's interest in the seabed.</p> <p>Hornsea Four not being able to develop in the overlap zone would result in an increased WTG density in a smaller developable area outside of the overlap zone, which would lead to increases in the wake loss impacts of the wind farm which can have a significant effect on the generation performance, increase the detrimental impact on the overall business case for the project, and put Hornsea Four at a significant disadvantage should it enter into the highly competitive Contract for Difference Auction Round model with an inefficiently designed wind farm.</p> <p>For these reasons, we consider the inclusion of Article 49 in the NZT DCO is a material change, and should be treated as such by the ExA.</p>
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			<p>iii) comments on Article 49 are provided in response to ExQ2 DCO 2.14,</p>
<p>DCO 2.18</p>	<p>Applicants Orsted</p>	<p>In the Position Statement between the Applicants and Orsted Hornsea Project Four Limited [REP5-022] Orsted confirmed (paragraph 3.1.7) that it had submitted a draft set of protective provisions for inclusion in the NZT DCO (Appendix 1 [REP2-089]). (At D3 the Applicants indicated (paragraph 13.3.3 [REP3-012]) that they did not propose to comment on the detail of Orsted’s protective provisions because there was no need/ justification for them.) The Applicants’ position (paragraph 3.1.2 [REP5-022]) is stated to be that they are not aware of any explanation having been advanced by Orsted as to the need for additional protective provisions in the NZT DCO in the scenario where Orsted’s submissions as to protective provisions on the HP4 DCO have been accepted by the SoS.</p> <p>i) The Applicants are asked to comment on Orsted’s proposed protective provisions [REP2-089].</p> <p>ii) Orsted is asked to clarify why it requires protective provisions in the NZT DCO for the benefit and protection of HP4 when the NZT DCO does not extend to the Endurance Store?</p> <p>iii) Should measures to safeguard the delivery of the HP4 be managed through the approvals process for the offshore elements of the NZT project rather than the NZT DCO?</p> <p>Has Orsted sought to discuss issues and propose protections with the advisors to the decision maker in respect of the storage permit process and the related EIA process?</p>	<p>ii) Hornsea Four has sought the opinion of Richard Harwood, QC (which is appended to this document) which concludes that:</p> <ul style="list-style-type: none"> <li>• there is a legal requirement under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (“the EIA Regulations”) for the Applicant to assess the effects of the NZT Project (being the onshore elements subject to the NZT DCO application and the offshore export pipeline below MLWS and carbon capture and storage proposed in the Endurance Store) as a whole.</li> <li>• there is a legal requirement under the EIA Regulations for the Applicant to assess the impacts of the NZT Project on Hornsea Four Offshore Wind Farm as effects on material assets and climate change. There is an obligation to do so in any event because of the Planning Act 2008 and the NPS.</li> <li>• that the Secretary of State must take into account the assessment of the impacts of the offshore elements of the NZT Project on Hornsea Four Offshore Wind Farm when considering whether to grant consent for the Proposed Development. It is relevant material submitted. It is of statutory relevance because of the EIA Regulations and/or the NPS’s identification of the need for the Environmental Statement to cover the matter and the NPS’s identification of effects on planned development as potential effects of a project.</li> <li>• The Secretary of State will need to consider whether the NZT DCO is acceptable given any effect which the proposed Endurance Store, as part of the project, would have on the Hornsea Four wind proposal. The Minister will need to consider what measures can be used to minimise or avoid harm.</li> <li>• The protective measures proposed for the Hornsea Four DCO would not be sufficient on their own as it is possible that steps would be taken for the Endurance Store in advance of those controls. Protective provisions can and ought to be included in any NZT DCO.</li> </ul> <p>Orsted has proposed that The Hornsea Four Offshore Wind Farm DCO include protective provisions for the benefit and protection of the carbon storage licensee of the UK Carbon Dioxide Appraisal and Storage Licence CS001, as operator of the Endurance Store being proposed by the Northern Endurance Partnership. Subject to limited exceptions, the Orsted</p>

			<p>protective provisions prevent development by Hornsea Four in the overlap zone (as defined therein) until a coexistence and proximity agreement has been entered into with the carbon storage licensee, or it has been agreed or determined that no such agreement is required. These provisions have recently been updated to require that the crossing and proximity agreement between the parties must take account of a minimum distance between each turbine generator of 2,000m in all directions from the centre point of the turbine, in respect of the undertaker's works (i.e. those in the overlap zone).</p> <p>It is appropriate that the NZT DCO should contain reciprocal protections for Hornsea Project Four which ensure that the carbon storage licensee is under a reciprocal obligation to engage with Orsted on this matter and that the CCUS project cannot proceed in advance of that engagement. This is a fair and pragmatic mechanism to ensure that the respective projects engage to explore the degree of co-existence that can be achieved (thereby realising the maximum benefits of the respective projects and achieving national policy requirement for co-existence).</p> <p>(iii) As set out in Richard Harwood QC's opinion (at paragraph 43):</p> <p>It is not appropriate to leave the issue to the consent regime for the offshore elements of the Endurance Store (EIA approval, consent under the licence, storage permit):</p> <ul style="list-style-type: none"><li>(i) None of those applications have yet been made;</li><li>(ii) There is no proposal to include protective measures for Hornsea Four in any of those consents;</li><li>(iii) It is therefore entirely speculative whether protection will be given in these consents;</li><li>(iv) There is a difference between the Applicant/bp and Orsted whether wind turbines and carbon storage can co-exist and so what mitigation/avoidance measures to include. The resolution of that issue is best achieved following the thorough and transparent DCO process, in accordance with the NPS;</li><li>(v) In the event of a potential conflict between wind turbine and carbon storage, an assessment against policy and any balancing exercise is eminently a political matter, for the Secretary of State rather than for the NSTA.</li></ul>
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			<p>To date, no application has been made for the offshore storage permit and the related EIA process. There has been no discussion on the specifics of any application with the advisers to the decision makers under those regimes and Orsted are not aware of a mechanism for such a discussion/examination as part of these consent processes</p>
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**IN THE MATTER OF ORSTED HORNSEA PROEJCT FOUR LIMITED  
AND AN OBJECTION TO THE NET ZERO TEESSIDE DEVELOPMENT  
CONSENT ORDER (APPLICATION REFERENCE: EN010103)**

**ADVICE**

1. I am instructed to advise Orsted Hornsea Project Four Limited (“Hornsea Four”) which is an interested party in relation to the Examination of the Development Consent Order application for the Net Zero Teesside Project (“the NZT DCO”). This advice deals first with the question of how the two projects should be treated as a matter of law in accordance with the Environmental Impact Assessment regime and secondly with the issue of the protective provisions as part of the NZT DCO.

**Background**

2. The NZT DCO is being promoted by Net Zero Teesside Power Ltd and Net Zero North Sea Storage Ltd (“the Applicant”). The NZT DCO application is for a Carbon Capture, Usage and Storage (‘CCUS’) project. It will comprise a number of elements, including a Combined Cycle Gas Turbine electricity generating station with postcombustion carbon capture plant; a high pressure carbon dioxide (CO<sub>2</sub>) compressor station; a CO<sub>2</sub> export pipeline; gas, water and electricity connections (for the generating station); and a CO<sub>2</sub> pipeline network for collecting CO<sub>2</sub> from a cluster of industries in the Teesside area which are CO<sub>2</sub> emitters. The CO<sub>2</sub> compressor will therefore receive CO<sub>2</sub> from the generating station and from other industrial emitters in the Teesside area. A CO<sub>2</sub> gathering network is amongst the works in the DCO.
3. The export pipeline is proposed ultimately to take the compressed CO<sub>2</sub> to the Endurance saline aquifer (‘the Endurance store’) under the North Sea.<sup>1</sup> DCO application itself includes only that part of the export pipeline down to the Mean Low Water Springs (MLWS).
4. The proposed Endurance store will take CO<sub>2</sub> from the Teesside area, via the export pipeline and from the Humber by a further pipeline. The remainder of the export

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<sup>1</sup> See the works summarised in the Planning Statement, para 2.5.2.

pipeline from below MLWS and the operation of the Endurance CO<sub>2</sub> store is proposed to be consented under a licence granted by the North Sea Transition Authority under the Energy Act 2008 following Environment Impact Assessment under the Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020. This project is known as the Northern Endurance Partnership ('NEP') project and the proposed operator as well as the lead on the licence consent is BP Exploration Operating Company Limited ('bp').

5. Hornsea Four is at the same time proposing to develop an offshore wind farm comprising up to 180 wind turbine generators together with associated offshore and onshore infrastructure and all associated development through its own DCO application ('the Hornsea Four DCO'). The examination of the Hornsea Four DCO began on 22 February 2022 and is due to close on 22 August 2022.
6. The examination into the NZT DCO application began on 10 May 2022 and is due to close on 10 November 2022.
7. There is an issue between all the parties as to whether the two projects can be carried out in the same offshore area of the seabed where the projects overlap ('the Overlap Zone'), with bp expressing particular concerns. They are an Interested Party to the Hornsea Four DCO examination.
8. The position can be summarised as follows:<sup>2</sup>

“Hornsea Four and bp have differing views on whether or not co-existence of both projects within the Overlap Area is feasible. The matters remaining between the parties are highly technical, and generally involve requirements for the CCUS Measurement, Monitoring and Verification (MMV) plan and the ability to accommodate potential future relief wells or other infrastructure for the NEP Project and the interaction of those requirements with the presence of the Hornsea Four infrastructure.”

9. The consequence of this has been fourfold:
  - (1) bp as part of the Hornsea Four DCO examination has sought to promote protective provisions within the Hornsea Four DCO which address the issue on the basis that Hornsea Four cannot and will not include any of its turbines within a specific area

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<sup>2</sup> Written Representation of Orsted Hornsea Project Four Limited Deadline: 2, Date: 9th June 2022, para 3.7.

known as the ‘Exclusion area’ and which also make provision for compensation to be assessed by the Secretary of State paid to Hornsea Four as a result of having to forego use of the area despite a longstanding licence and a colocation and coordination agreement (‘the Interface Agreement’) which is binding on Hornsea Four; bp and the Crown Estate (which owns the relevant offshore area and which includes the Endurance store);

- (2) Hornsea Four has put forward protective provisions which allow for its turbines to be placed within the overlap area (and the exclusion area) but which protect bp’s interests and use of the area;
- (3) Despite the impact upon Hornsea Four the NZT DCO Applicant had not initially made any assessment of this as part of its Environmental Impact Assessment on the basis that the NZT project is separate from the Endurance store and the NEP project; and
- (4) Resists including any protective provisions as part of the NZT DCO in respect of Hornsea Four. Instead the Applicant seeks a provision within its DCO which ([REP4-002] draft Art 49) as currently drafted seeks to set aside the Interface Agreement. The rationale advanced by the Applicant is that Hornsea Four and the Endurance Store cannot co-exist and the compensation liability which bp therefore signed up to is unaffordable..

### **The Environmental Statement**

#### *The project to be assessed*

10. The Applicant recognises a need for the Environmental Impact Assessment to include some information on the impacts of the offshore elements. Firstly it accepts that the on and offshore elements are part of the *same* project:

“it is recognised that the onshore and offshore works together comprise the wider Project” (ES. Para 4.1.5)

“The following parts of the Proposed Development (as shown in Diagram 4-2) will be located off-shore below MLWS:

- installation of the continuation of the CO<sub>2</sub> Export Pipeline from below MLWS to the Endurance geological storage facility, located beneath the North Sea approximately 145 km to the east south-east of Teesside; and
- the construction of either a sub-sea injection system or an un-manned platform for the injection of exported CO<sub>2</sub> using a well or wells drilled into the underground storage reservoir over 1,000 m below sea level. The injection wells will be drilled and completed using an appropriate mobile offshore drilling unit” (ES, para 4.8.1)

11. In the Environmental Statement the Applicant then goes onto address combined effects, see ES para 4.1.5:<sup>3</sup>

“Therefore, the combined effects of the onshore and offshore works in the vicinity of Tees Bay are considered in Chapter 14 Marine Ecology and Chapter 24 (ES Volume I, Document Ref. 6.2). Combined effects with the wider off-shore scheme are considered in Appendix 24C: Statement of Combined Effects (ES Volume III, Document Ref. 6.4). As the offshore EIA is still being developed, there is currently limited information available on the offshore effects, so the Statement of Combined Effects Report that accompanies the Application is relatively high level but provides information to allow consideration of the likely significant effects of the wider off-shore scheme.”

12. Under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (‘the Infrastructure EIA Regulations’) an Environmental Statement must contain ‘a description of the likely significant effects of the proposed development on the environment’.<sup>4</sup> ‘Proposed development’ is not defined in the Infrastructure EIA Regulations. It must therefore be construed in the light of the retained EU law, in particular with regard to the meaning of ‘project’.

13. By article 1(2) of the Environmental Impact Assessment Direct 85/337/EEC (as amended and codified) (‘the EIA Directive’):

“(a) "project" means:

- the execution of construction works or of other installations or schemes,

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<sup>3</sup> And also Environmental Statement, para 4.8.3.

<sup>4</sup> Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, reg 14(2)(b).

- other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources;”

14. Article 2(1) requires that:

“before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment.”

15. The UK courts have consistently said that the EIA regime cannot be circumvented by the splitting of projects into different development consents. In one of the earliest cases, *R v Swale Borough Council ex p Royal Society for the Protection of Birds*<sup>5</sup> Simon Brown J held:

“The question whether the development is of a category described in either schedule must be answered strictly in relation to the development applied for, not any development contemplated beyond that. But the further question arising in respect of a Schedule 2 development, the question whether it “would be likely to have significant effects on the environment by virtue of factors such as its nature, size or location” should, in my judgment, be answered rather differently. The proposal should not then be considered in isolation if in reality it is properly to be regarded as an integral part of an inevitably more substantial development. This approach appears to me appropriate on the language of the regulations, the existence of the smaller development of itself promoting the larger development and thereby likely to carry in its wake the environmental effects of the latter. In common sense, moreover, developers could otherwise defeat the object of the regulations by piecemeal development proposals.”

16. It may therefore be that a project for the purposes of EIA is wider than the individual application which is being made. In *R(Burridge)v Breckland District Council*<sup>6</sup> planning applications were made for renewable energy plant, and for a combined heat and power (‘CHP’) plant 1 km away. The CHP plant was to be fed by gas generated by in the

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<sup>5</sup> [1991] 1 PLR 6 at 16.

<sup>6</sup> [2013] EWCA Civ 228, [2013]JPL 1308.

renewable energy plant and carried by a pipeline between the two installations. The two applications were to be treated as part of the same project for EIA purposes.<sup>7</sup>

17. Other caselaw on multiple elements being viewed as a single project was summarised by Holgate J in the Vanguard case, *R(Pearce) v Secretary of State for Business, Energy and Industrial Strategy*:<sup>8</sup>

“In other cases, it may be necessary to decide whether associated works form part of a single project. Once that decision is made, it may be obvious that consideration of the environmental effects of the associated works cannot be deferred. In *Brown v Carlisle City Council* [2011] Env. L.R. 5 the Court of Appeal held that where the acceptability in planning terms of a proposal for a freight distribution centre was contingent upon the provision of improvements to the runway and terminal at Carlisle Airport (which was reflected in a planning obligation under s.106 of the Town and Country Planning Act 1990), the airport improvements formed part of the overall project comprising the distribution centre. Consequently, the EIA was required to assess the cumulative environmental effects of that overall project and not just the distribution centre. That was the only rational conclusion ([25]). The fact that the airport improvements were to be dealt with in a separate planning application was nothing to the point. As Lindblom LJ explained in *Preston New Road Action Group v Secretary of State for Communities and Local Government* [2018] Env. L.R. 18, the airport works formed an integral part of the overall project which included the distribution centre. The environmental assessment of the airport works could not be deferred to a subsequent consenting procedure because they were intrinsic to the decision as to whether any part of the project should go ahead.”

18. The NZT DCO application is part of a project with the Endurance CO<sub>2</sub> store. The proposed development for the purposes of the Infrastructure EIA Regulations includes the carbon store. This is because:
- (a) the power station in the DCO scheme relies on CO<sub>2</sub> being stored in Endurance;
  - (b) the DCO includes the compression equipment and part of the pipeline for the Teesside end of the store;

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<sup>7</sup> At para 41-45 per Pill LJ, para 78 per Davis LJ, para 99-100 per Warren J.

<sup>8</sup> [2021] EWHC 326 (Admin), [2022] Env LR 4 at para 112.

- (c) whilst not essential to the conclusion that it is a single project, the Teesside compression equipment and the store will serve other CO<sub>2</sub> generators in addition to the generating station;
- (d) and draft DCO requirement 31(1) at Schedule 2 requires the Endurance CO<sub>2</sub> store to be licenced and the pipeline consented *before* all but permitted preliminary works on the development proceed:

“No part of the authorised development other than the permitted preliminary works may commence until evidence of the following (or such licence or consent as may replace those listed) has been submitted to and approved by the relevant planning authority—

(a) that the carbon dioxide storage licence has been granted;

... and

(c) that any pipeline works authorisation required by section 14 of the Petroleum Act 1998 for offshore pipeline works from Work No. 8 to the carbon dioxide storage site has been granted.”

- 19. The offshore CO<sub>2</sub> Endurance store is part of the same project as the NZT Teesside onshore works. CO<sub>2</sub> gathering and pressurisation is part of the on-shore works and the CO<sub>2</sub> store is required to allow the energy generation project to proceed. This is comfortably within the scope of the same project.
- 20. The Humber element is separate in that it is not needed for the Teesside scheme to proceed.
- 21. The project is therefore the NZT Teesside DCO scheme and the CO<sub>2</sub> Endurance store and offshore infrastructure required for it to proceed.
- 22. The Applicant’s ISH1 written summary [REP1-035], Appendix 6<sup>9</sup> does not dispute the recognition in the Environmental Statement that the project includes the Endurance CO<sub>2</sub> store, although it does use ‘Proposed Development’ in a narrower sense than in the ES, to refer to the subject of the NZT DCO application.

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<sup>9</sup> Applicants’ Response to Action 2 from ISH 1 “*in relation to consideration of overlap with Hornsea 4*”



*Content of the Environmental Statement*

23. The EIA therefore has to be of the whole project, including the Endurance offshore element as that is part of the ‘project’ or the ‘proposed development’. The Environmental Statement does refer to an assessment of combined effects, although it is not apparent from paragraph 4.1.5 of the ES whether the environmental effects of the offshore elements are, in general, being adequately assessed. The Applicant now says there is a need to ‘consider other developments (including the offshore transport and storage project) which have the potential to impact on sensitive receptors together with the Proposed Development.’<sup>10</sup>
24. The critical issue is the assessment of the Overlap Zone issues in the Environmental Statement. The Applicant’s position is:
- (i) there is nothing in the Infrastructure EIA Regulations which specifically requires consideration of the effects of the proposed development on other proposed developments (para 2.7, 2.13, 2.16, 2.20, 2.23) (Appendix 6 [REP1-035]);
  - (ii) the cumulative effects with other projects should be considered, but not effects of the proposed development on other projects, see para 2.18) (Appendix 6 [REP1-035])

“paragraph 5 of schedule 4 requires an assessment of effects of the proposed development on the environment resulting from cumulative effects with other projects, i.e. effects caused by the proposed development together with other projects, not effects “to” or “on” any other projects”
  - (iii) however, the NPS EN-1, requires, as the Applicant acknowledges (para 3.4) (Appendix 6 [REP1-035]):

“An energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development” (paragraph 5.10.1); and

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<sup>10</sup> [REP 1-035] Document Reference: 9.2 – Written Summary of Oral Submission for Issue Specific Hearing 1 (ISH1) App 6, para 2.12.

“The ES (see Section 4.2) should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing” (paragraph 5.10.5).

(iv) Consequently, the Applicant says (para 3.5) (Appendix 6 [REP1-035]):

“Whilst for the reasons set out above there is no legal obligation to consider any impact on the Hornsea 4 Offshore Wind Farm in the Overlap Area pursuant to the EIA Regulations, bp considers that providing such an assessment is likely to assist the Examining Authority’s consideration of the application by reference to these elements of NPS EN-1. The Applicants therefore intend to provide an assessment of the impacts of the offshore elements of the Project on Hornsea 4 Offshore Wind Farm to the Examining Authority by Deadline 4.”

25. The inter-relationship between the Endurance CO<sub>2</sub> store and Hornsea Four’s proposed wind turbines falls within the EIA regime as impacts on material assets and climate change (the loss of renewable energy) of the project. Material assets are described by the European Commission as including ‘buildings, other structures, mineral resources, water resources’.<sup>11</sup> Whether the CO<sub>2</sub> store impacts on the ability to exploit wind resources and to site turbines in accordance with the Crown licence for Hornsea Four is within the scope of impacts on material assets. Additionally, there will be an indirect effect on climate change if the store prevents the construction and operation of offshore wind turbine since those would otherwise contribute to reducing climate change.
26. There is a degree of judgement for the Secretary of State as to what has to be included in an Environmental Statement but that requires the right matters to be considered and important issues addressed.
27. The NPS, as noted above, in any event says that the Environmental Statement should address the effect of the development on proposed land uses or development on neighbouring land. Implicitly that includes overlapping schemes on the same land. The Hornsea Four scheme is ‘proposed’ within the language of the NPS – the DCO

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<sup>11</sup> Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report, review checklist, no. 2.13.

application is underway, although the grant of the licence would be sufficient to mean that it needs to be considered.

28. Since the Secretary of State must have regard to the NPS (Planning Act 2008, s 104(2)(a)) and decide the DCO application in accordance with it unless an exception applies (s 104(3)), the Environmental Statement is obliged, under the statutory policy in the NPS, to identify those impacts. The Examining Authority ('the ExA') and the Minister have to take those impacts into account.
29. The Applicant asserts that 'there is no legal obligation to consider any impact on the Hornsea 4 Offshore Wind Farm in the Overlap Area pursuant to the EIA Regulations' (App 6, para 3.5) but fails to address the legal duty which arises from the NPS and the Act. Their failure to do so, and their 'volunteering' of an assessment implicitly concedes the point.

*The Applicant's assessment of impacts on Hornsea 4*

30. The Applicant's assessment appears in its Deadline 4 submission ref [REP4-030] "*Applicants response to Orsted HP4 D3 Submission July 2022 (D4)*". This is in the form of a 6 page Appendix 1 entitled "*ASSESSMENT OF THE IMPACT OF THE OFFSHORE ELEMENTS OF THE NEP PROJECT ON HORNSEA PROJECT FOUR*". The paragraphs are unnumbered however at pdf page 11 it confirms that:

"Where unmitigated, the impact on Hornsea Project Four will have a residual magnitude of high, which combined with a high sensitivity, results in a residual significance of major adverse (significant) effect."
31. The mitigation suggested is to have more or larger turbines in the remainder of Hornsea Four. If that were possible (and I have no information on the point) then that could be done in any event, leading to the loss of wind turbine capacity in the Overlap Zone (on the Applicant's approach) in any event.
32. As such whilst the Applicant asserts at [6.2.8 -6.2.10] (Doc ref 9.10 *Applicants' comments on Deadline 1 submissions*) [REP 2 – 060] that because
  - (i) "the Proposed Development does not extend to the Overlap Zone. It therefore does not have any direct physical conflict with" Hornsea Four and

- (ii) “the Proposed Development remains acceptable and deliverable in its own right regardless of the outcome” of the Hornsea Four DCO examination and decision it does not “consider there to be any justification or need for any co-existence [sic] or provisions requiring the same” between the Applicant and Hornsea Four, this ignores the effects of the project.
33. The Applicant continues to use ‘Proposed Development’ in a narrower sense than in the ES. There is a need to assess the impact of the ‘project’ under the EIA Regulations. As acknowledged in the [REP4-030] assessment there is an impact upon Hornsea Four from the project and indeed a ‘direct conflict’ between the project and Hornsea Four.
34. The Applicant now suggests that the Endurance Store could proceed entirely outside the Overlap Zone, but at 30% capacity, and that this would ‘remain, in principle, viable and deliverable’ [REP4-030 App 1, pdf page 9]. That assertion is contrary to the applicant as it has been put forward to date, including in the ES and the draft DCO (which requires the whole Endurance Store to be licensed) and has no evidential basis. The ExA and the Minister would not be able to conclude that NZT is likely to proceed (storing carbon dioxide from the generating stations and the Teesside industrial users) on such a limited basis. Had evidence been produced, it would be far too late seek to consider it in the present process.
35. As the Applicant recognises [6.2.12] REP 2 – 060] there is an “*interface*” and that is between “*Endurance store*” and Hornsea Four.

### **The Protective Provisions in the Hornsea Four DCO**

36. As part of the Hornsea Four examination there have been three ‘sets’ of protective provisions (PP) put forward.
37. The first set comprised bp’s PP (PP1) which prevent Hornsea Four from developing anywhere within an ‘Exclusion Area’ identified by bp within the Overlap Zone and also included the disapplication of the Interface Agreement. This latter position however has been abandoned as set out [3.13] in bp’s response to Deadline 6 to the Hornsea 4 DCO “*Written submissions following Issue Specific Hearing (ISH) 7 and ISH8, further submissions in response to the Sewell Report* “[REP6-046 ]

38. The second set of bp's PP (PP2) (now the only remaining set from bp) propose again to prevent Hornsea Four from developing anywhere bp's 'Exclusion Area' but "*preserve the rights and obligations as exist under*" the Interface Agreement other than modifying it by removing "*bp's liability to Orsted*" (ie Hornsea Four). Thereafter however it provides for "*bp (on behalf of NEP) to make a compensation payment to*" Hornsea Four. This compensation payment is proposed to be determined by the Secretary of State.
39. The third set of PP are those proposed by Hornsea Four (PP3) and are reflected on the face of the draft Hornsea Four DCO at Sch 9, Part 8 (see most recent draft at Deadline 7 published 12 August 2022; Hornsea 4, REP7-039). These do not propose any disapplication or modification of the Interface Agreement. Hornsea Four is instead prohibited from proceeding with its works in the Overlap Zone until a "*coexistence and proximity agreement*" has been entered into with the Endurance Store licensee or the licensee or the Secretary of State have agreed that no agreement is required (para 4). The proposed PP limits the Endurance Store licensee's works only pending resolution of a dispute by the Secretary of State (para 11).

#### **Protective Provisions in the NZT DCO**

40. Hornsea Four have proposed that the equivalent of Hornsea Four PP3 be included in NZT's DCO ([REP2-089] Appendix 1).
41. This is necessary and justified firstly because the Secretary of State has to consider whether the NZT project can be carried with no impact on Hornsea Four or with an impact which is acceptable having applied the NPS:
- (i) The Secretary of State may only grant development consent if the application scheme is in accordance with the relevant NPS;
  - (ii) The NPS and the EIA regime require the effects of the whole project to be considered. This includes the Endurance Store;
  - (iii) The potential effects which need to be addressed include the effect on material assets (so the ability to carry out the Hornsea Four project) and climate change;

- (iv) Orsted's position is that the two projects can co-exist, but that this needs to be worked out in co-operation. The Applicant contends that they cannot both operate in the Overlap Zone;
  - (v) Where possible, of course, the Secretary of State should seek to ensure that harmful effects of a DCO scheme are avoided or minimised. Protective provisions or requirements are amongst the means of doing so;
  - (vi) That is preferable to the DCO being refused or the harm being allowed to occur;
  - (vii) Protective provisions which minimise or avoid this harmful impact on Hornsea Four relate to, or are matters ancillary to the development proposed in the NZT DCO as that brings with it the need for the Endurance Store. They can therefore be included in the NZT DCO.
42. It is not appropriate to leave the issue to the Hornsea Four DCO:
- (i) That DCO has not yet been granted;
  - (ii) It is possible that the making of a Hornsea Four DCO will be after a NZT DCO has been made;
  - (iii) There may therefore be a gap before a Hornsea Four DCO could require cooperation between the wind project and the Endurance Store;
  - (iv) As explained in paragraph 39 above, the Hornsea Four DCO proposes protections for the carbon storage licensee by providing that Hornsea Four cannot commence works in the overlap zone until a co-existence proposal has been advanced. This does not prevent the carbon storage licensee carrying out its project in the overlap zone unless there has been a dispute between the parties under those protective provisions. It is therefore necessary, irrespective of the Hornsea Four protective provisions, that there is a mechanism in the NZT DCO which requires that prior to the NZT/Endurance Store works commencing, proposals are made for appropriate co-existence.
43. It is also not appropriate to leave the issue to the consent regime for the offshore elements of the Endurance Store (EIA approval, consent under the licence, storage permit):
- (i) None of those applications have yet been made;

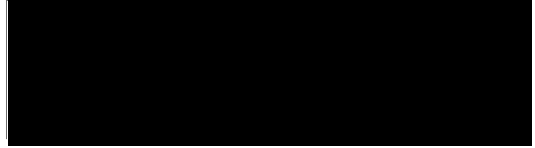
- (ii) There is no proposal to include protective measures for Hornsea Four in any of those consents;
- (iii) It is therefore entirely speculative whether protection will be given in these consents;
- (iv) There is a difference between the Applicant/bp and Orsted whether wind turbines and carbon storage can co-exist and so what mitigation/avoidance measures to include. The resolution of that issue is best achieved following the thorough and transparent DCO process, in accordance with the NPS;
- (v) In the event of a potential conflict between wind turbine and carbon storage, an assessment against policy and any balancing exercise is eminently a political matter, for the Secretary of State rather than for the NSTA.

### **Conclusion**

- 44. There is a legal requirement under the EIA Regulations for the Applicant to assess the effects of the NZT Project as a whole. There is also a legal requirement under the EIA Regulations for the Applicant to assess the impacts of the NZT Project on Hornsea Four Offshore Wind Farm as effects on material assets and climate change. There is an obligation to do so in any event because of the Planning Act 2008 and the NPS.
- 45. The assessment the Applicant has undertaken of the impacts of the offshore elements of the NZT Project on Hornsea Four Offshore Wind Farm will be a matter that the Secretary of State must take into account when considering whether to grant consent for the Proposed Development. It is relevant material submitted. It is of statutory relevance because of the EIA Regulations and/or the NPS's identification of the need for the Environmental Statement to cover the matter and the NPS's identification of effects on planned development as potential effects of a project.
- 46. The Secretary of State will need to consider whether the NZT DCO is acceptable given any effect which the proposed Endurance Store, as part of the project, would have on the Hornsea Four wind proposal. The Minister will need to consider what measures can be used to minimise or avoid harm.
- 47. The protective measures proposed for the Hornsea Four DCO would not be sufficient on their own as it is possible that steps would be taken for the Endurance Store in

advance of those controls. Protective provisions can and ought to be included in any NZT DCO.

48. If any matters arise out of this advice, please do not hesitate to contact me in Chambers.



39 Essex Chambers  
81 Chancery Lane  
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Richard Harwood QC

19<sup>th</sup> August 2022





# Hornsea Project Four

## bp Closing Remarks

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**Prepared** Amy Stirling, Pinsent Masons, August 2022  
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**Revision Summary**

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## 1 OVERVIEW

- 1.1.1.1 This document provides the Applicant's response to bp's Deadline 6 submission (**REP6-046**) and closing remarks. The Applicant has prepared this response mindful of the significant volume of information already before the Examining Authority in relation to coexistence between Hornsea Four and the NEP project in the "overlap zone", and the multiple submissions already made orally and in writing by the parties during Examination.
- 1.1.1.2 As such, the Applicant has focused this response on the following points:
- a) the decision making "flow-chart" provided by bp at Annex 8;
  - b) bp's proposed protective provisions provided at Annex 2; and
  - c) bp's further response to the "Sewell Report" provided at Annex 4.
- 1.1.1.3 For completeness, the Applicant can also confirm it has updated its proposed protective provisions for bp within Part 8 of Schedule 9 of the draft DCO at Deadline 7 as follows:
- a) paragraph 2(b) has been amended for clarity, to specify that the consents required for the NEP Project must be obtained within four months of the coming into force of the Order;
  - b) paragraph 10(b) has been updated to require that the crossing and proximity agreement between the parties must take account of a minimum distance between each turbine generator of 2,000m in all directions from the centre point of the turbine, in respect of the undertaker's works (i.e. those in the overlap zone).
- 1.1.1.4 The Applicant's proposed protective provisions provide the only course of action which achieves national policy requirements for co-existence.
- 1.1.1.5 The Applicant is of course happy to address any further queries the Examining Authority has in relation to co-existence prior to the end of Examination.

## 2 DECISION MAKING FLOW CHART

- 2.1.1.1 bp has provided a “Summary Decision Tree for ExA/SoS” at Annex 8 of its response.
- 2.1.1.2 In that response, bp states that:
- a) if the ExA / SoS consider co-location feasible in “the Exclusion Area” (i.e. the overlap zone) then NEP would not develop the Endurance store in the Exclusion Area if wind turbines are also located there; and
  - b) if there is no provision addressing the risk of “significant compensation” in the Interface Agreement (IA) as a result of the Exclusion Area, then NEP would “in all likelihood” not utilise the Endurance Store in the Exclusion Area.
- 2.1.1.3 The Applicant queries the accuracy of the statements made in the flowchart.
- 2.1.1.4 bp entered into a Deed of Covenant and Adherence to the IA only last year (10 February 2021) based on terms which:
- a) were fully transparent as to the existence and nature of the Applicant’s right to develop Hornsea Four in the overlap zone;
  - b) have the stated aim of seeking “to ensure successful co-existence of wind and carbon storage projects on an overlapping area of seabed”;
  - c) contain a detailed set of provisions relating to compensation for any loss, should co-existence not be possible, with a related dispute mechanism.
- 2.1.1.5 bp has not submitted any evidence to the Examination to justify its move from a position of “adherence” to the terms of the IA in 2021, to now in mid-2022 alleging it renders its East Coast Cluster (ECC) plan unviable (see e.g. paragraph 2.4 and paragraph 3.10.1 of bp’s Deadline 6 submission and bullet 2 in the “Outcomes” box of the decision tree).
- 2.1.1.6 bp is a commercial entity with a prominent position in the UK energy market. It is difficult to conceive that bp entered into an agreement which rendered its ECC plan unviable only 18 months ago. If the IA was fatal to the ECC plan as bp now alleges, then it would have been open to bp not to participate in the ECC plan rather than accede to the terms of the IA. It did not do so, and instead, it freely covenanted to adhere to the terms of the IA without substantive modification. bp has also continued to develop the ECC cognisant of the terms of the IA.
- 2.1.1.7 It is clear that the IA provides a workable solution via facilitating coexistence between the parties, or otherwise providing for compensation. Nevertheless, given bp’s submission that the IA is not fit for purpose (see e.g. pdf page 71 of bp’s Deadline 3 submission [REP3-047](#)), it is notable that bp has never expressly sought to renegotiate the terms of the IA with the Applicant, including the terms on which compensation is payable.
- 2.1.1.8 Finally, as explained in its previous submissions and further elaborated in part 4 below, the Applicant is confident that Hornsea Four and the NEP Project can achieve co-existence in the overlap zone and bp would not be required to abandon its development of the Endurance store in the overlap zone, should wind turbines associated with Hornsea Four be consented in that area.

### 3 BP'S PROPOSED PROTECTIVE PROVISIONS

3.1.1.1 bp has provided revised protective provisions at Annex 2 of its response.

3.1.1.2 The Applicant fundamentally disagrees with these provisions for the following reasons:

- a) rather than working from a premise of seeking to achieve co-existence, the provisions operate as an exclusion of Hornsea Four from the overlap zone at bp's sole discretion for a period of three years ("the Longstop Date" which is in effect a longstop period). There is no incentive on bp to seek to achieve co-existence within this timescale. This is fundamentally contrary to policies supporting co-existence and the national need for both offshore wind and carbon capture and storage;
- b) the compensation provisions are unnecessary and unworkable. Firstly, they are unnecessary as the IA already provides a framework for compensation as agreed between the parties only as recently as last year (where no renegotiation was sought). Secondly, the provisions are unworkable the Applicant will not obtain certainty as to whether compensation is payable until the Longstop Date, with payment not being made until some years later;
- c) during the lengthy longstop period, the Applicant will be forced to work on the premise that it will not be permitted to develop Hornsea Four in the overlap zone. As Hornsea Four is a single phased project, this means that the Applicant will most likely be unable to accommodate development in the overlap zone within its project programming in the event bp waives its requirement for the exclusion zone before the Longstop Date. Ultimately this could mean that no project is located within the overlap zone, with detrimental results for UK policy for energy security and net zero. As described in the Applicant's previous submissions, this would also result in an increased WTC density in a smaller developable area outside of the overlap zone, which would lead to increases the wake loss impacts of the wind farm and can have a significant effect on the generation performance. In turn, increased wake losses also increase the detrimental impact on the overall business case for the project, particularly should Hornsea Four enter into the highly competitive Contract for Difference Auction Round model where projects are effectively competing against other projects. An inefficiently designed wind farm with high wake losses is very likely to be at a significant disadvantage;
- d) the provisions no longer seek to disapply the IA in its entirety but instead seek to remove the liability of bp to the Applicant under that agreement. The Applicant has made detailed legal submissions against the disapplication of the IA in [REP5-076](#), which apply equally to bp's revised draft protective provisions, but are not repeated here. The Applicant maintains its position that the disapplication of provisions of the IA would be to deprive the Applicant of its contractual rights in an unprecedented manner, which is not in the public interest, and that there are alternative means freely available to the parties to revisit compensation quantum via renegotiation of commercial terms. The Applicant also maintains that such a provision requires consent from The Crown Estate, which has not been provided, nor is it likely to be given The Crown Estate's submissions to the Examination on this point. The Applicant refers to The Crown Estate's Deadline 6 response ([REP6-066](#)) and

ultimately considers disapplication of terms of the Interface Agreement to be a closed point (see also the Applicant's response at [REP5a-021](#)).

- 3.1.1.3 The Applicant's position is that bp's proposed protective provisions are unjustified and not supported by policy.
- 3.1.1.4 The Applicant also continues to question bp's assertion (which appears in part to drive its PPs and its rejection of the Applicant's), that NEP will take a Final Investment Decision on the NEP Project in June 2022. According to bp's Deadline 1 submission, the NEP Project involves "two offshore pipelines leading from each of Teesside and Humber to the Endurance Store" (see paragraph 2.3 of pdf page 121 of [REP1-057](#)).
- 3.1.1.5 The DCO application for the Net Zero Teesside project is currently in Examination, with a decision expected in May 2023 (following which there will be a six-week period for legal challenge). The DCO application for the Humber Low Carbon Pipelines project (part of Zero Carbon Humber) has not yet submitted its DCO application (expected Q3 2022 according to the PINS portal). It would be highly unusual for bp to take FID on the "NEP Project" in June 2023 without key consents in place. This consenting uncertainty would also be coupled with uncertainty regarding the timetable for BEIS progressing the delivery investment model for CCUS.

#### 4 RESPONSE TO BP'S FURTHER COMMENTS ON THE SEWELL REPORT

- 4.1.1.1 The Applicant has included Mr Sewell's response to bp's comments on his report as an Annex 1 of this response.
- 4.1.1.2 This is supported by the following additional annexes:
  - a) Annex 2: Energy Integration Project Phase 3 Spatial Co-Location Project, NSTA, June 2022;
  - b) Annex 3: CCS MMV & Spatial Co-Location Project, NSTA, 26 July 2022;
  - c) Annex 4: Measurement, monitoring and verification (MVV) of Carbon Capture Storage (CCS) Projects with Co-Location considerations, NSTA, July 2022.
- 4.1.1.3 For the avoidance of doubt, Mr Sewell's report and subsequent submissions are supplemental to the evidence in the OREC/NZTC report and do not supersede it, as alleged by bp at paragraph 5.2 of its Deadline 6 submission ([REP6-046](#)).
- 4.1.1.4 Finally, as Mr Sewell notes, the issues pertaining to access (rigs, wells and helicopter access requirements) were outside of the scope of his report. Nevertheless, the Applicant has provided a response to these matters in its Deadline 1 submission ([REP1-057](#)) and is confident that coexistence on these matters is achievable, in line with policy, as it is for oil and gas operators in the vicinity of offshore wind farms, including Hornsea Four.

## 5 FINAL COMMENTS

- 5.1.1.1 The Applicant is advancing a position of facilitating coexistence, supported by public policy and a commercial agreement entered into between willing parties since 2013 (and to which bp acceded in 2021).
- 5.1.1.2 The Applicant acknowledges that policy supports development of offshore wind and CCUS, both of which are critical to the UK achieving its net zero target and mitigating the effects of climate change.
- 5.1.1.3 The Applicant is clear however that the public interest in the delivery of the full capacity of Hornsea Four has increased since the submission of its DCO application.
- 5.1.1.4 The need for Hornsea Four has been established in F1.6: Statement of Need ([APP-234](#)), however given the significant change to the global energy landscape, and the publication of the British Energy Security Strategy, this need has been strengthened, as set out in the Addendum to the Statement of Need which is provided alongside this submission at Deadline 7.
- 5.1.1.5 Notably, the British Energy Security Strategy establishes a policy to **deliver** 50GW of offshore wind by 2030. To put that into context, the Addendum to the Statement of Need finds that National Grid's TEC Register lists 51GW of offshore wind projects with connection dates before 2029, of which 20GW are connected or committed to delivery. It finds that 97% of those projects must connect, at their current estimated capacity and without delay, in order to meet the BESS aim of 50GW of offshore wind operational and connected by 2030. There is no scope for delay or attrition if energy security and net zero policies are to be delivered.
- 5.1.1.6 As such, it is imperative that Hornsea Four is delivered in a timely manner, maximising its full capacity to not only meet net zero targets, but to provide much needed security of supply to the GB grid.
- 5.1.1.7 As acknowledged in the Addendum to the Statement of Need, whilst CCUS retains its important place within the BESS, it has not attracted a more prominent role relating to energy security, given it is an enabler of eliminating carbon emissions from fossil fuel use, rather than providing a power source in itself (unlike Hornsea Four).



# Hornsea 4 - NEP Overlap

## Comment on bp response

This document has been prepared by Andrew Sewell of Xodus Group Limited upon the instructions of Pinsent Masons LLP for Orsted UK Limited, to provide commentary on bp's responses to deadline 6

August 07, 2022

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Feedback on bp's further technical response Annex 4 – 06/08/2022

In 2.1.4 bp states that hybrid OBN and towed streamer seismic data would not provide a “consistent, reliable and repeatable seismic image”. The NSTA co-location slides [1] provide an example of hybrid streamer and OBN survey around an obstructed area in Malaysia (slide 11), and although this does not appear to be for 4D purposes, there is no reason why a hybrid survey would be less repeatable than individual streamer or OBN surveys.

2.6 states “Given Mr Sewell's agreement with bp's position concerning emerging technologies and the need for NEP's MMV plan for Endurance to use 3D/4D seismic imaging, the evidence before the Examining Authority does not support finding that emerging technologies would allow co-existence to occur in the Exclusion Area or that NEP does not need to use 3D/4D seismic imaging in its MMV plan”

It is my opinion however (and I believe bp's also based on section 3.1 of Annex 4) that neither OBN nor P-Cable are “emerging technologies” but are proven technology in general, even if not yet for 4D for CO2 monitoring. The NSTA co-location slides [1] and [2] provide ample evidence of this for OBN, including bp's experience at Clair Ridge, slides 19 and 20 in the June 2022 slide pack [1].

2.16 states “Given Mr Sewell's agreement with bp's position on these issues [the use of streamers in a wind farm and P-Cable in general], the evidence before the Examining Authority does not support finding either that a grid formation of 2x2km would allow co-location in the Exclusion Area or that NEP could use short streamers of less than 200m to acquire seismic data in the event wind turbines were present in the Exclusion Area.”

To clarify the point made in this section, my opinion is limited to saying that P-Cable on its own is not a viable solution for Endurance. However P-Cable in addition to OBN is a viable solution. OBN would be targeting the Bunter reservoir and sealing formations directly overlaying the Bunter, while the P-Cable would be targeting the shallowest formations from seabed to 500m TVDSS.

4.1 describes bp's initial response to my report and that the scope and timeframe of the field trials and modelling I suggested are unrealistic. I think there is a misunderstanding about the nature of the field trials and modelling that I was suggesting. The field trials I was proposing are related to logistics rather than direct data quality and so do not require a full 3D seismic survey to be acquired and processed.

4.7.2 states “if in theory it might be possible to use OBN to acquire good quality seismic data at Endurance, if there were wind turbines in the Exclusion Area, then no matter how good the quality of the data, there would be “gaps” in the seismic data at the location of the wind turbines. .... This means that no matter how good the seismic data acquired by OBN and P-cables might be, it would not be sufficient for NEP's MMV plan as NEP would not be able to image the complete Endurance store”

The purpose of the field trials and modelling that I am suggesting is to show whether or not this is the case. The field trials would show how close to a wind turbine nodes and air guns could be used. The modelling would show the impact of this on seismic data quality and ability to monitor the CO2 plume.

In 4.8 to 4.13 I understand that bp are proposing something more extensive than I had in mind. For example I don't think it is necessary to acquire an actual OBN 3D seismic survey as part of this. If an OBN 4D baseline survey is needed it can be done any time prior to CO2 injection starting. With regards to sand waves, my concern was with nodes being moved during a survey. Field trials for the impact of sand waves physically moving nodes around does not require a full seismic acquisition. In general, I think bp is describing a different set of trials and modelling to



what I envisaged. bp might think that more is required than I had suggested, but this has not been the subject of any discussions so far.

In particular, 4.8.1 states *"by its nature, forward modelling is at best only indicative of a likely "best-case" scenario of what is theoretically possible;"*

The modelling I am suggesting is not to produce a single base case, but to consider a range of seismic survey designs and exclusion zones to see the relative impact on signal-to-noise ratio and imaging of each of these scenarios, and in comparison to a base case of long streamer acquisition.

In 4.13.3 bp states *"the rig, well and helicopter access requirements identified by bp (which, as explained above in paragraph 2.17 have not been challenged by Mr Sewell ....) mean there could not be co-existence in the Exclusion Area."*

This is simply because access issues were outside the scope of my report, and not because I have reviewed these issues and agree with bp's conclusions.

bp's comments in 4.20 are conflating the direct impact of wind turbines as source of seismic noise, with the indirect impact on seismic data quality from small exclusion zones around each turbine. The July NSTA co-location slides [2] contain comments on the direct noise issue from work being done by Heriot Watt university (slide 44). The conclusion says "Windfarms .... appear to be a low level acoustic noise source within the seismic survey spectrum" and "less than an [sic] distant earthquake". This indicates to me that it should not be a major factor in seismic data quality. I would still maintain that the level of noise from an inactive turbine is likely to be less than that of an active one, although this is not something that I have investigated. Measuring wind turbine noise is another of the field trials that I suggested, and which could be done in a short time frame, around existing wind turbines.

In 4.30 bp states *".... there are large sand waves and substantial ripple effects present on the seabed of the Endurance area and that the strong tidal currents in the area mean there is a real risk that nodes placed on the seabed could move during the time a survey was being undertaken, which would degrade the seismic data that was acquired.."*

I agree and this is why I suggest that a small number of nodes could be placed on the seabed for the equivalent of the duration of a seismic survey, and their movements tracked to quantify the problem. This would not need a full 3D seismic survey to be acquired.

The comment in 4.33 somewhat overstates what I intended. I think that OBN costs will reduce relative to streamer, but will stay more expensive in the time frames that matter to this project and therefore not "significantly reduced". This is also the opinion of the authors of the NSTA co-location report [1] and [2]. Additionally, I don't think that any emerging technology will have matured sufficiently to make a difference to MMV requirements for Endurance. As noted above however, it is my opinion however (and I believe bp's also based on section 3.1 of Annex 4) that neither OBN nor P-Cable are "emerging technologies"

The issues raised in 4.42 relate to how exclusion zones around wind turbines may affect OBN data and is the reason why I suggest conducting field trials and modelling which would be able to quantify the relative impact of different acquisition techniques and exclusion zones on the ability of 4D seismic to monitor the CO2 plume.



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Comments on Annex 5: February 2021 (Endurance 4D Seismic Feasibility) slide pack

I had not seen this slide pack before but there is not much in there that is new or different to the other documents that I had seen. The summary table on slide 6 is good. I note that this concludes that a dense OBN on a grid of 200m x 50m is a viable solution for 4D monitoring at Endurance, with the caveats about mobile seabed and exclusion zones around wind turbines. This is a different definition of dense OBN to that contained in the table on slide 11 of bp's October 2021 slide pack, which describes a dense OBN as a grid of 100m x 50m, which is twice the number of nodes as assumed in the February 2021 summary. The question of what constitutes a sufficiently dense OBN grid to enable the necessary MMV at Endurance is what could be answered the modelling I suggested.

It is also worth noting that bp estimated the cost of dense (100m x 50m) OBN as £260M-£315M over the lifetime of Endurance MMV compared to £17m for HR towed streamer, in the October 2021 slide pack. In other words more than fifteen times the cost. The work done by the NSTA co-location forum and shown in the June 2022 slide pack [1], estimates that OBN 4D seismic for CCS would be two to three times the cost of towed streamer over the lifetime of a "large aquifer" storage project in UKCS (slide 8). This highlights that different assumptions about survey design can have a large impact on cost estimates.

References

There are 2 versions of the NSTA co-location slide pack referred to in this document

[1] is "Energy Integration Project Phase 3 Spatial Co Location Project" by Ronnie Parr, June 2022

[2] is "CCS MMV & Spatial Co-Location Project" by Richardson & Parr for the NSTA, July 2022.



North Sea  
Transition  
Authority

# Energy Integration Project Phase 3 Spatial Co-Location Project

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Co-location forum:

Ronnie Parr

June 2022

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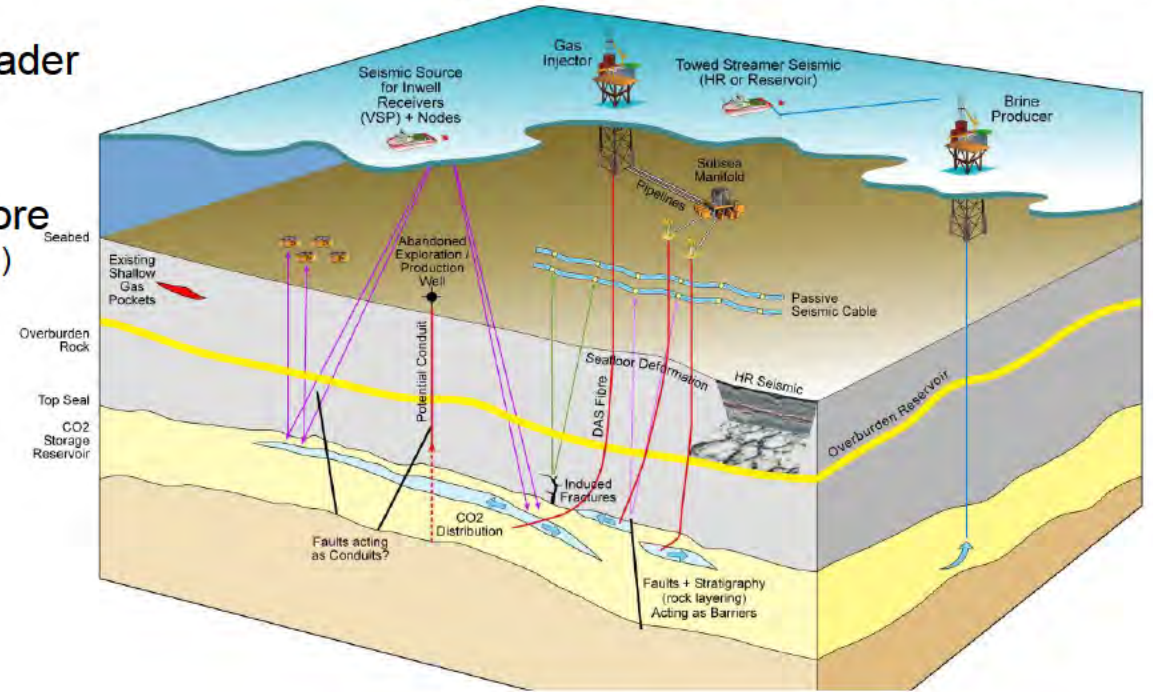
The North Sea Transition Authority is the business name for the Oil & Gas Authority, a limited company registered in England and Wales with registered number 09666504 and VAT registered number 249433979. Our registered office is at 21 Bloomsbury Street, London, United Kingdom, WC1B 3HF.

# 4D seismic monitoring context

- Seismic is expected to be an important component of the broader MMV (measurement, monitor, verification) technology portfolio.
- Actual MMV approach needs to be customised for specific store (seismic streamer, OBN, gravity, well surveillance, traces, geochemical, benthic,...)
- A CCS complex operator may identify a number of risks & uncertainties that could be mitigated by repeated seismic observations of the rock and fluid response to CO<sub>2</sub> injection.

## Important considerations:

- 1) Magnitude of reservoir **signal** generated by production/injection between the baseline & monitor surveys (*this NSTA study*)
- 2) Sufficiently low level **noise** (non- production) differences between the seismic surveys (*NSTA study in prep*)
- 3) There are clear plans to use the monitoring data to mitigate specific risk and uncertainties (*NSTA MMV study 2022 in press*)





Seismic Repeatability NOISE  
Difference between baseline and monitor survey  
Will have level of random noise

Predicted 4D SIGNAL  
(Strength of seismic signal as a resulting of reservoir fluid changes)



**OBN (Ocean Bottom Node) seismic is a geophysically superior reservoir imaging technology especially for complex imaging targets or within a constrained/ co-location environment. However the cost of each OBN 4D survey (baseline & every monitor) is 2 to 5 times more expensive than it streamer equivalent. This remains a major drawback and cannot justify the cost in most CCS situations.**

# Project Status

- **MMV (Monitoring Measurement Verification):-** NSTA report Publication summer 2022
- **OBN project (Graham Lilley/ Ronnie Parr)** Publication ~ end 2022 
  - Seismic acquisition review complete
    - Status of Nodes technology & near obstruction acquisition
    - OBN vs Streamer Cost Comparison
  - Processing, Case studies & Assimilation underway
    - Baseline & Monitor Parallel Processing (Streamer or OBN) can improve reliability
    - Many successful hydrocarbon (Streamer & some OBN) 4D case studies
    - Very few CO<sub>2</sub> studies
- **Seismic Signal/ CO<sub>2</sub> Detection Project (IKON & Ronnie Parr)/** Publication ~ end 2022 
  - 5 Wells: Petrophysics & Fluid (Brine, Methane and CO<sub>2</sub>) Substitution complete
    - IKON finishing individual well documentation & presentation at EAGE Madrid June 2022
    - Completed Reviews with individual operators
    - Results ~ in line with expectations
- **Windfarm noise (Heriot Watt/ Colin Macbeth)** Report expected mid June for review
  - Literature review underway
  - 2D seismic shot data analysis: Delayed due to data reading

# Acknowledgements

## OBN study



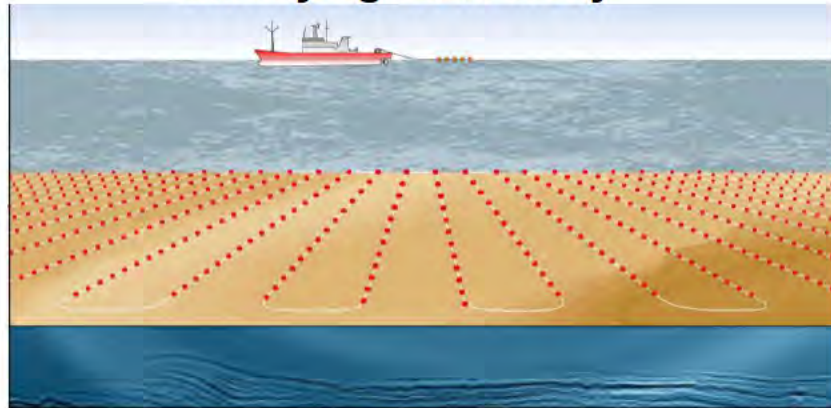
## IKON detectability study





# **OBN (Ocean Bottom Node) Seismic Project**

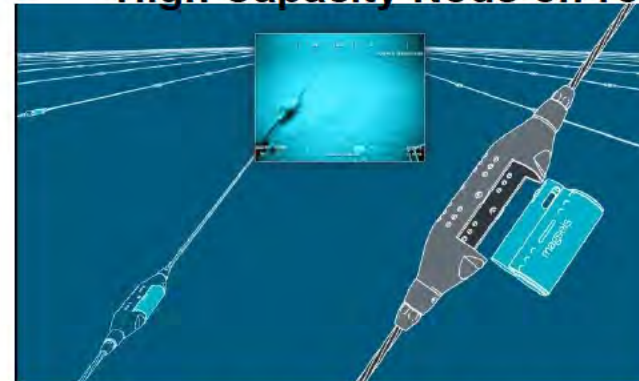
### Surveying node array



### Node & deployment on a rope



### High Capacity Node-on-rope



7kg node



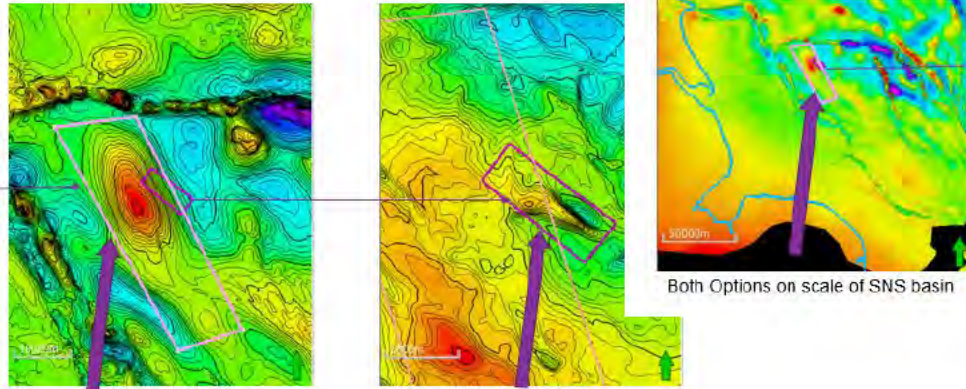
### Potential Node Handler (M/V Ocean Pearl)

- Lays/Picks up nodes in very controlled fashion
- Can/does go close to installations
- “redundancy of propulsion/steerage”
  - Not necessarily DP (dynamic positioning)

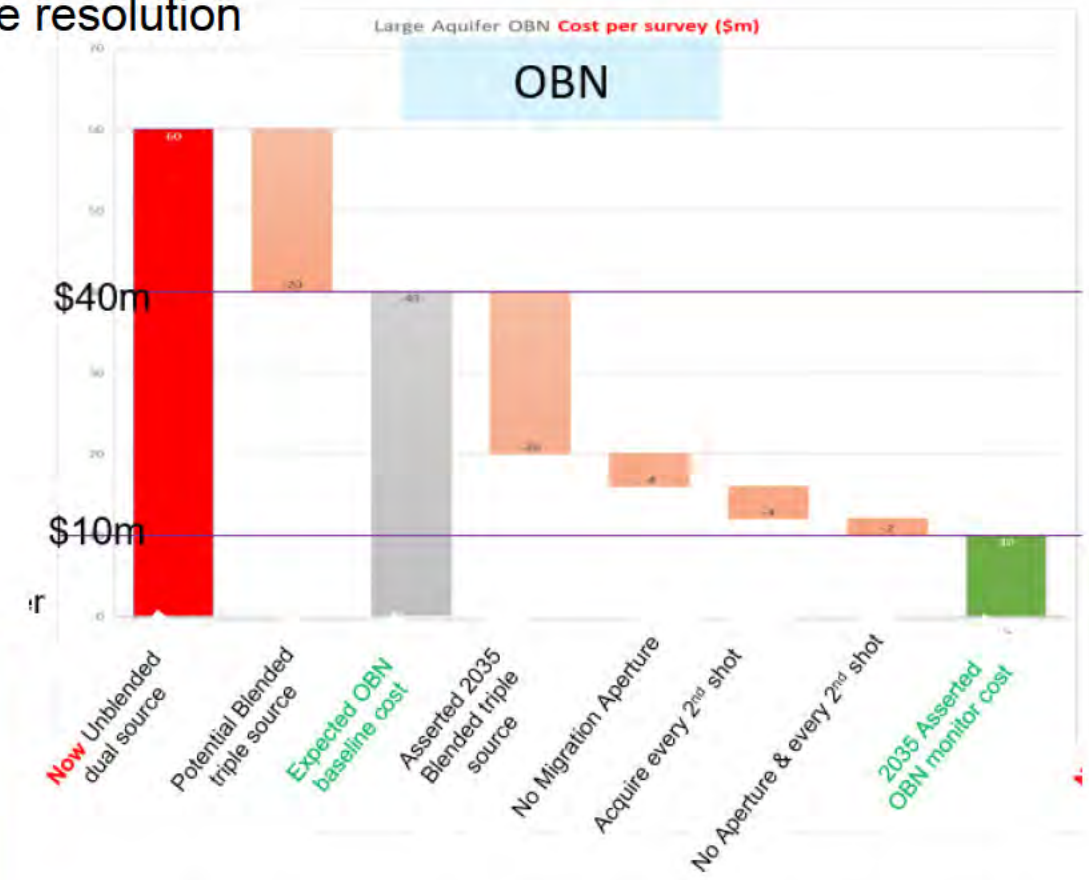
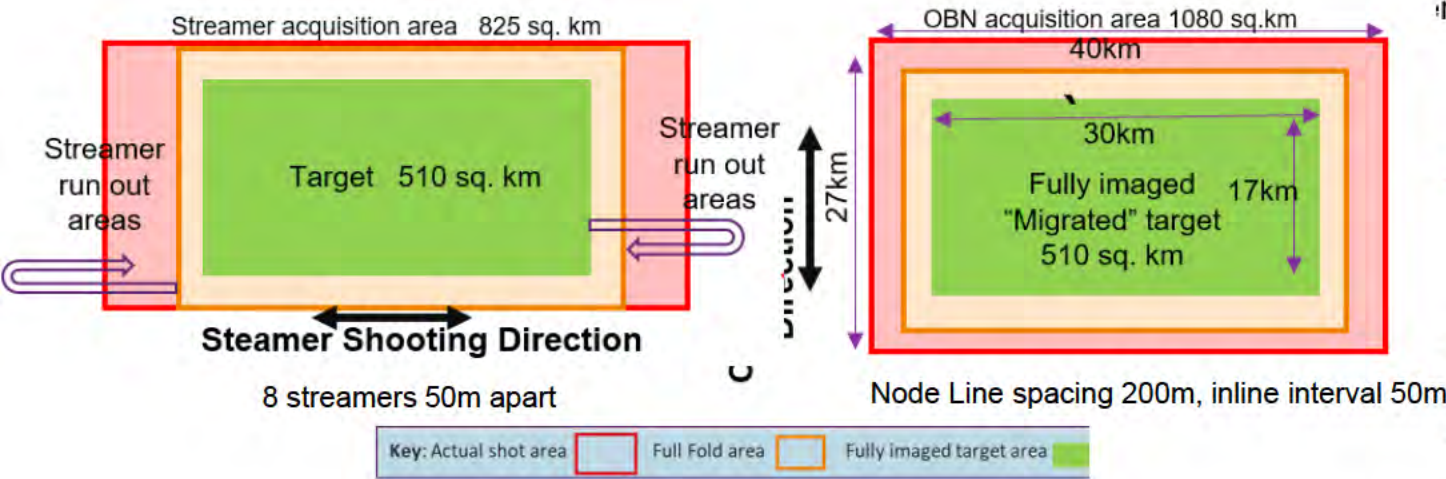
- Cables hold sensors/ No electronics in cable
- Autonomous
- Vessel holds several hundred kms of cable
- Robotic back deck speeds up deployment/ removes manual handling
- Automatic data transfer

# Acquisition cost comparison

- Compare generic large “aquifer” survey vs small “depleted gas” field
  - Using OBN & streamer configuration to give comparable resolution



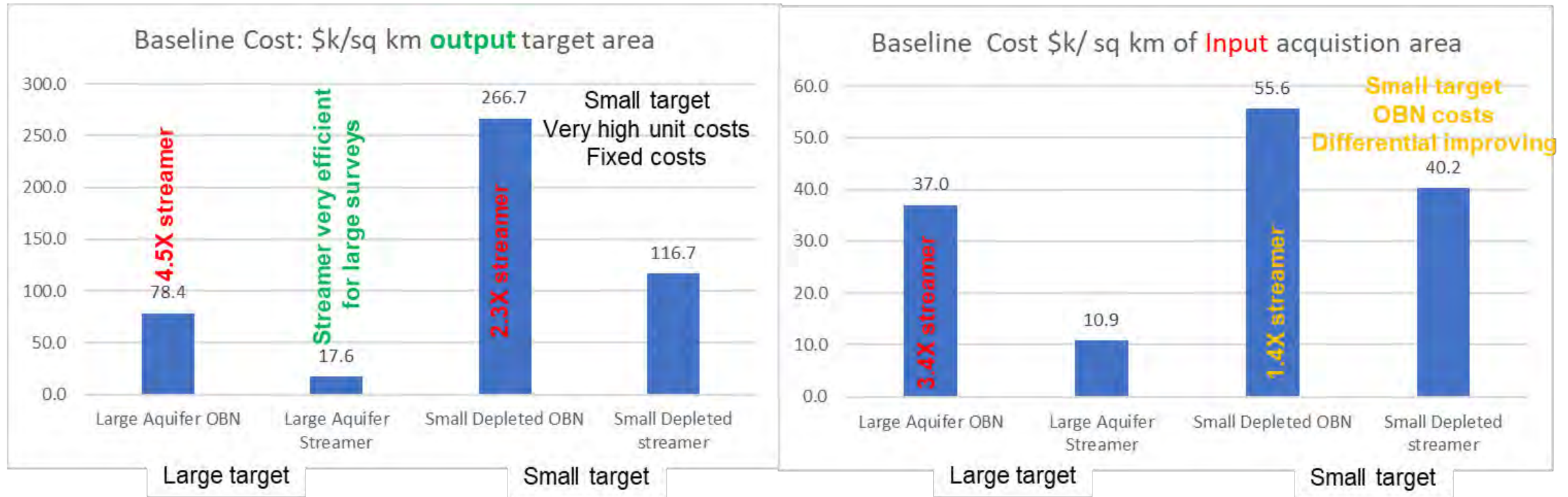
510 sq. km aquifer closure      30 sq. km depleted gas field  
 These maps are shown purely to show scale of closures and do not imply any specific CCS activity



- OBN costs reduced by ~50% over last decade (automatic node handling)
- Some scope for further technology development / OBN will always be slower (and therefore more costly) than streamer

OBN has some scope for further cost reductions

# Acquisition Cost model results



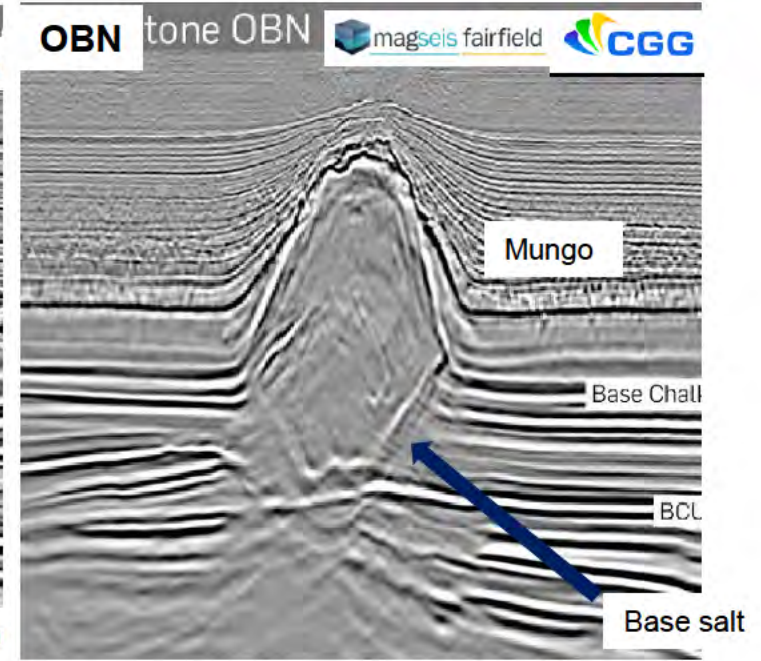
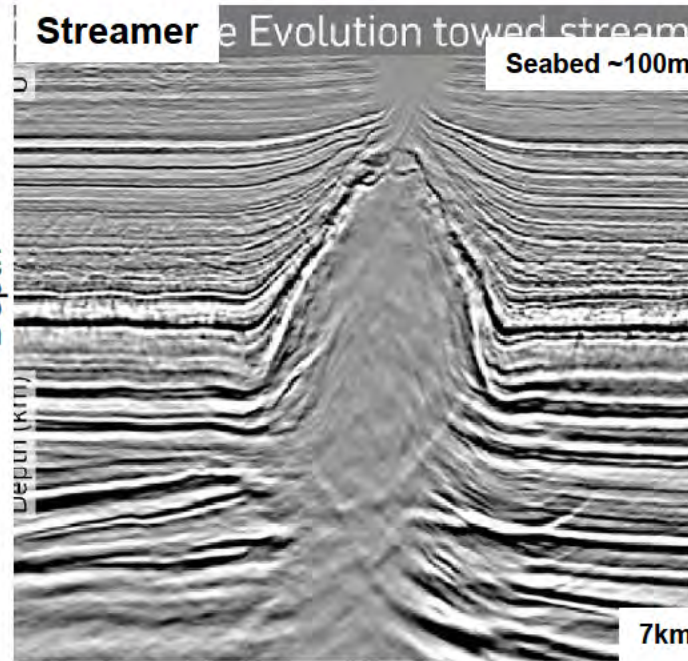
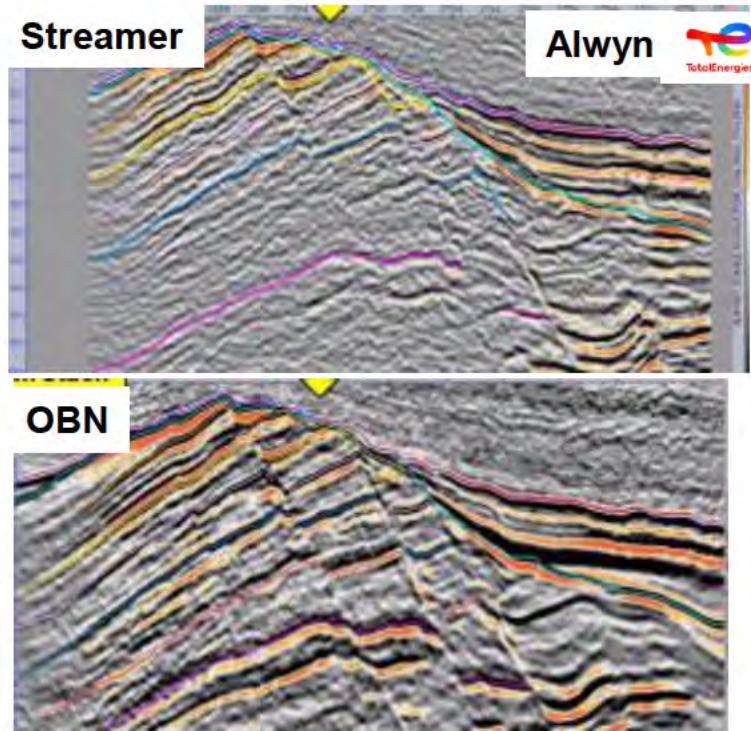
Total lifecycle Seismic Monitoring costs ( assuming baseline 3D & 5 monitors + \$1m processing for each)

- Large Aquifer: \$96-146m (OBN) or \$54m (streamer) vs. Whole CCS project costs ~£5bn (1-2% of Capex)
- Small Depleted \$34m (OBN) or \$21m (streamer) vs Whole CCS project costs ~£1bn (2-3% of Capex)

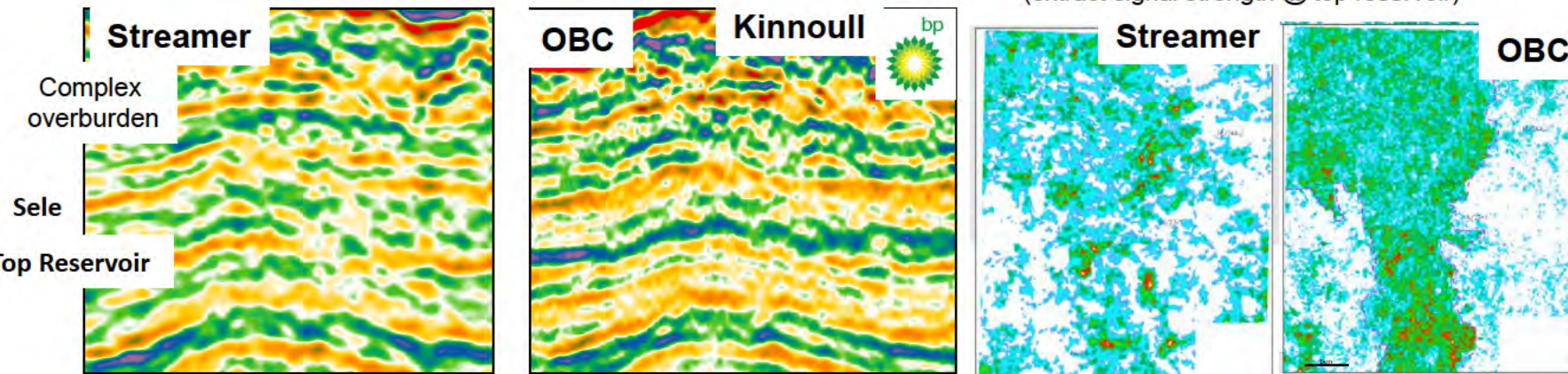
**Seismic costs small proportion of total project capex, but very hard to justify the significant additional cost purely for marginal imaging improvement for most reservoirs**

OBN will remain more operational complex, slower and more expensive than streamer

# OBN Traditional: complex structures or overburdens



Seismic attribute map  
(extract signal strength @ top reservoir)

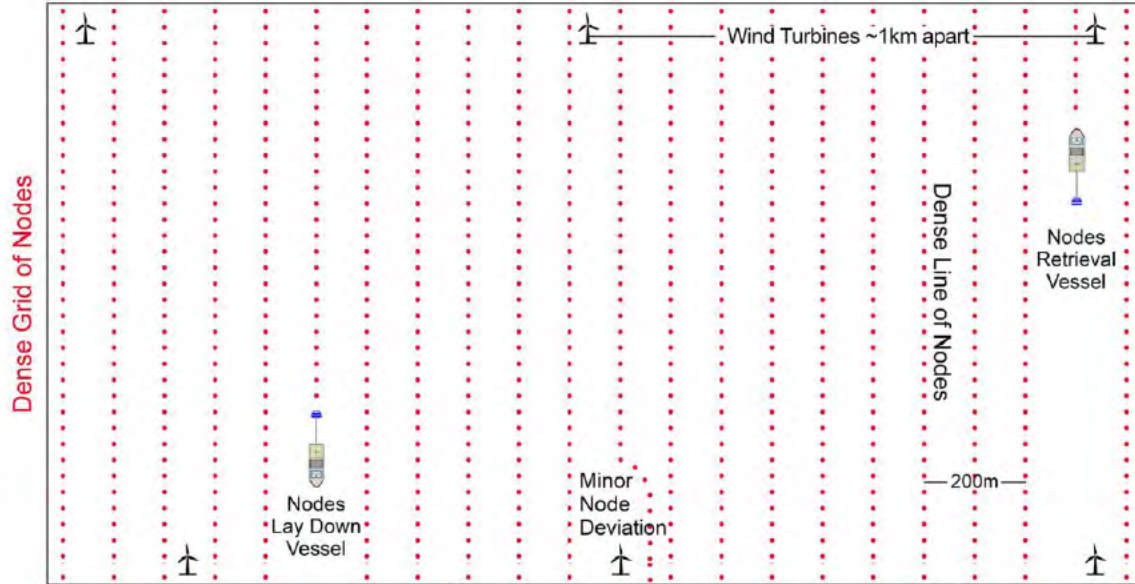


Many examples from UKCS where OBN has delivered superior image of subsurface e.g.

- Improved fault definition
- Increased horizon continuity
- Superior salt tectonic mapping
- 4D reservoir behaviour

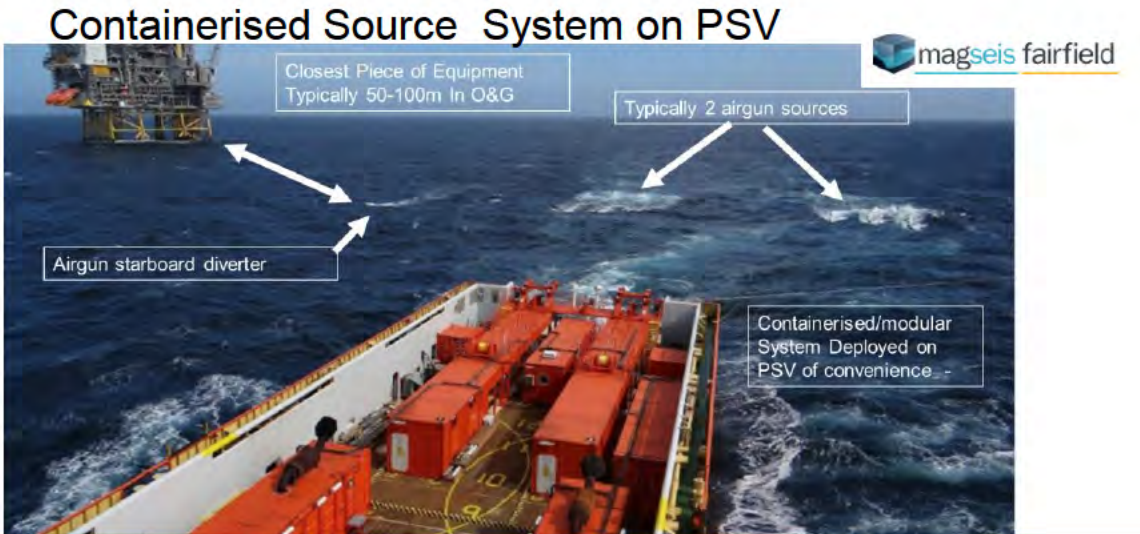
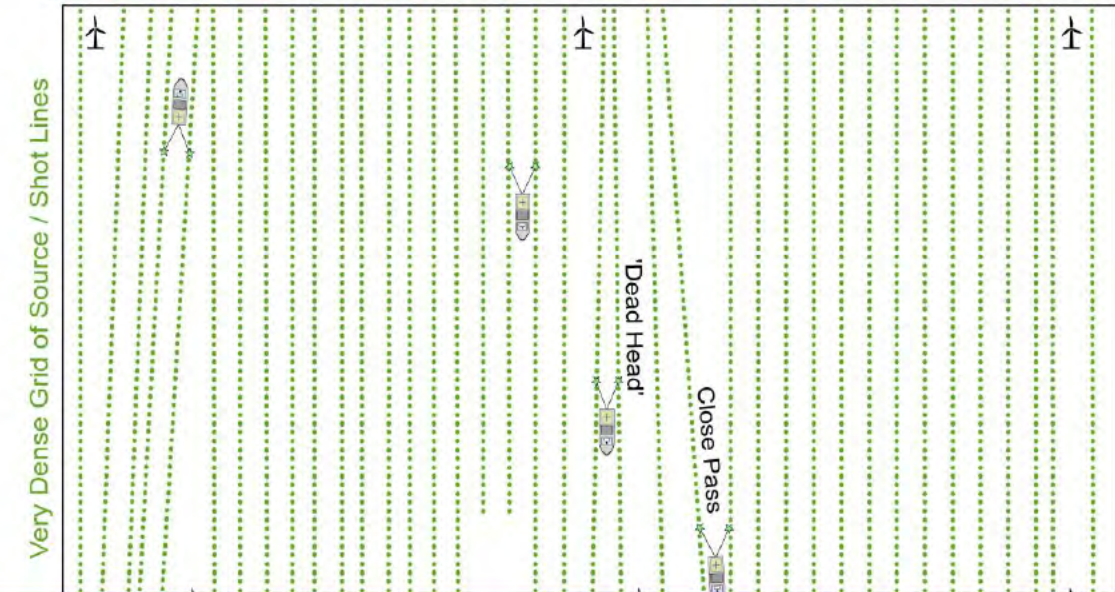
OBN usually employed for complex targets/ Many excellent examples of geophysically superior imaging improvements

# OBN acquisition Proximity to obstructions



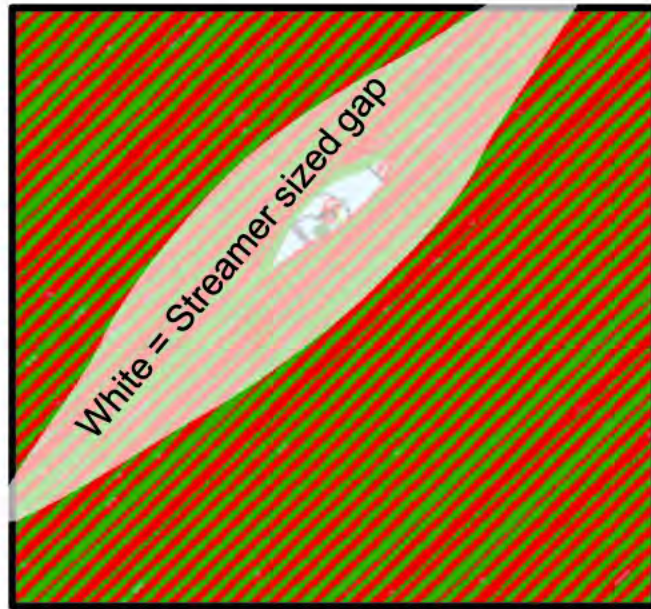
The NSTA gratefully acknowledges these unpublished images shown with permission of the GEAD coventurer group

Geowave Commander (node vessel) on close approach (~350m) to platform. Picture taken from source boat



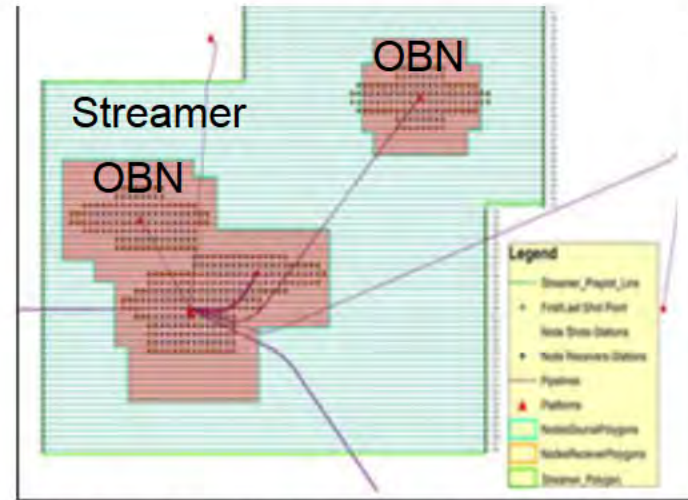
OBN can be acquired close to infrastructure

## Acquisition around single platform



Seismic source lines (alternating red & green direction, 25m apart) shooting into permanent installed nodes (PRM).  
Dead heads visible from NE

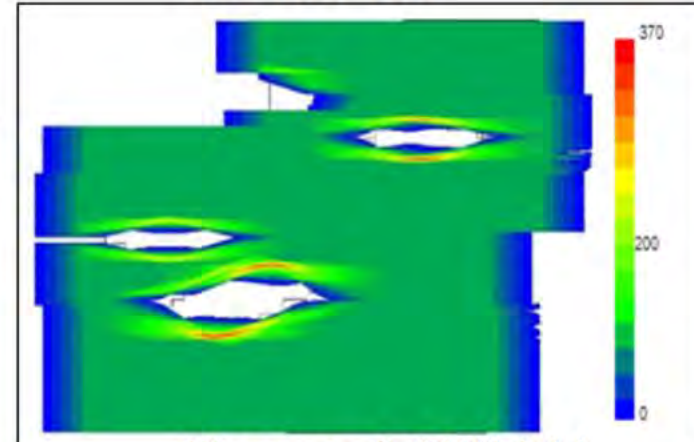
## Hybrid streamer & OBN around platform (Malaysia)



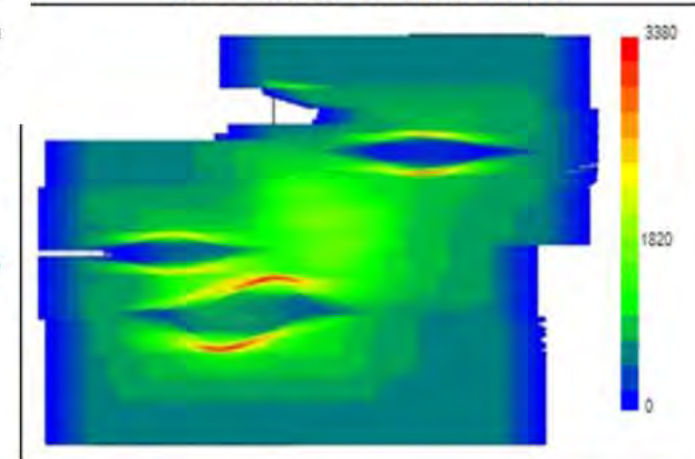
A cost-effective and efficient solution for marine seismic acquisition in obstructed areas –  
Acquiring ocean-bottom and towed-streamer seismic data with a single multipurpose vessel  
*Michelle Tham<sup>1\*</sup>, Tim Brice<sup>1</sup>, Artem Sazykin<sup>1</sup>, Wai Leng Cheah<sup>1</sup>, Stephen Winters<sup>2</sup>, Nigel Jones<sup>3</sup>, Sandeep Chaudola<sup>4</sup>, Shamsul Shukri<sup>4</sup>, Subodh Kumar<sup>4</sup>*  
<sup>1</sup>WesternGeco, <sup>2</sup>Roc Oil Company, <sup>3</sup>Dialog Resources Sdn. Bhd., <sup>4</sup>PETRONAS Carigali Sdn. Bhd.

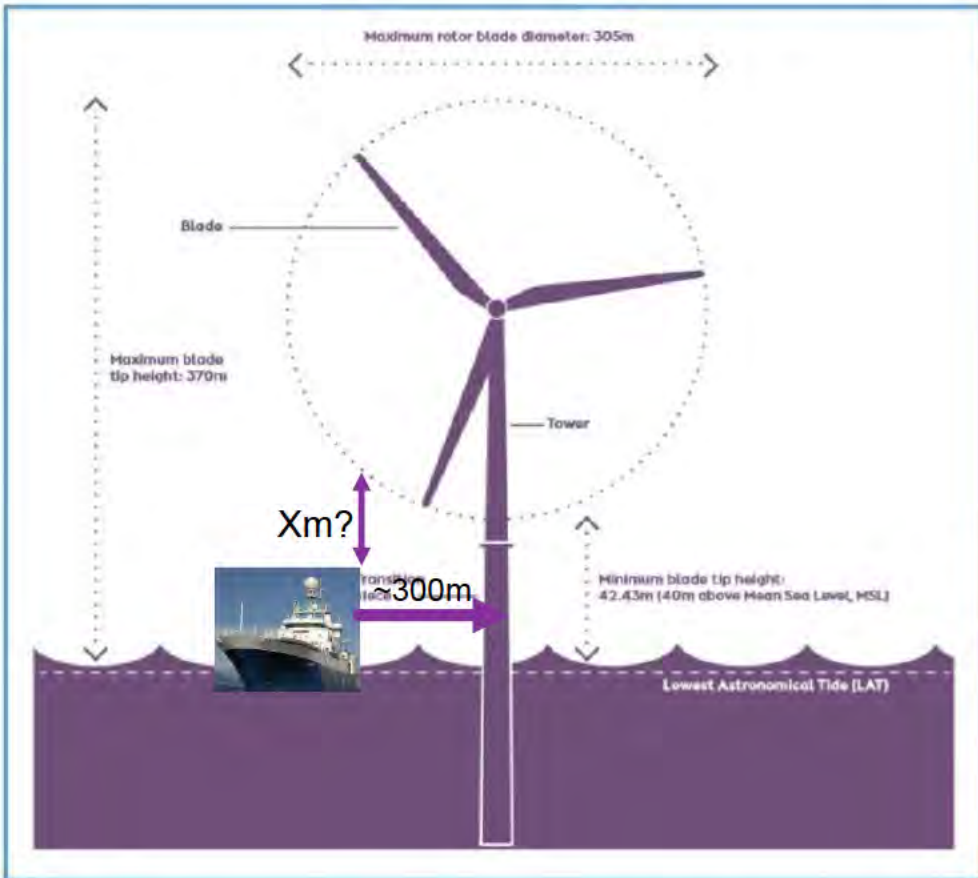
Claim hybrid survey ~25%  
cost of full OBN

## Streamer fold



## Streamer & OBN fold





## Intra-windfarm Cross disciplinary HAZID assessment

- Currently estimated seismic vessel- platform safety separation 250m (OBN) - 400m (Streamer)
- Seismic vessel Proximity to turbine?
  - Large turbines => longer blades
    - Impact on working beneath (e.g. radar domes)
  - Additional risks working within multiple obstructions
- Windfarm walk to work lessons

## Technology development: size of vessel and towing equipment

## Further Autonomous receiver node development

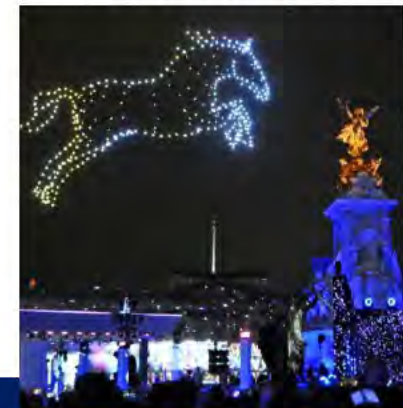
- Increase Receiver mode density
- Analogous Drone choreography advancements

- Engineering Challenges for Autonomous seismic sources vision (RAM4D)

- Source position, Obstacle avoidance and signal repeatability,
- AUV endurance needs to be improved (>100km/day) / Limited OBN battery life
- Additional power to energise source / Local Windfarm energy supply opportunity?



Autonomous node



Further investigation into seismic operations in windfarms required



**Reservoir 4D signal > seismic noise**

# The Signal > Noise See-Saw

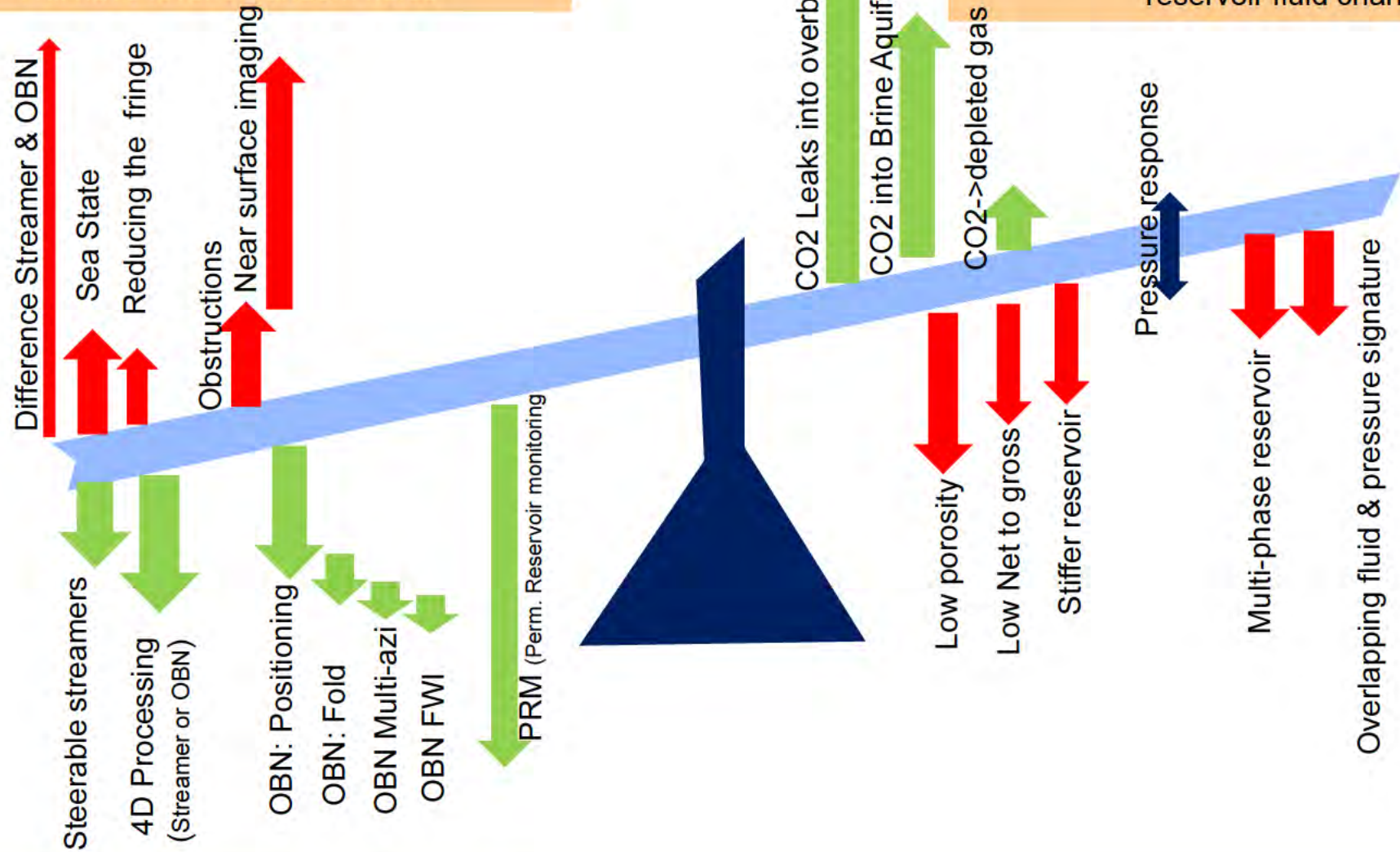


## Seismic Repeatability NOISE

Difference between baseline and monitor survey  
Will have level of random noise

## Predicted 4D SIGNAL

(Strength of seismic signal as a resulting of reservoir fluid changes)



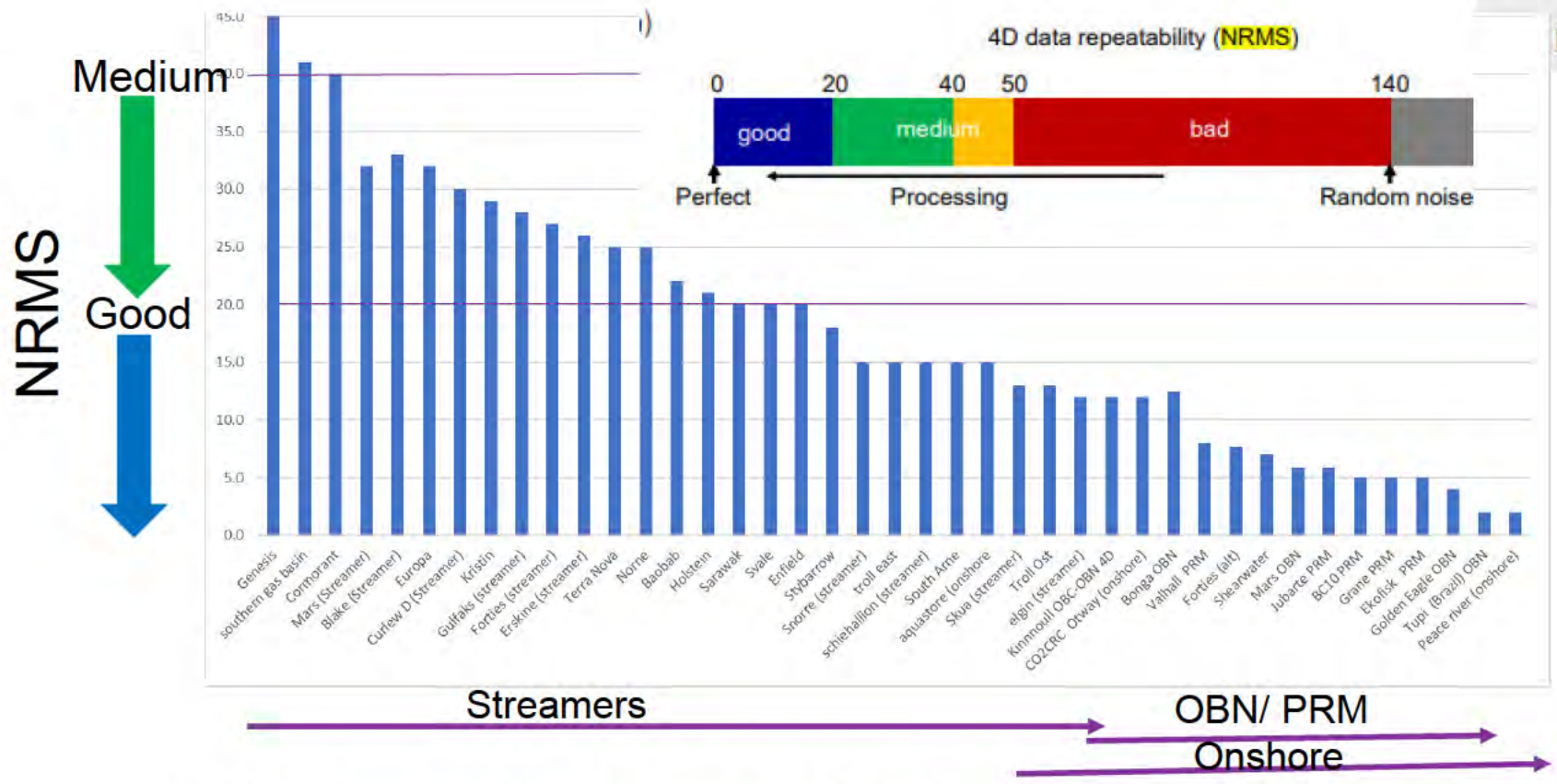
Critical to predict signal > noise before surveying

# Seismic Repeatability & Noise: NRMS



## Seismic Repeatability NOISE

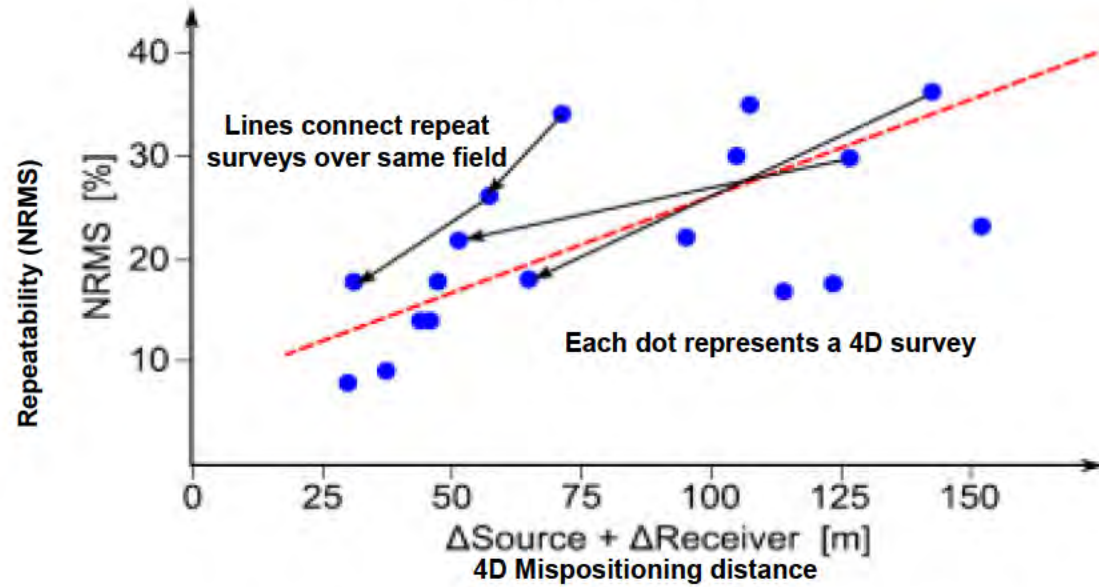
Difference between baseline and monitor survey  
 Will have level of random noise  
 NRMS (Normalised Root mean Squared)



Modern Streamer data acquisition & Processing typically achieves NRMS ~15%  
 Modern OBN acquisition and processing achieves NRMS ~5%  
 Offshore PRM (Permanent reservoir monitoring) can achieve NRMS ~2%

OBN or PRM can significantly improve repeatability/ suppress the noise level

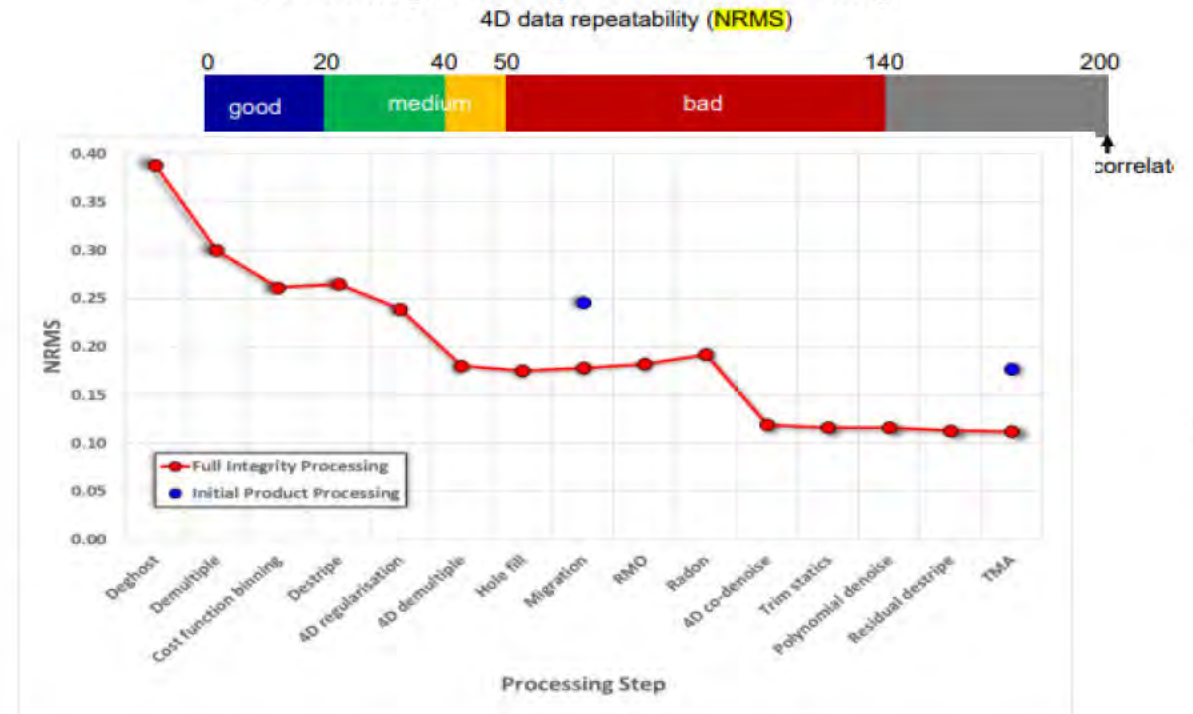
Clear linkage between source & Streamer Repeatability vs NRMS noise



Improving Repeatability (lower NRMS) with better source and receiver positioning

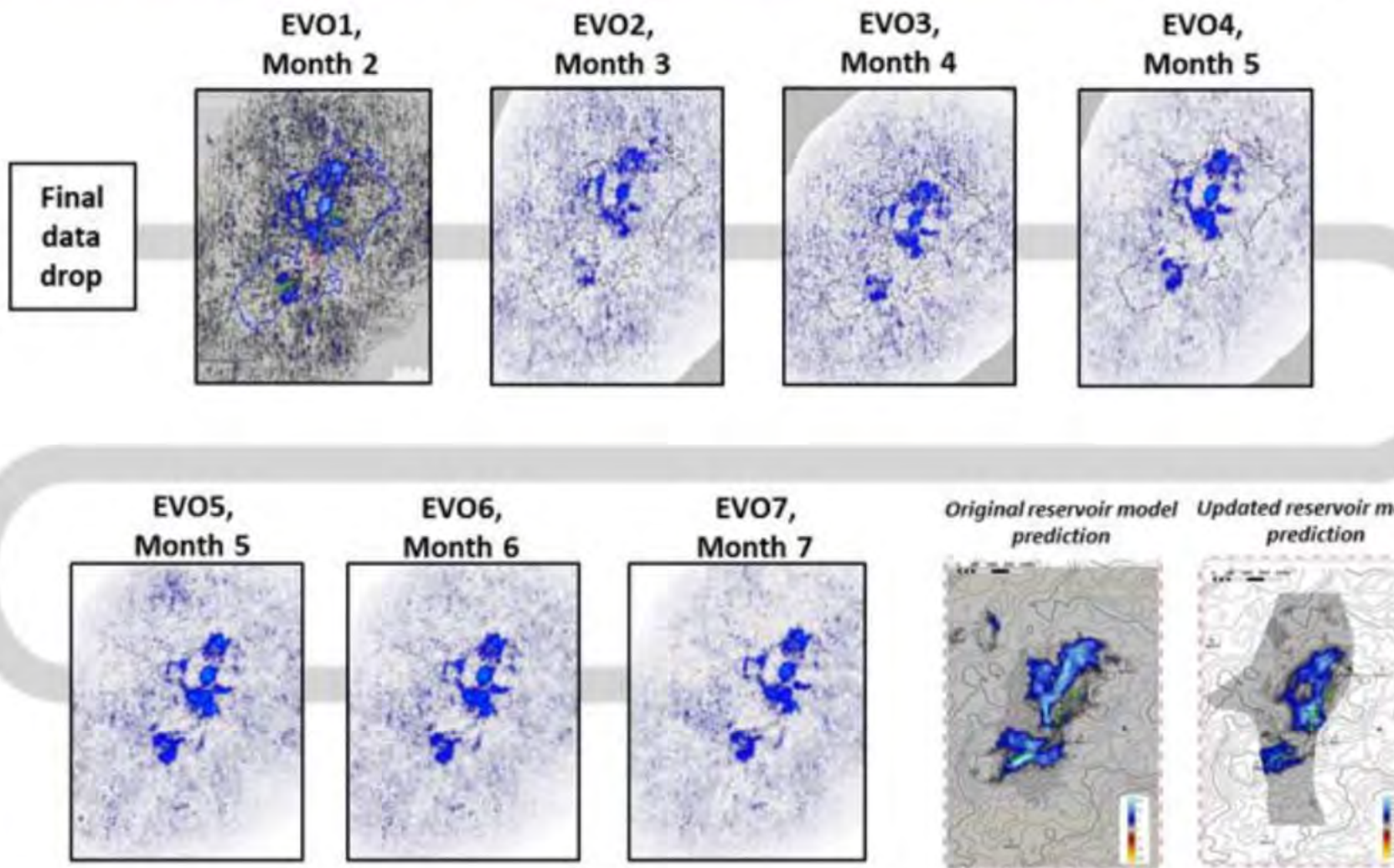
For comparison: OBN repeatability: 5m Node position 10m shots

Processing can improve Repeatability



Certain processing steps improve repeatability

# Processing Stage: Sharpening the image



Kinnoull OBC-OBN  
4D difference maps  
By processing step

Full-cycle iterative processing: when is “good”, good enough?

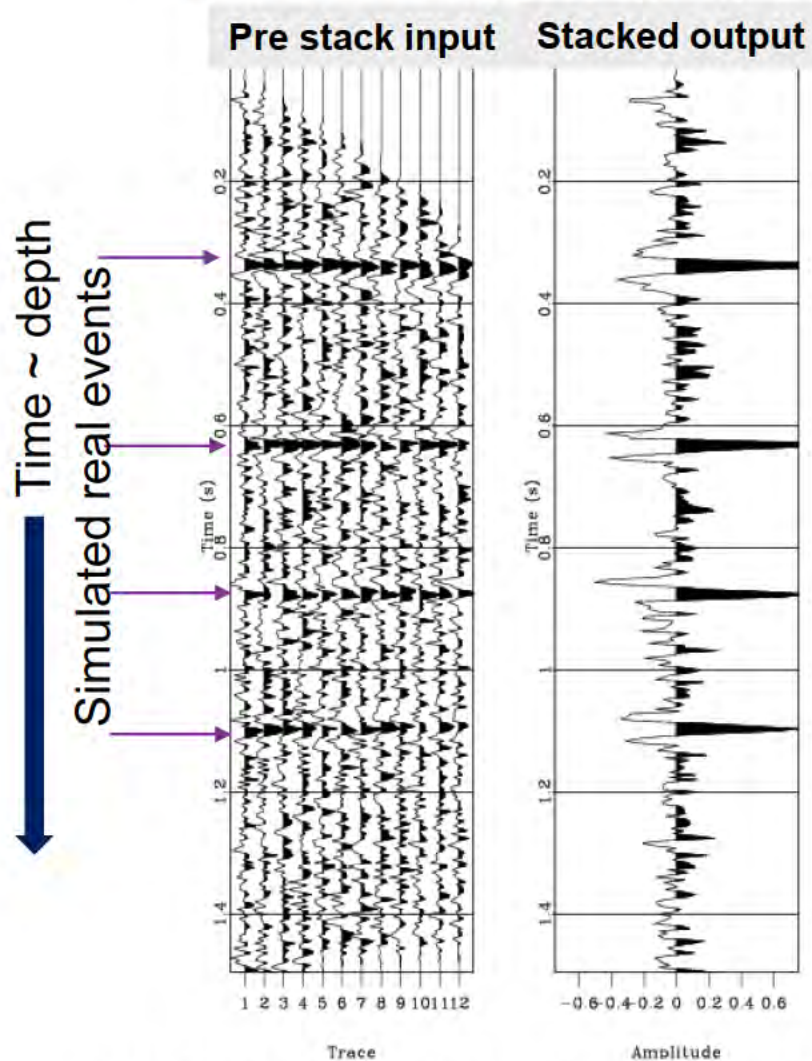
A 4D North Sea case study

M. Walker<sup>1\*</sup>, D. Davies<sup>1</sup>, C. Hill<sup>1</sup>, C. Page<sup>2</sup>, P. Smith<sup>2</sup>, A. Irving<sup>2</sup>

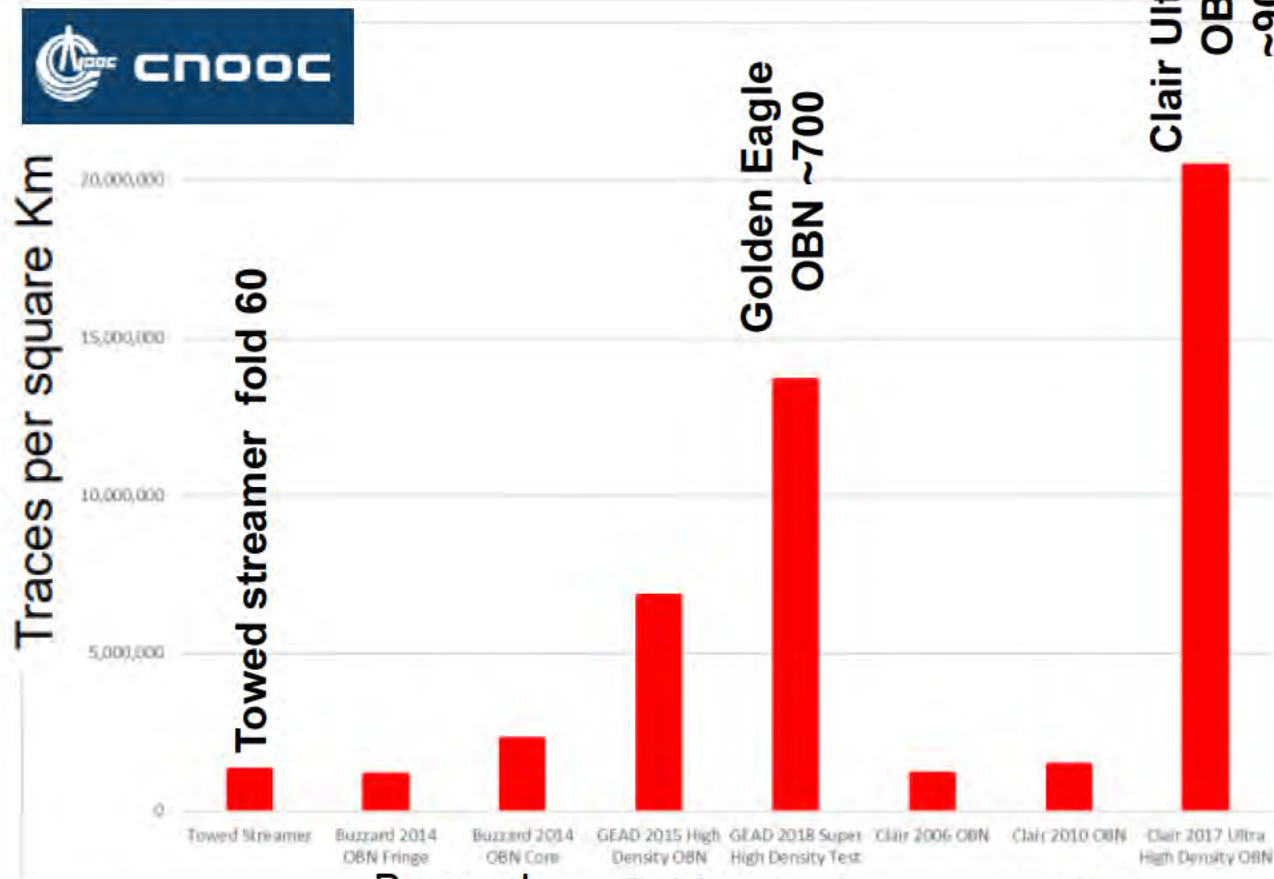
<sup>1</sup>BP, <sup>2</sup>CGG

# OBN very high trace density/ Fold

## The Power of the stack (simulation)



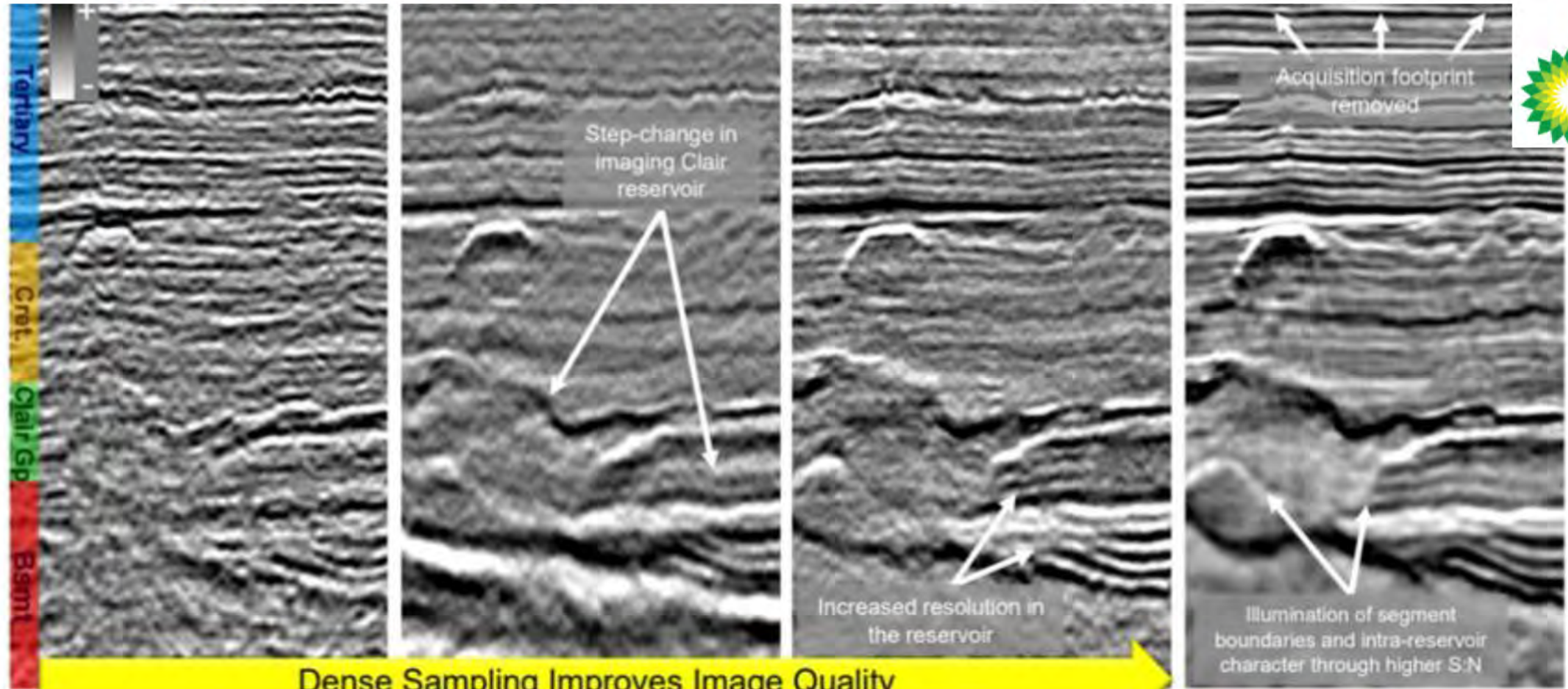
12 traces "fold" with simulated signal & random noise  
Summing (stacking) improves signal/ noise



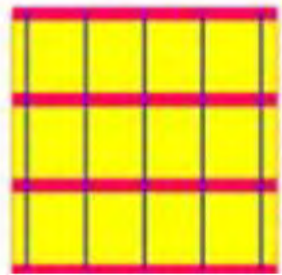
Signal to Noise improves  $\sqrt{\text{Fold}}$   
=> Golden Eagle OBN 4\* Better signal/ noise than streamer

Utsira Regional  
OBN ~1200

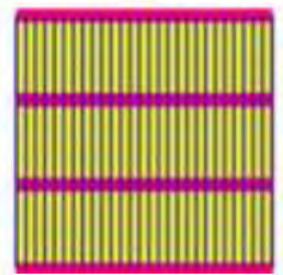
# Clair Ridge: Towed Streamer to UH OBN



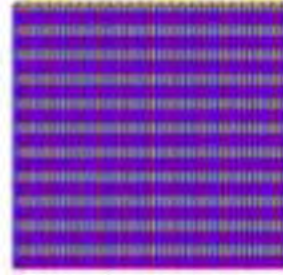
1990/92  
Towed  
Streamer



2002/06  
Sparse OBC PP  
Receivers 355x25m  
Shots 245x25m  
Trace density = 0.29/m<sup>2</sup>

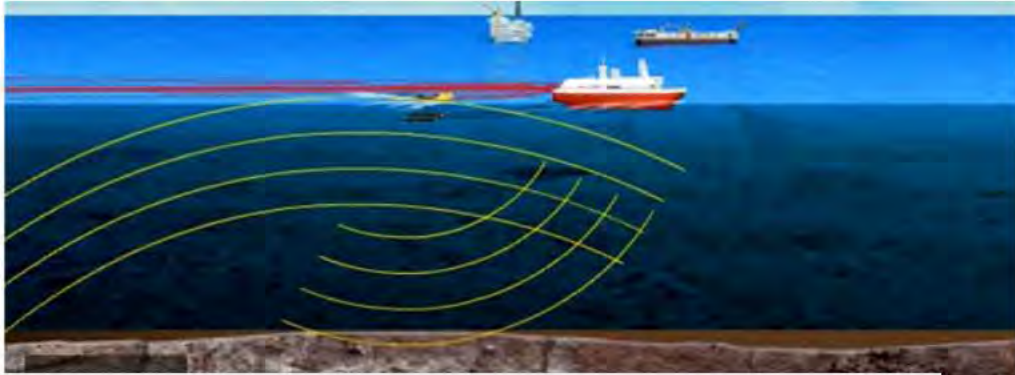


2010 High  
Density OBC PP  
Receivers 350x50m  
Shots 50x50m  
Trace density = 0.36/m<sup>2</sup>

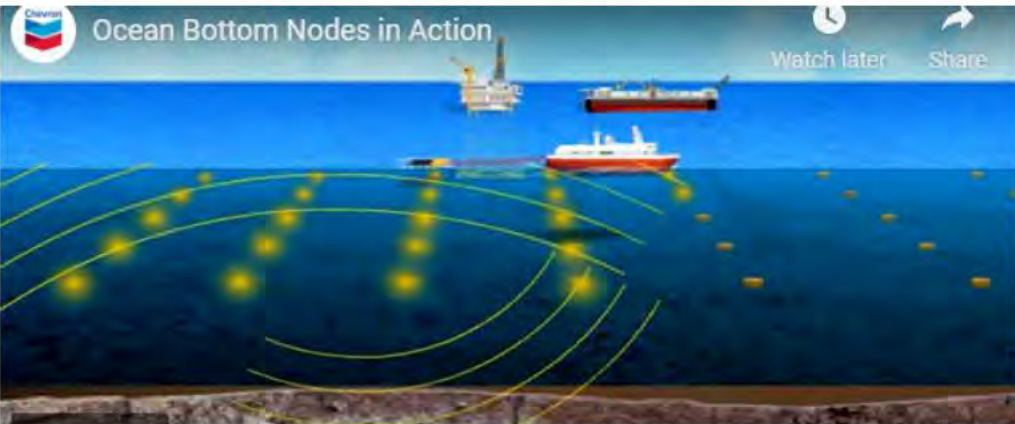


2017 Ultra High  
Density OBN PP  
Receivers 100x50m  
Shots 25x25m  
Trace density = 5.12/m<sup>2</sup>

# Imaging the shallow section



Streamers provide ~ continuous coverage of shallow and deep



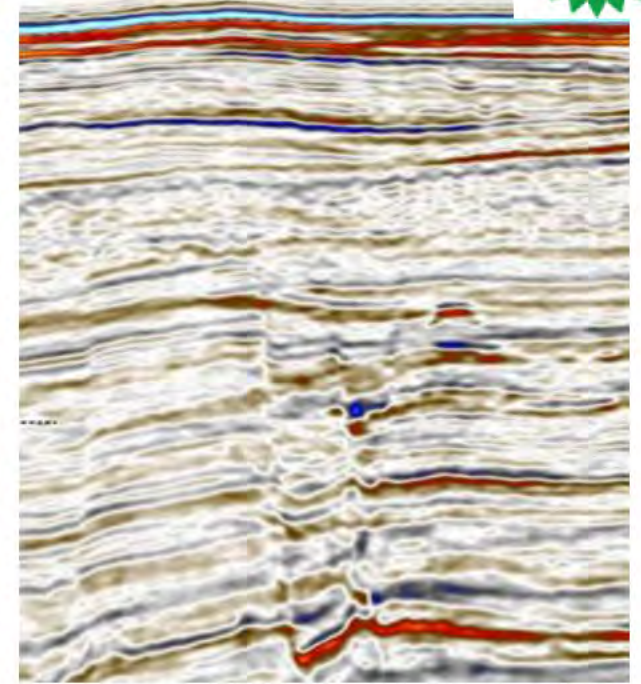
OBN gives continuous deep imaging, but leaves intra-node near surface gaps

[Ocean-bottom node - SEG Wiki](#)

Clair 2D HR Streamer



Clair UHD OBN 3D



Ultra HD produces excellent near surface image

[Clair Ridge: Learnings From Processing the Densest OBN Survey in the UKCS | Earthdoc](#)



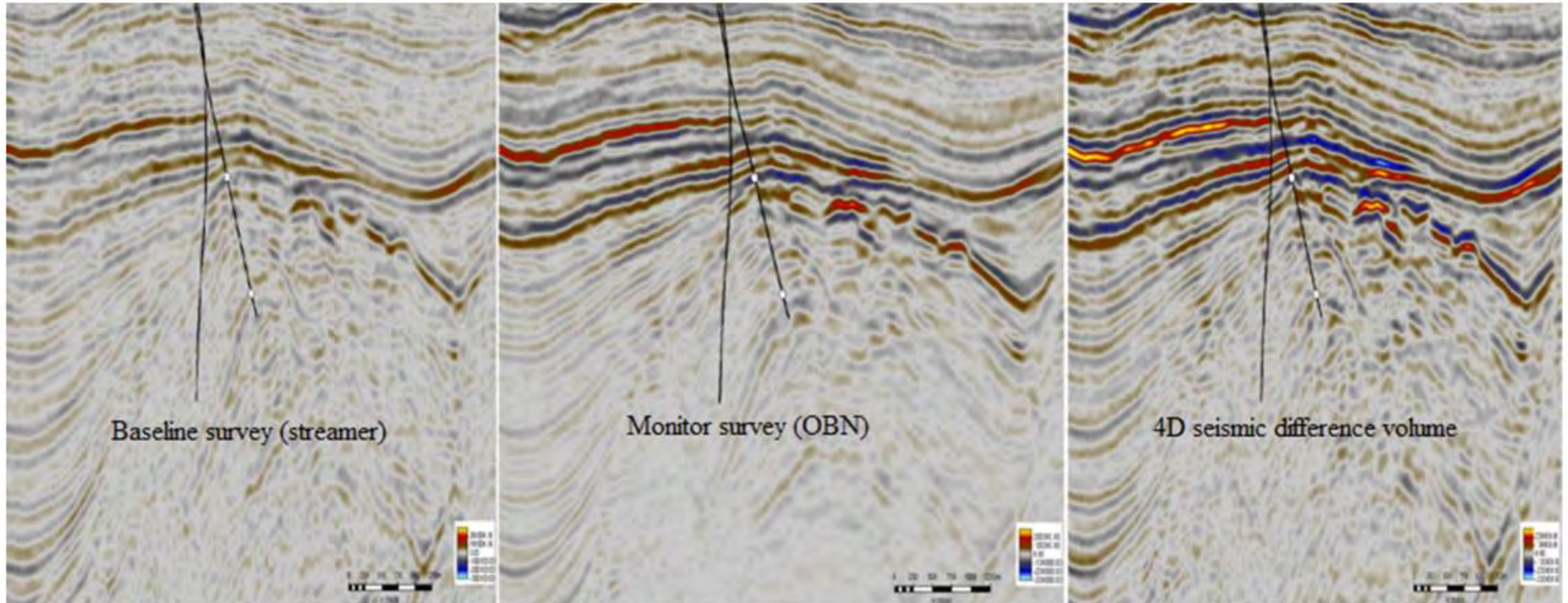


# Streamer vs OBN difference: J-Field UKCS



North Sea Transition Authority

OBN improved imaging of Triassic J-Field but non-parallel processing yields 4D difference is very noisy



Considerable non-production related differences are apparent **NRMS 129%**

Unclear how much parallel processing would reduce NRMS

Differencing Streamer and OBN is **currently unfeasible** for 4D monitoring

- OBN technology is
  - Becoming mature & mainstream in oil and gas
  - Employed in special situations: shallow water, complex structures, overlapping activity, small 4D signal
- OBN is advantageous in obstructed space ( project focus on mono-pile)
  - Floating windfarms: Catenary cables & multiple anchor points, tension leg turbines?
  - Acquire baseline data before infrastructure installation
    - Impact repeatability?
    - Which has primacy: turbines or CCS baseline?
  - OBN acquisition feasibility within an operational windfarm is unclear
    - Cross-disciplinary (CCS/Wind/Seismic/Marine) HAZID assessment workshop recommended
- OBN is a geophysically superior reservoir imaging technology
  - Many examples from UKCS (and worldwide) of improved **complex** subsurface imaging
  - Many successful hydrocarbon (Streamer & some OBN) 4D case studies
- Major OBN drawback remains cost differential compared to streamer
  - OBN costs have reduced by ~50% over last decade (automatic node handling)
  - OBN will always be slower (and therefore more expensive) than streamer seismic
    - OBN multiplier of 2-5X streamer does not justify the cost in most situations
- Hybrid Streamer and OBN could be a valuable co-location compromise



# Seismic Signal/ CO<sub>2</sub> Detection Project

# Carbon storage reservoir distribution



**Licence:** CS003 Acorn  
**Location:** Goldeneye, Outer Moray Firth  
**Operator:** Storegga  
**Reservoir Age:** Lwr Cretaceous  
**Lithology:** sandstone  
**Depth:** 2860m MD  
**CS Type:** Depleted Field  
**Well:** 14/29a-3

**Results:**  
**Injection into aquifer-** 4D response expected ✓  
**Injection into gas leg-** no 4D response expected ✗?

- Utsira/Miocene sand
- Eocene/ Palaeocene( Inc. Forties/Mey)
- Lower Cretaceous( Inc. Captain)
- Triassic( Inc. Bunter)
- Permian ( Inc. Rottligende) NOT SHOWN

**Licence:** P046 Sleipner  
**Location:** CNS, Norway  
**Operator:** Equinor  
**Reservoir Age:** Miocene  
**Lithology:** sandstone, unconsolidated, thick, high NTG, high porosity  
**Depth:** 820m MD  
**CS Type:** Aquifer  
**Well:** N15/9-17

**Results:**  
**Injection into aquifer-** large 4D response expected (& observed, 1 Mtpa since 1996) ✓

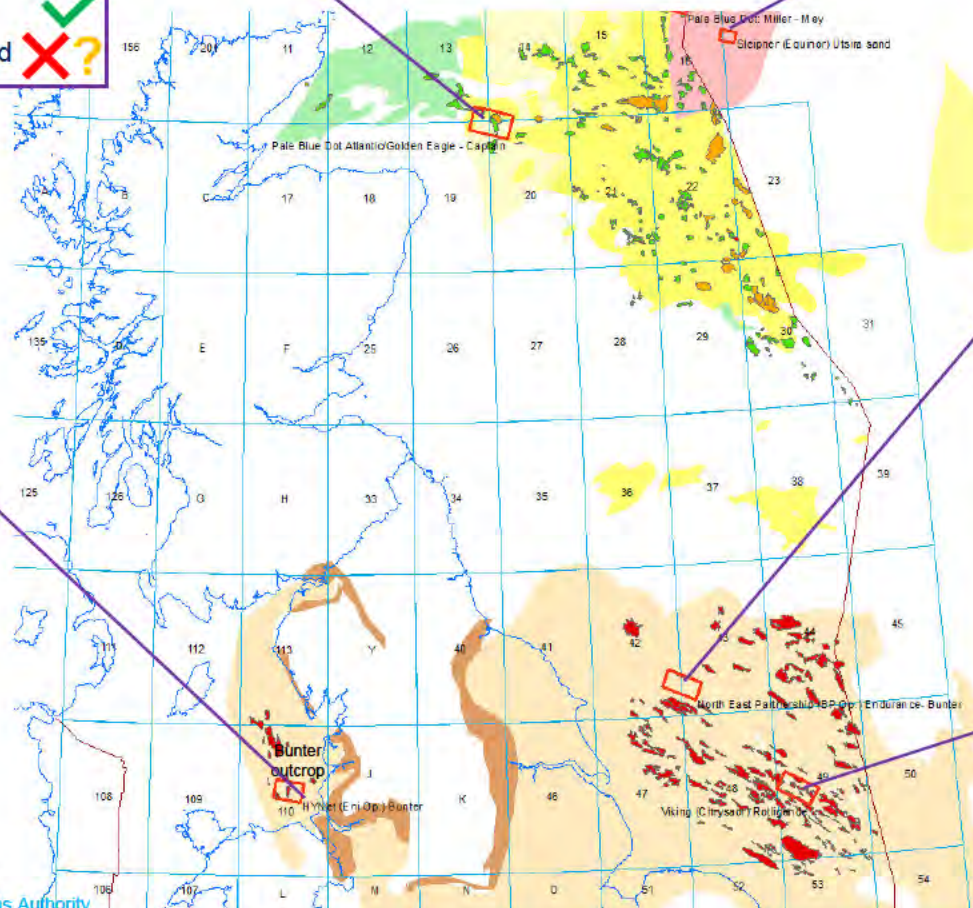
**Licence:** CS001 Endurance  
**Location:** SNS  
**Operator:** bp  
**Reservoir Age:** Triassic  
**Lithology:** sandstone, consolidated, thick, high NTG, medium porosity  
**Depth:** 1400m MD  
**CS Type:** Aquifer  
**Well:** 42/25d-3

**Results:**  
**Injection into aquifer-** 4D response expected ✓

**Licence:** CS004 Hynet  
**Location:** EIS  
**Operator:** ENI  
**Reservoir Age:** Triassic  
**Lithology:** sandstone, consolidated, thick, high NTG, mid-low porosity, very low initial reservoir pressure  
**Depth:** 1110m MD  
**CS Type:** Depleted field  
**Well:** 110/14-4

**Results:**  
**Injection into gas leg-** Limited 4D response expected ✗  
**Migration into aquifer:** observable response ✓

**Licence:** CS005 V Net Zero  
**Location:** SNS  
**Operator:** Harbour  
**Reservoir Age:** Permian  
**Lithology:** sandstone, consolidated, thick, high NTG, low porosity, very low initial reservoir pressure (450psi)  
**Depth:** 2680m MD  
**CS Type:** Depleted field  
**Well:** 49/12-2  
**Results:**  
**Injection into gas leg-** No 4D response expected ✗  
**Injection into aquifer:** Very small response ?



# Carbon storage reservoirs by age

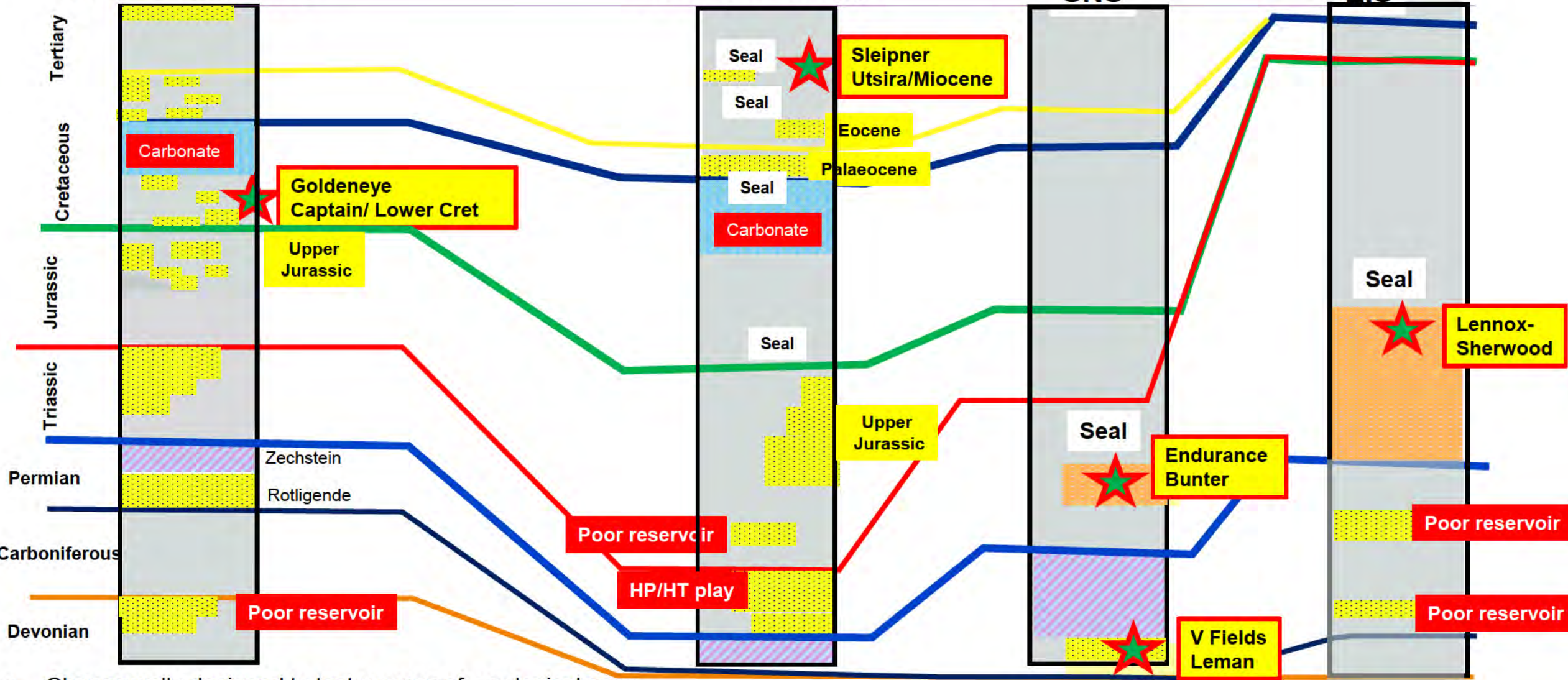


## Outer Moray Firth

## CNS UK/Norway

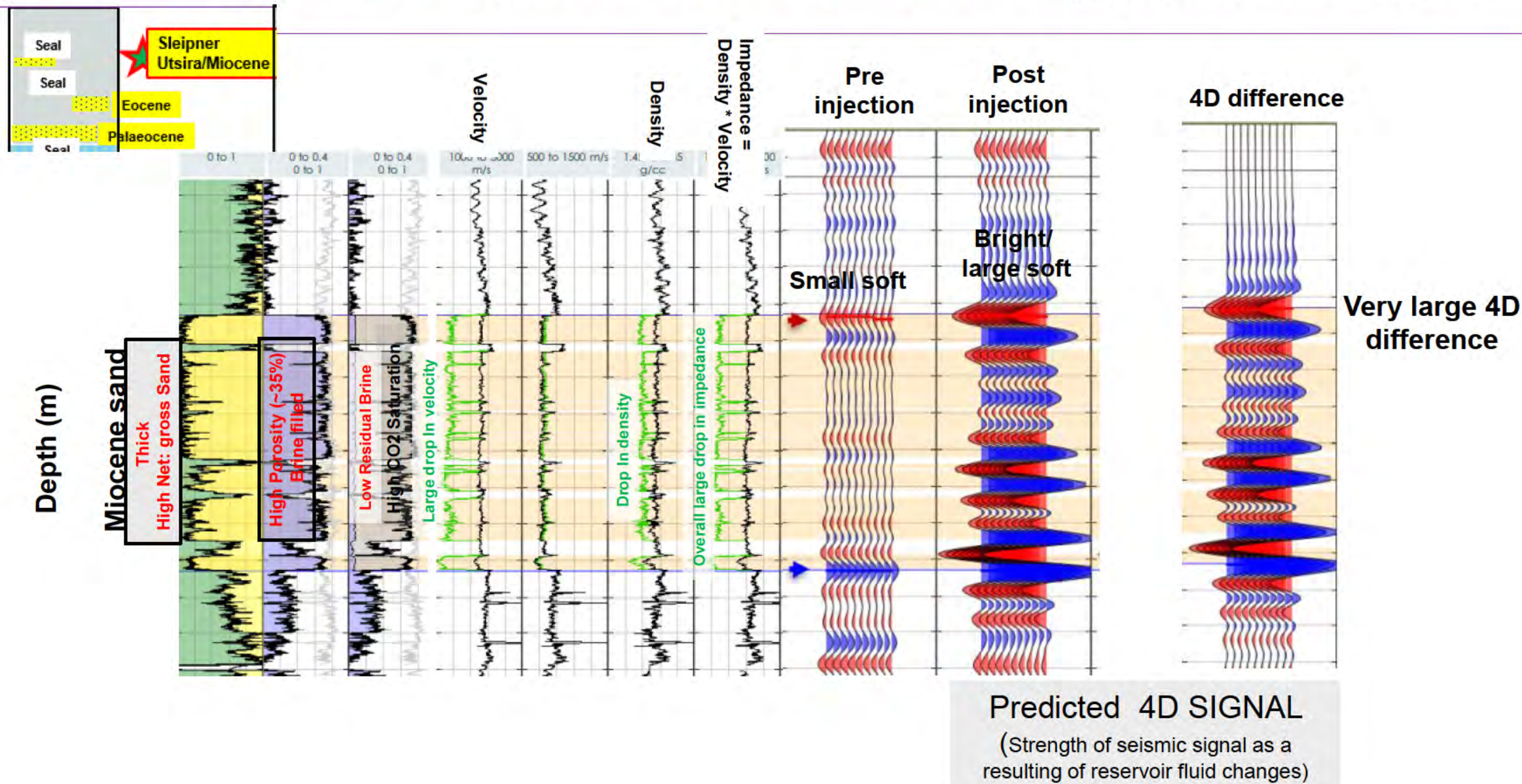
## SNS

## EIS



- Chosen wells designed to test a range of geological ages
- **Some formations rejected** as unlikely for CCS
- **Potential future formation study options** highlighted

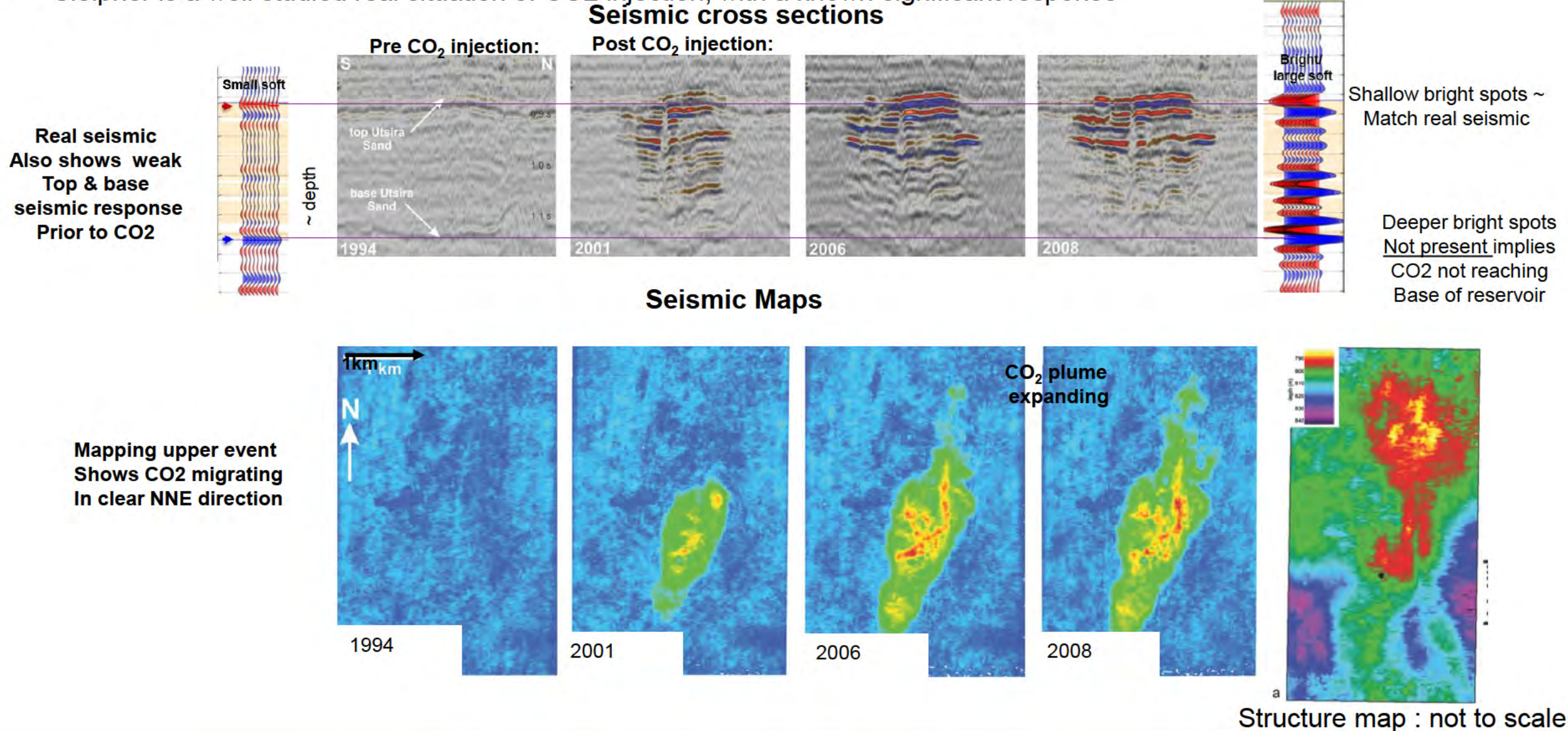
# “Easy 4D”: Sleipner CO2 injection/ “soft rock ”aquifer



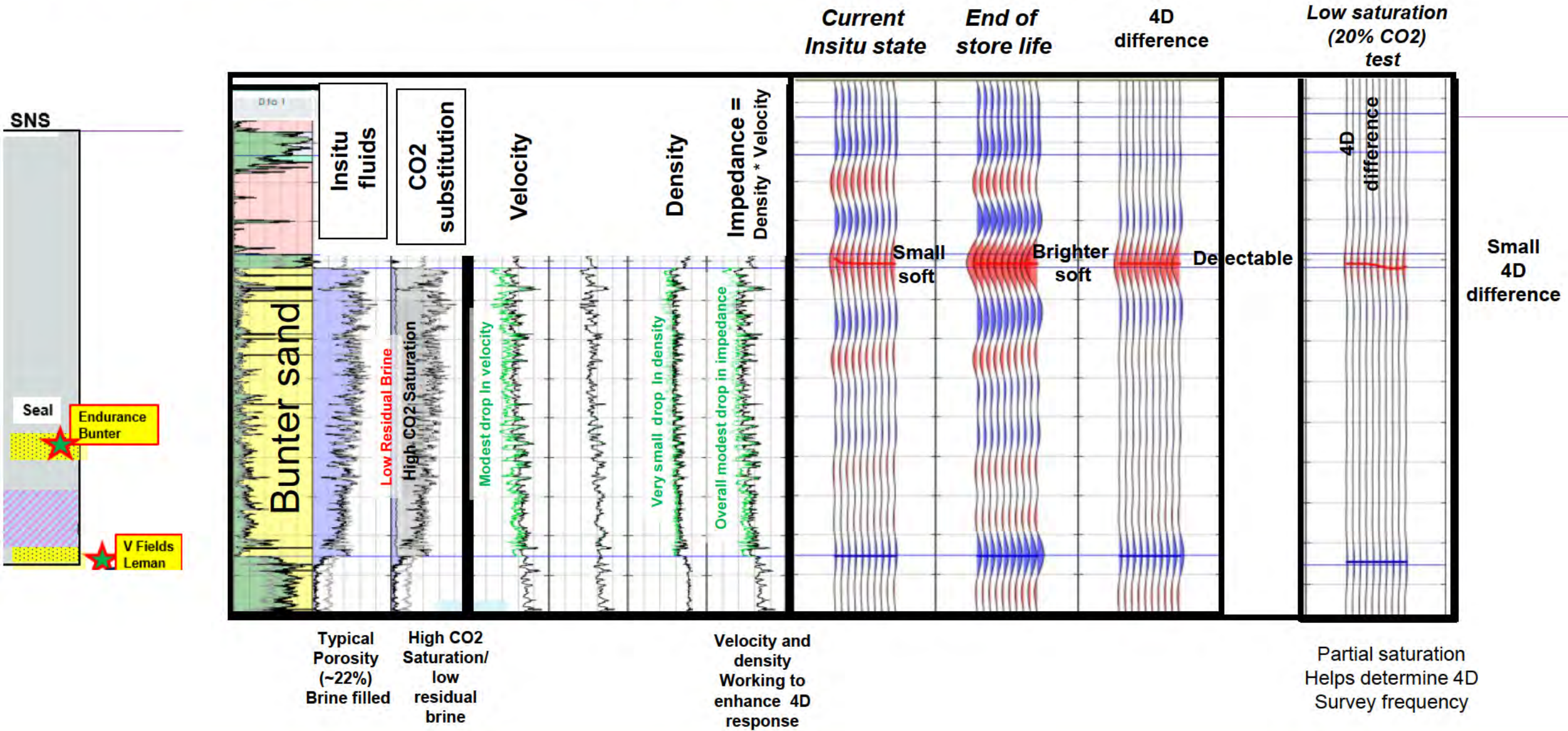
Very large response, readily detectable

# Real 4D example: Sleipner comparison

- Sleipner is a well studied real situation of CO<sub>2</sub> injection, with a known significant response



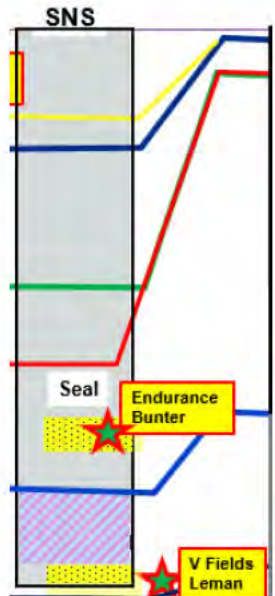
# “Medium 4D”: Endurance (SNS) Triassic Aquifer



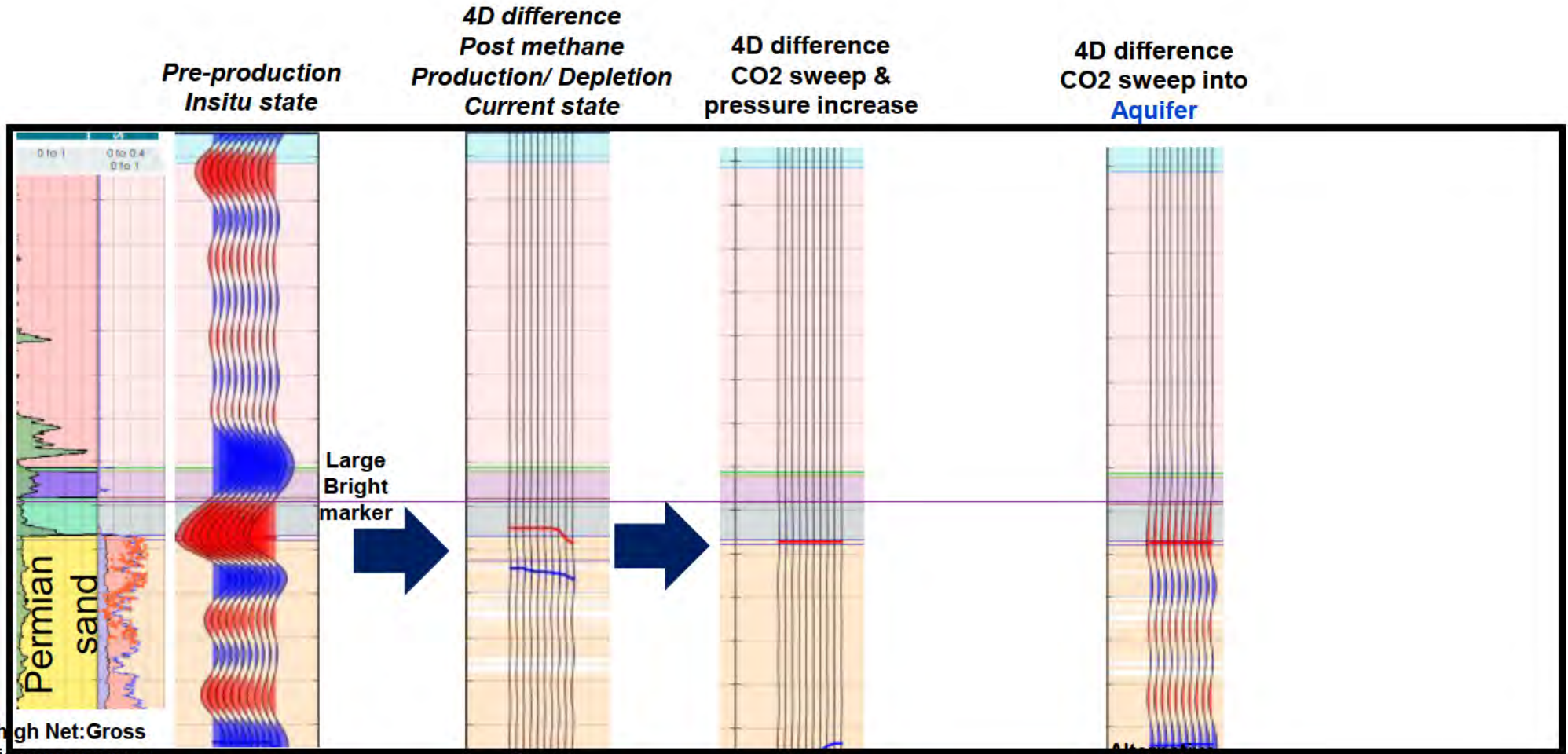
Highly likely to be observable with streamer or OBN seismic acquisition



# “Tough 4D” Low Porosity Permian V- Field gas field



Thick high Net:Gross consolidated methane reservoir, with modest porosity



Nothing observable    Nothing observable

Probably detectable signal

No detectable signal if CO2 injected into existing methane accumulation

Possible small signal if CO2 migrates into surrounding aquifer

Consolidated reservoirs are probably below 4D seismic detectability

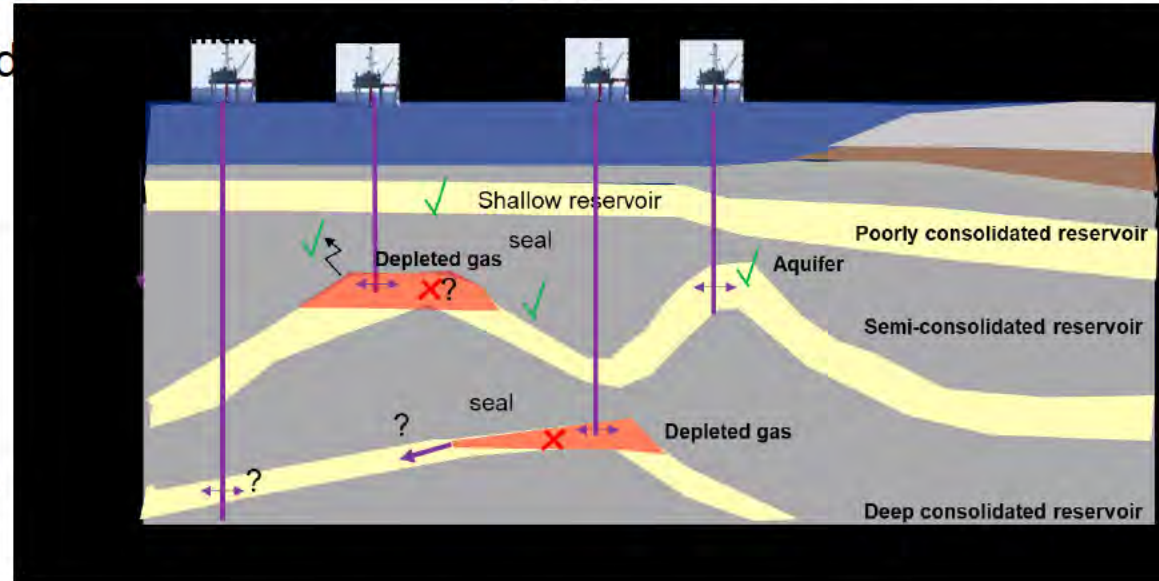
# Modelled 4D signal Conclusions



1) A significant 4D seismic signal should be anticipated in most situations where the CO<sub>2</sub>

- Injected directly into an aquifer
- Laterally migrates into the surrounding aquifer or
- Leaks into a shallower/ overburden aquifer (e.g. Bunter secondary sand above Leman injection site)

2) The detection threshold is linked to the sand thickness, porosity, reservoir stiffness and level of CO<sub>2</sub> saturation at the time of surveying



3) Detection of a signal where CO<sub>2</sub> is injected into a pre-existing depleted methane fields is difficult

- Multi-fluid phase systems (e.g. brine, methane, oil and CO<sub>2</sub>) are likely to provide ambiguous interpretations
- A large change in pressure does not produce an appreciable 4D response.
- Monitoring these reservoirs
  - Acquire higher specification seismic / improved repeatability to reduce the noise floor (e.g. OBN)
  - Await higher CO<sub>2</sub> concentrations / greater separation between surveys
  - **Assume seismic monitoring is not part of the reservoir MMV strategy**

Optional next steps: test a) 3 additional formations b) depleted oil fields & c) modelling study link seismic noise thresholds and CO<sub>2</sub> signal:

Seismic monitoring is likely to be a key tool in many situations



North Sea  
Transition  
Authority

# CCS MMV & Spatial Co-Location Project

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26 Jul 22

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The North Sea Transition Authority is the business name for the Oil & Gas Authority, a limited company registered in England and Wales with registered number 09666504 and VAT registered number 249433979. Our registered office is at 21 Bloomsbury Street, London, United Kingdom, WC1B 3HF.

- Introductions (CCSA/NSTA) – 5 minutes
- NSTA priorities and current regional/high level activities (relating to CO<sub>2</sub> storage) and discussion (Nick Richardson) – 20-30 mins
- NSTA technical deep dive and discussion (Ronnie Parr) - 80-90 mins
  - MMV report
  - Ocean Bottom Node project
  - Seismic Signal/CO<sub>2</sub> detection project
  - Windfarm Noise
  - Discussion over what next?

Break – 5 mins

## NSTA CCS role

Licensing and permitting authority for offshore carbon storage

Stewardship of issued carbon storage licences

Assess and understand UKCS regional carbon storage in support of CCS build out and spatial planning

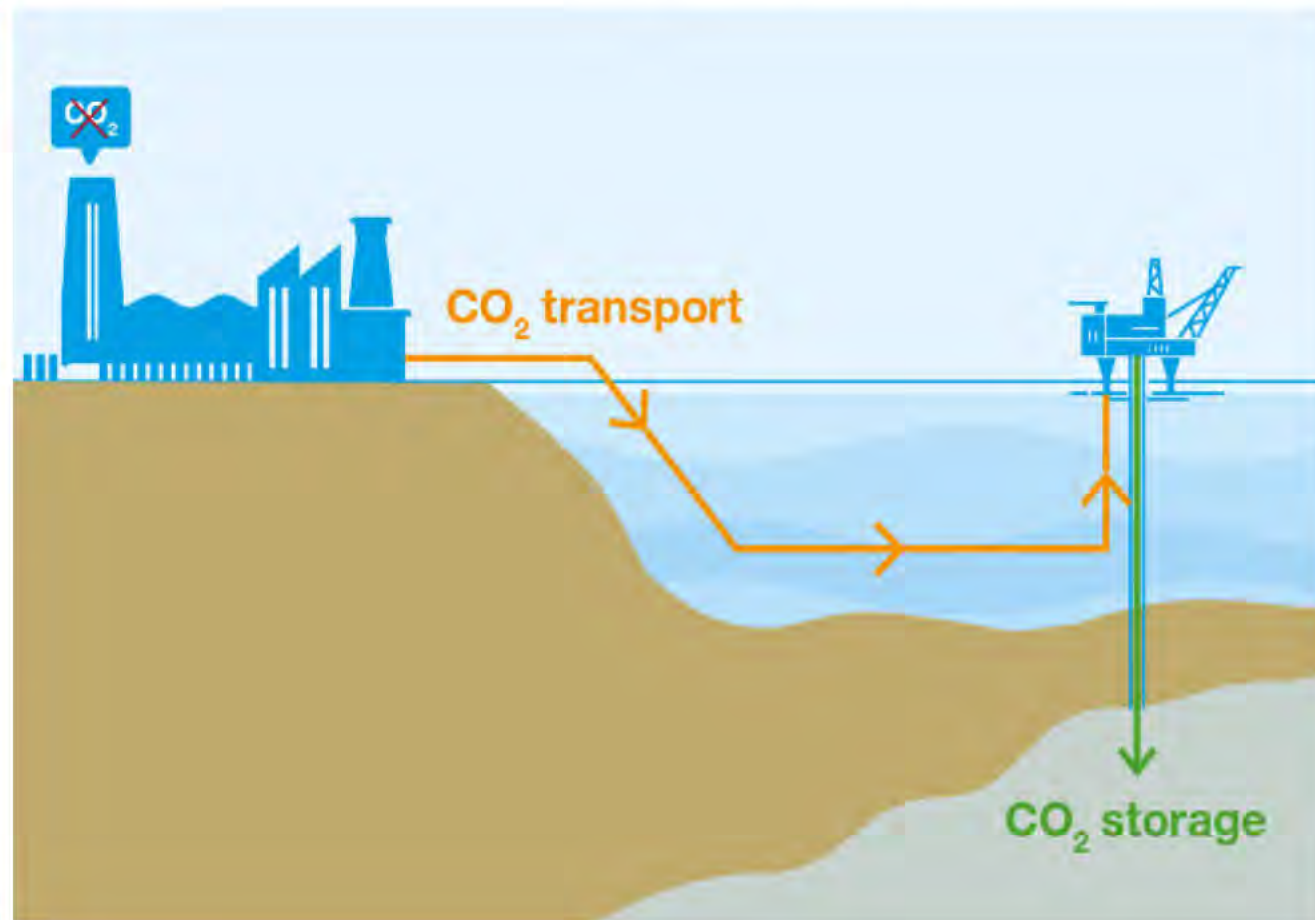
Encourage re-use as part of NSTA Cessation of Production process

Consultee to OPRED on operators' decommissioning plans

Regulatory coordination, including on co-location

Exploring role of CO<sub>2</sub> EOR

Maintain carbon storage public register



**78**  
GtCO<sub>2</sub>

total UKCS CO<sub>2</sub> storage resource estimate

**75-175**  
MtCO<sub>2</sub>

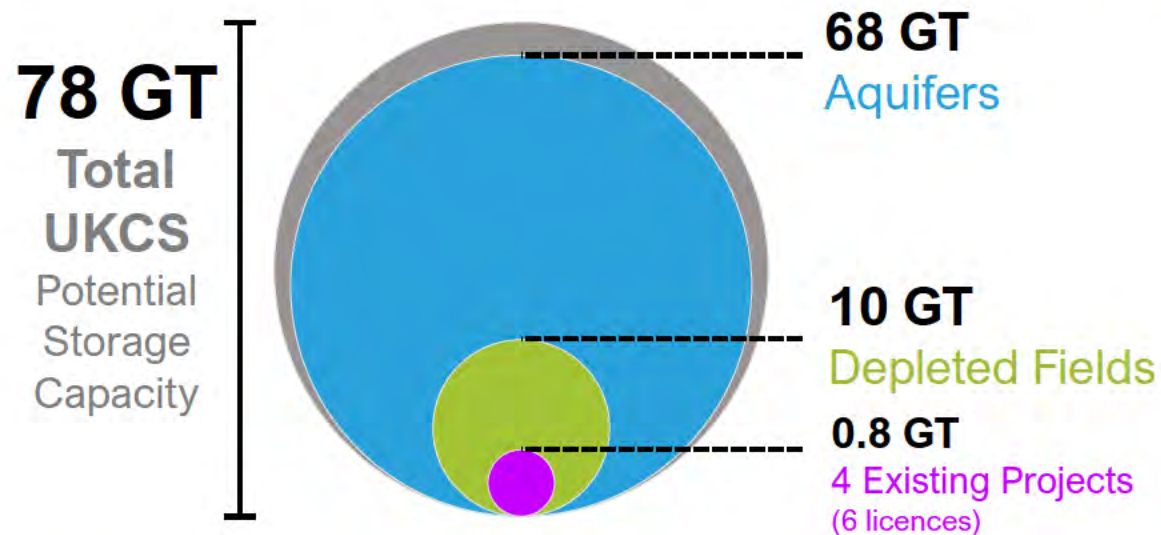
CCC estimate of annual requirement in 2050

**10**  
MtCO<sub>2</sub>

UK govt 2030 annual target (Ten Point Plan)

# UKCS carbon storage potential

UKCS estimated to hold ~78Gt of potential CO<sub>2</sub> storage capacity, in >560 subsurface stores. Capacity could potentially cover UK needs for 100s of years, though more work is needed to understand effective UKCS CO<sub>2</sub> storage potential.

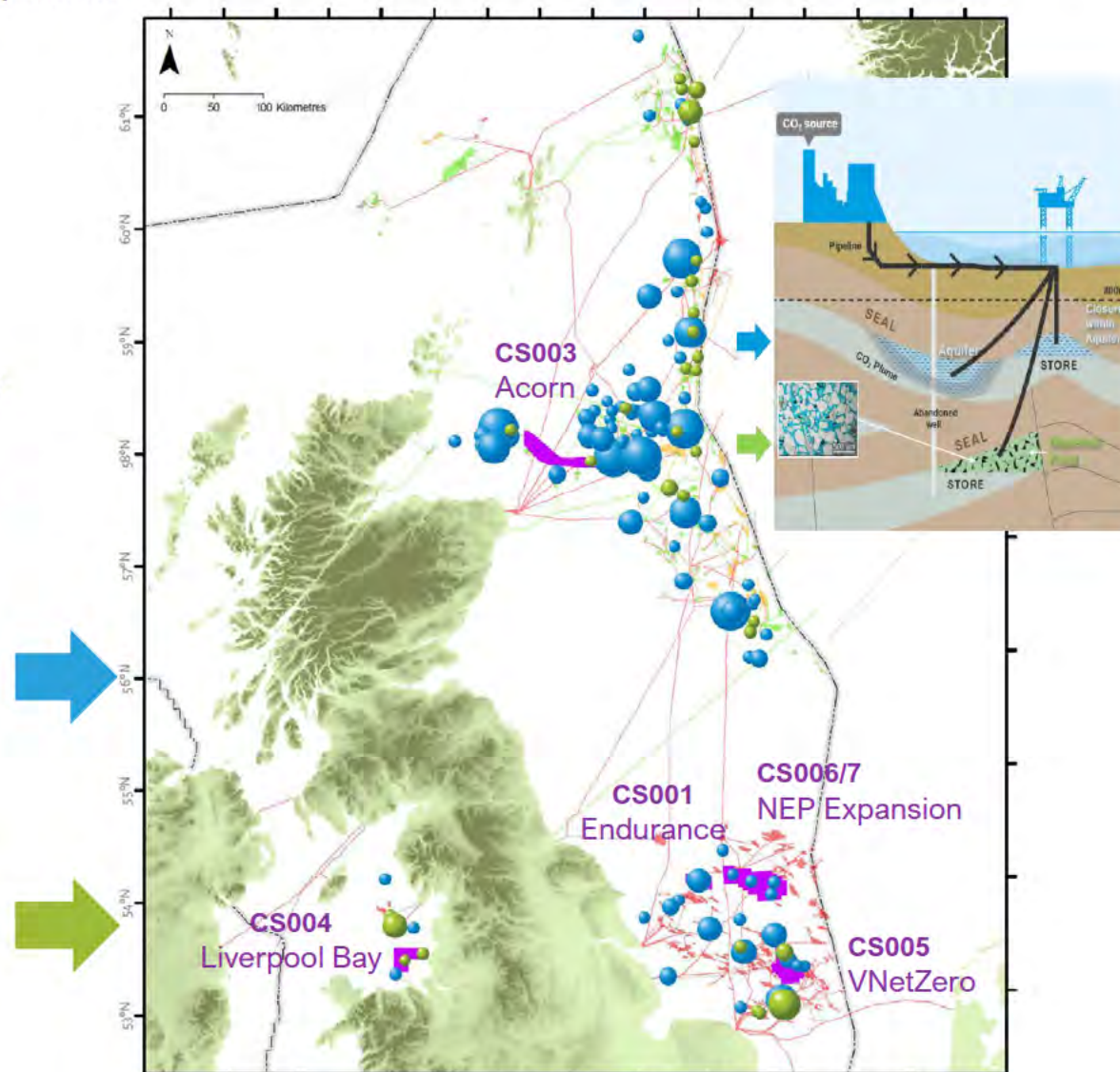


## Aquifers

- Significantly larger size
- Greater subsurface uncertainty
- Requirement for new data & appraisal
- Potentially lower well-integrity risk

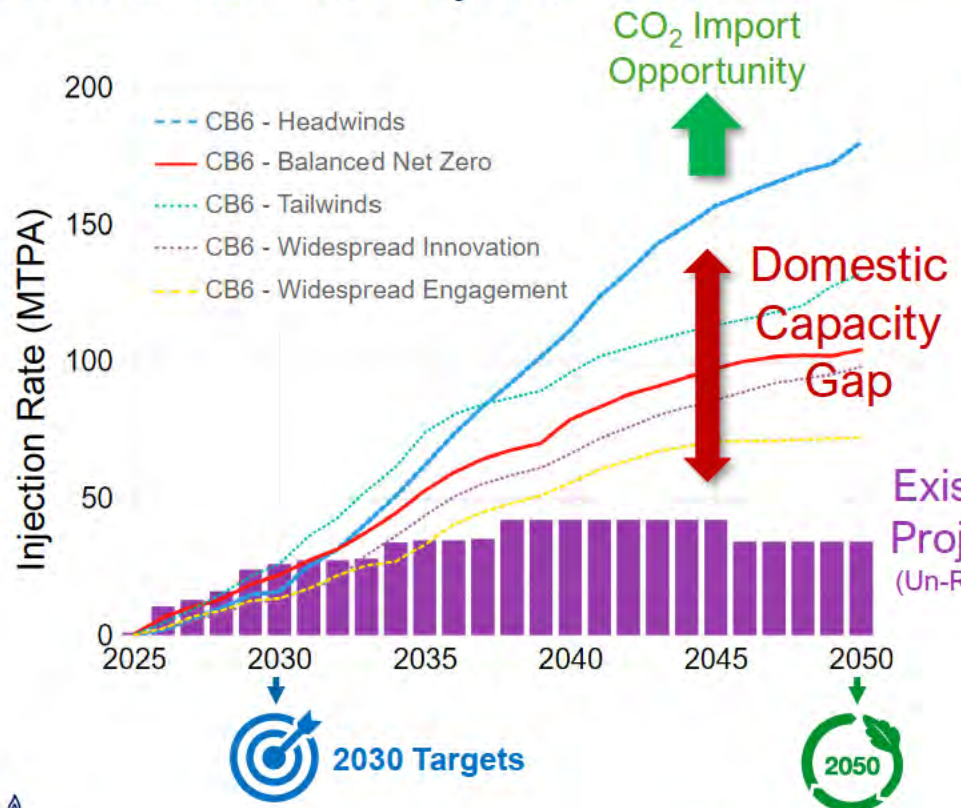
## Depleted Fields

- Many small stores
- Potential to re-use infrastructure
- Existing data can provide baseline
- Legacy well-integrity risk



# Trajectory to meeting Sixth Carbon Budget (CB6) targets

## Headwinds Pathway Scenario



Headwinds Scenario  
Domestic Requirement  
**180 Mt/year in 2050**  
(Carbon Budget 6)

**140 Mt/year Gap**  
to Headwinds 2050  
Target

**40 Mt/year**  
Peak Carbon  
Storage  
Injection Rate  
from current 4  
projects



requires:



**How many stores may we need?**

Mid-range estimate based on average 2.8 Mt/year injection rate (4 wells per store at 0.7 Mt/year each)

**80 stores**  
maximum estimate

**37 stores**  
minimum estimate

- 50% reduction** in oil and gas upstream GHGs
- 50GW** of offshore wind  
**5GW** of floating offshore wind
- 10 GW** of hydrogen production capacity
- Deliver 4 CCUS clusters, capturing **20-30 MtCO<sub>2</sub>/year** across the economy, including 6 MtCO<sub>2</sub>/year of industrial emissions capture.

CCC recommendation - **75GW** offshore renewables capacity

**180 Mt/year** Carbon Storage Injection Rate (Headwinds)

- Appraisal timescales likely to be 6 to 10+ years from licence award to first injection
- To keep on track, NSTA launched a **Carbon Storage Licence Round 14** June 2022

# Activities

## Working with government and industry

Supporting government and others to identify existing infrastructure with reuse potential for CCS or hydrogen projects

Validating CCS facility plan costs using OGA offshore facility capex and opex benchmarks

Engaging with CCS project developers

Guiding and stewarding developers and applicants through OGA processes

## OGA Digital Energy Platform

OGA, incl. through its National Data Repository, collects, holds and shares CCS relevant data – seismic, wells, etc. – and publishes data packages to support/promote licensing rounds

[Interactive app](#) mapping all UKCS energy sites – O&G infrastructure, wind, cables, CCS

Current project identifying CCS data gaps on regional basis

## Technical Projects

**NSTA Project SPICE** mapping UKCS storage potential and capacity estimation

**'BOOST' (Best Opportunities Of Storage) initiative** Objective to provide range of carbon storage capacities/injection in support of spatial planning considerations

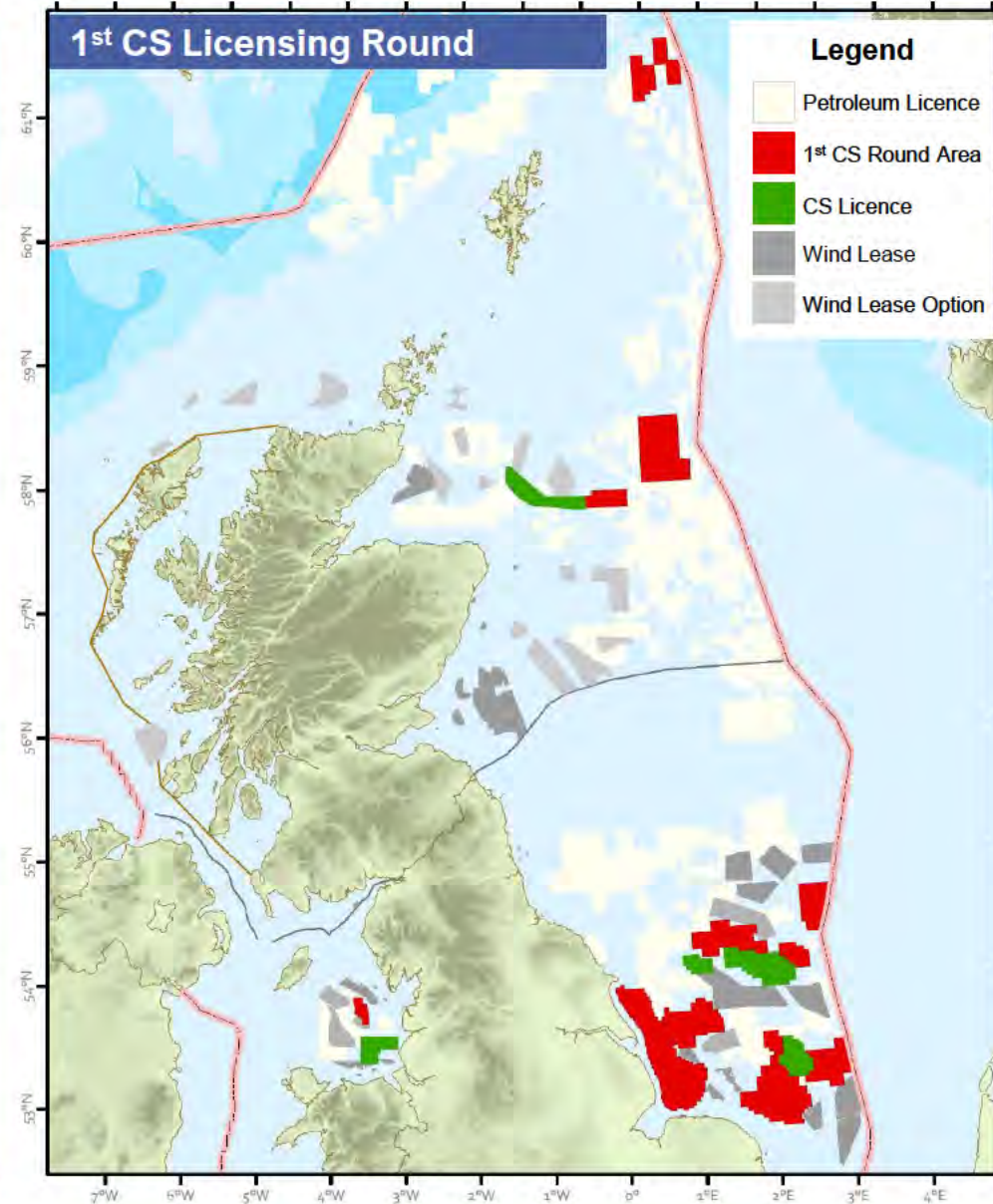
**NSTA participation in TCE Offshore Wind/CCS Co-location Forum** NSTA leads on reviewing CCS MMV seismic acquisition issues, exploring alternative seismic technology (ocean bottom nodes) to reduce spatial conflict; study on turbine motion impact on seismic activity; study on predicted seismic detection threshold

**NSTA engagement with Defra marine planning programmes** Engagement with Marine Spatial Prioritisation framework development

**Well integrity and P&A** – for legacy wells and decommissioning plans, including data reporting



North Sea Transition Authority



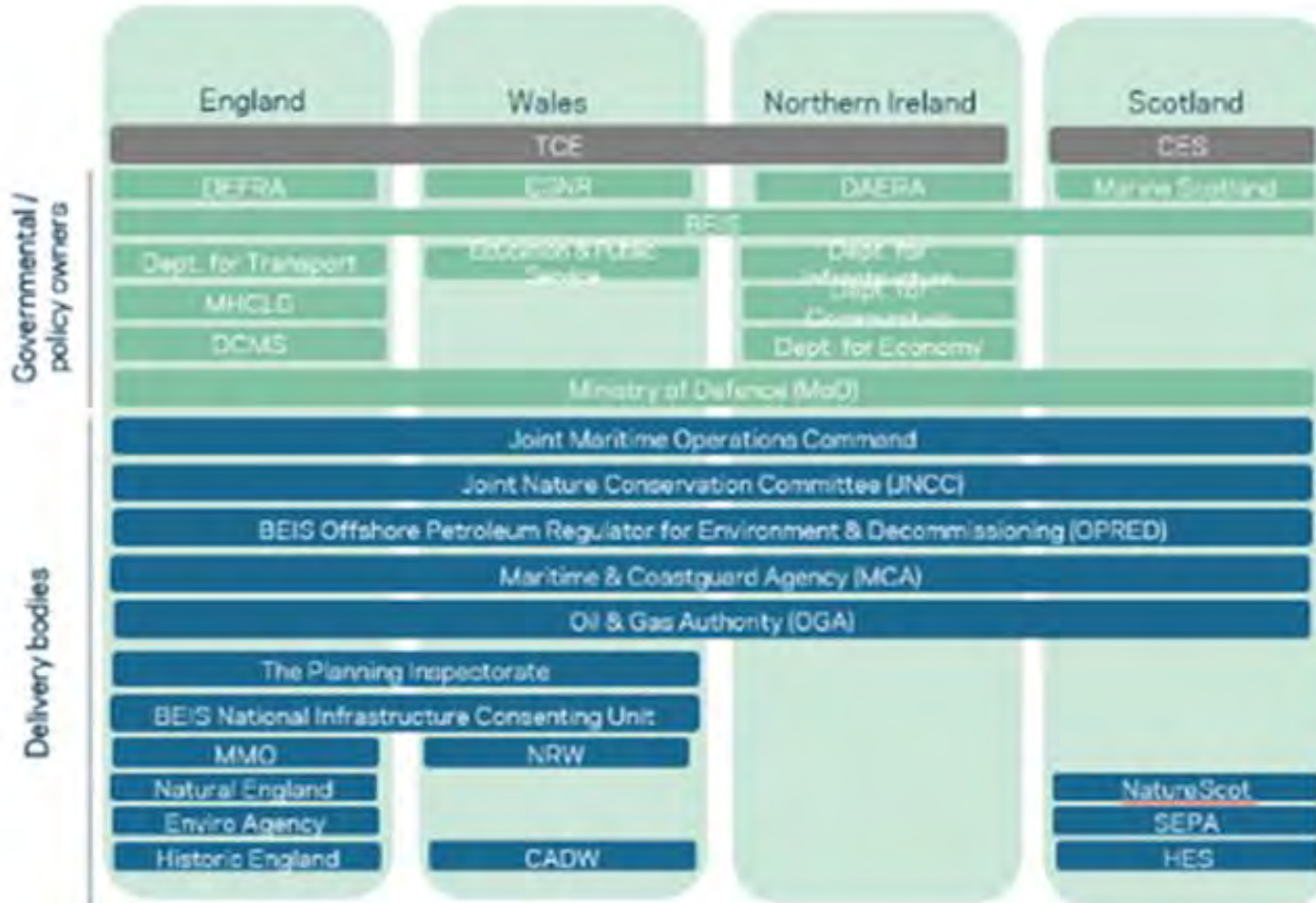


# First CS Licensing Round – Timeline



# UK Marine Planning Bodies

Marine planning is devolved across the UK and each administration has developed a different approach to managing activities in the marine environment suited to their own administrative, political and geographical needs.



## UK Marine Planning Authorities



# NSTA Projects Overview (Jan 2021- Mid 2022)

- **1) MMV (Monitoring Measurement Verification)**
  - Specific consideration to co-location issues

NSTA Publication summer 2022

- **2) 4D CCS examples**

- **3) 4D OBN seismic**

- Seismic acquisition review
- Processing, Case studies & Assimilation

Publication ~ end 2022

- **4) Seismic signal vs noise**

- **5) Predicted 4D Seismic Signal/ CO<sub>2</sub> Detection Project**

- 5 Wells: Petrophysics & Fluid substitution (Brine, Methane and CO<sub>2</sub>)

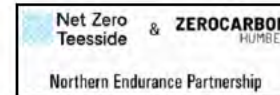
Publication ~ end 2022  
Completed

- **Windfarm noise (Heriot Watt/ Colin Macbeth)**

Reaching completion

# Acknowledgements

## 2021 MMV study



## 2022 OBN study



## 2022 Seismic Detection



## 2022 windfarm





**There are no one-size-fits all solutions.**



Seismic is the key geophysical monitoring technology providing best resolution. Surveying activities in and **around offshore windfarms** can be extremely challenging, **unacceptable collision risk if deploying long towed seismic streamers**. Some potential mitigating seismic solutions (e.g. Ocean Bottom Nodes OBN) at higher cost



MMV strategies and tools for carbon storage sites need to address conformance irregularities and containment breaches using a risk-based approach. **A robust suite of surface, marine and downhole tools/methods needs to be tested and deployed to support these strategies,**



**First-of-a-kind (FOAK) projects may be expected to be potentially over-engineered,** particularly as MMV methods are tested and certified, and maintaining public confidence is crucial. Each project requires a robust environmental baseline.

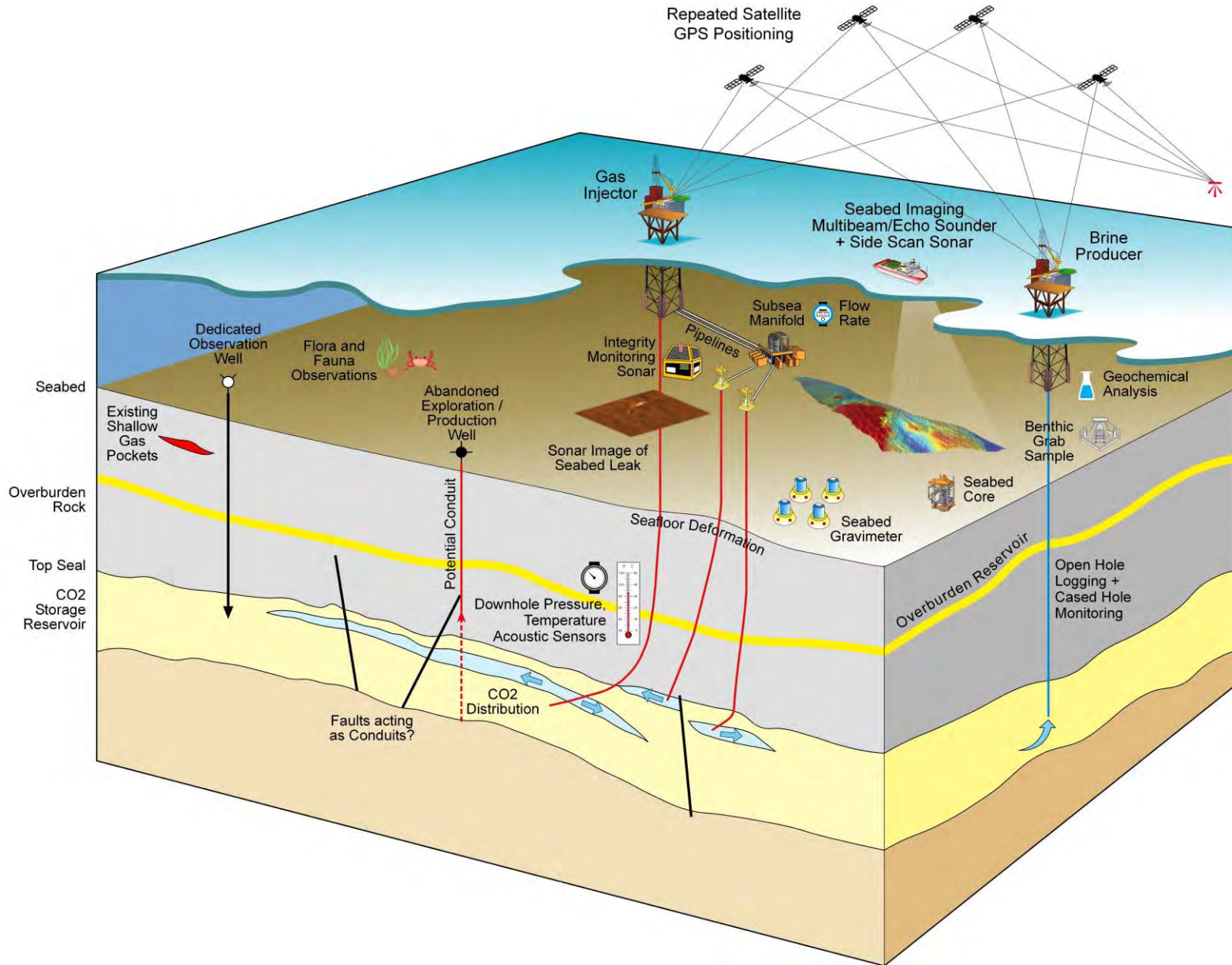


**Periodic access to Carbon Storage infrastructure within Offshore Windfarms is a more significant obstacle.** The siting of platforms and wells with their associated access requirements for routine and emergency operations requires sufficient stand-off. **Consequently, largely overlapping carbon storage sites and wind farms are presently considered not to be feasible with current technology.**



**Co-existence of carbon storage and offshore windfarms requires active collaboration,** and could be enabled through **early establishment of cross-disciplinary teams of specialists** to optimise co-location/ seabed access design on a project-by-project basis.

# CCS Portfolio of MMV (Measurement, monitor, verification)



Well surface & Downhole  
Flora and Fauna  
Benthic grab  
Geochemistry  
Sonar  
Seeps  
Ground deformation  
Seabed gravity  
Controlled source EM

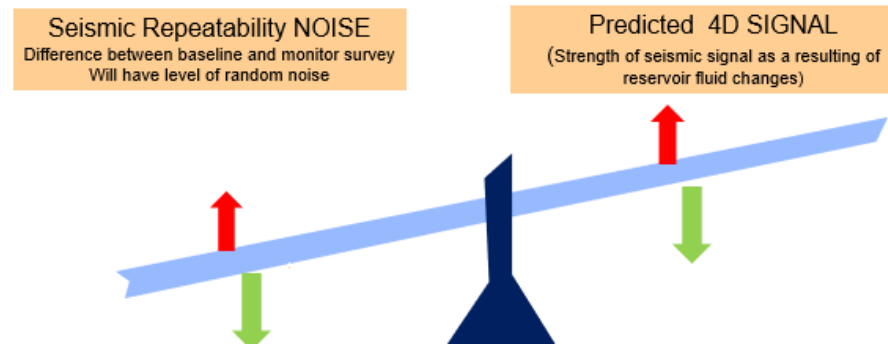
Wide range of non-seismic monitoring technologies available

# 4D seismic monitoring context

- Seismic is expected to be an important component of the broader MMV (measurement, monitor, verification) technology portfolio.
- CCS complex operator identifies a number of risks & uncertainties that could be mitigated by repeated seismic observations of the rock and fluid response to CO<sub>2</sub> injection.

## Important considerations:

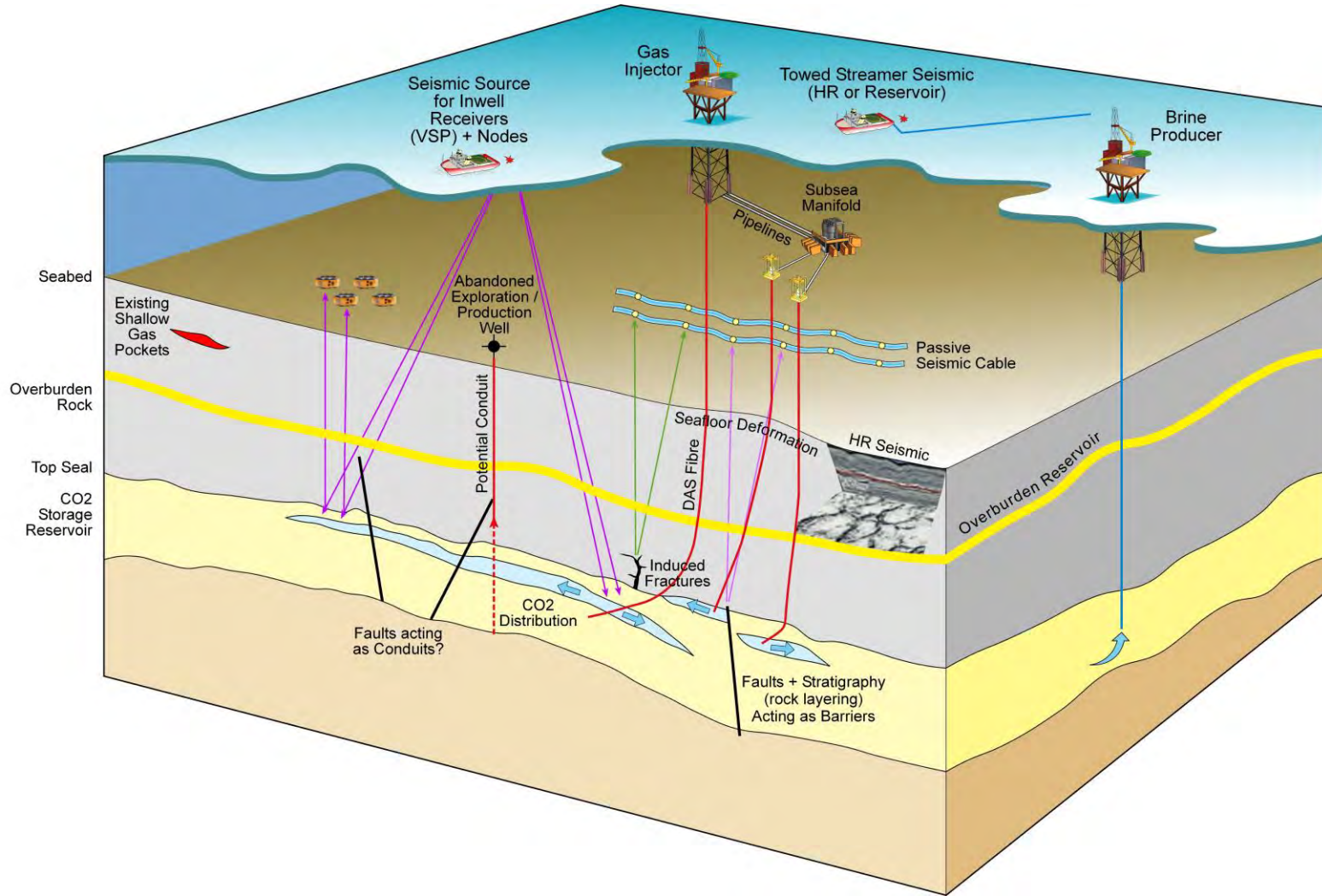
- 1) Magnitude of reservoir **signal** generated by production/injection between the baseline & monitor surveys
- 2) Sufficiently low level **noise** (non- production) differences between the seismic surveys
- 3) There are clear plans to use the monitoring data to mitigate specific risk and uncertainties



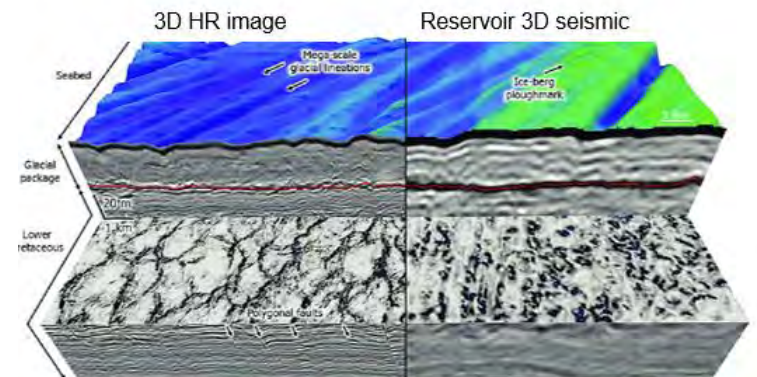
## OBN (Ocean Bottom Node) seismic is

- A geophysically superior reservoir imaging technology especially for complex imaging targets
- or within a constrained/ co-location environment
- The cost of each OBN 4D survey (baseline & every monitor) is 2 to 5 times more expensive than its streamer equivalent.
- This remains a major drawback and cannot justify the cost in most CCS situations.

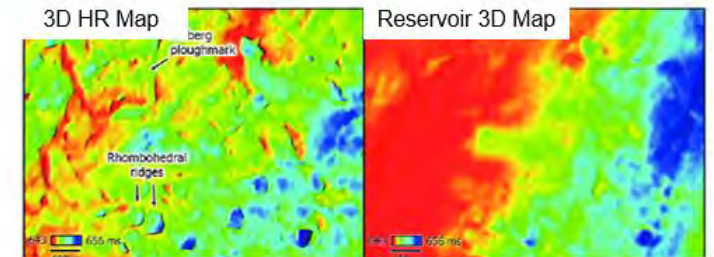
# Range of Seismic technologies



- Active seismic (Streamer or OBN acquisition)
- Reservoir or shallow (HR) targets
- Passive seismic (Microseismic)
- In-well seismic (VSP or DAS)



14



Comparison of 3D HR and reservoir seismic Reference (7)

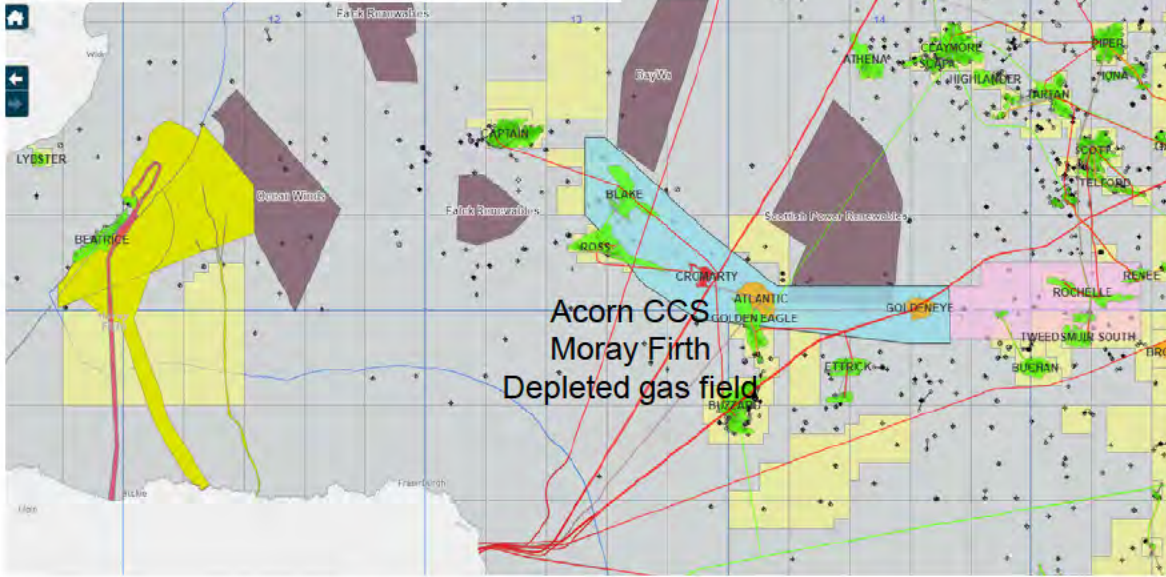


# UK Offshore Current Co-location areas



North Sea Transition Authority

## NE Scotland/ Moray Firth



**NSTA Offshore Fields**

- Condensate Field
- Gas Field
- Oil Field

**NSTA Offshore Carbon Capture Storage Licences**

- CES Carbon Capture Storage Sites
- NSTA Carbon Storage Areas Offered for Application

**CES ScotWind Offers**

- Government Support on Offer
- Active/In Operation
- Under Construction
- Consented
- In Planning
- Pre-planning Application
- Area of Search

**TCE Offshore Wind Farms**

- Government Support on Offer
- Active/In Operation
- Under Construction
- Consented
- In Planning
- Pre-planning Application
- Area of Search

**TCE Offshore Wind Leasing Round 4 Preferred Projects**

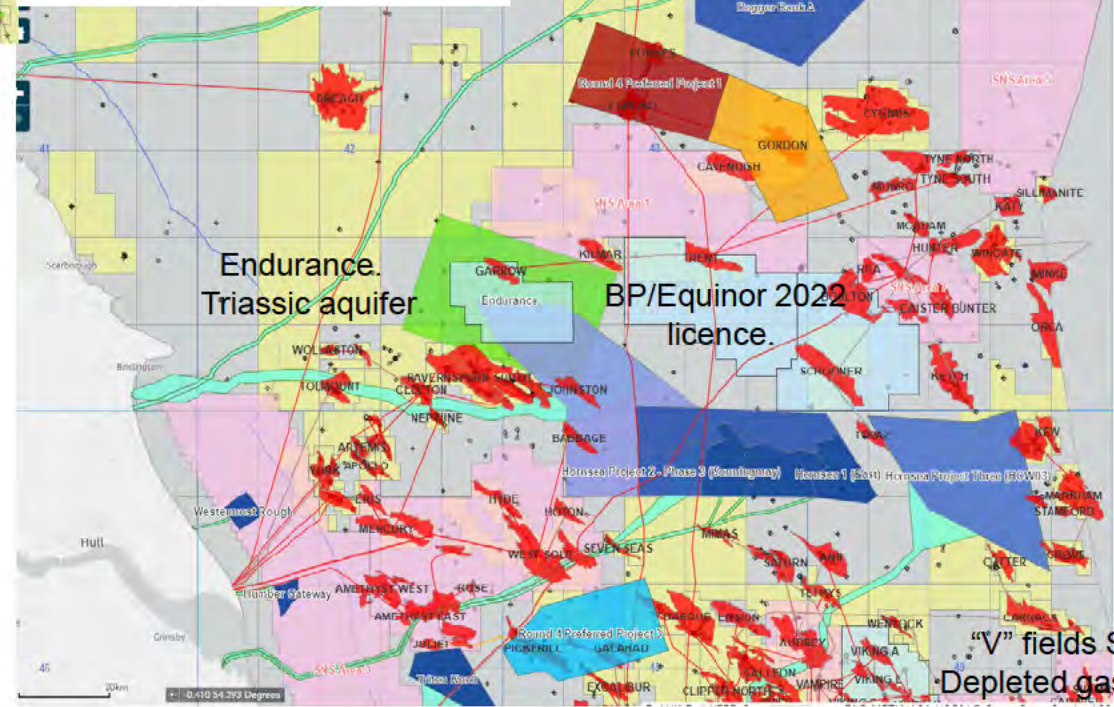
- RWE Renewables, 1500 MW Capacity
- RWE Renewables, 1500 MW Capacity
- Green Investment Group - Total, 1500 MW Capacity
- Consortium of EnBW and BP, 1500 MW Capacity
- Offshore Wind Limited, a Joint Venture between Cobra Instalaciones y Servicios, S.A. and Flotation Energy plc, 180 MW Capacity
- Consortium of EnBW and BP, 1500 MW Capacity

Offshore wind boom risks North Sea fishermen being 'crowded out'

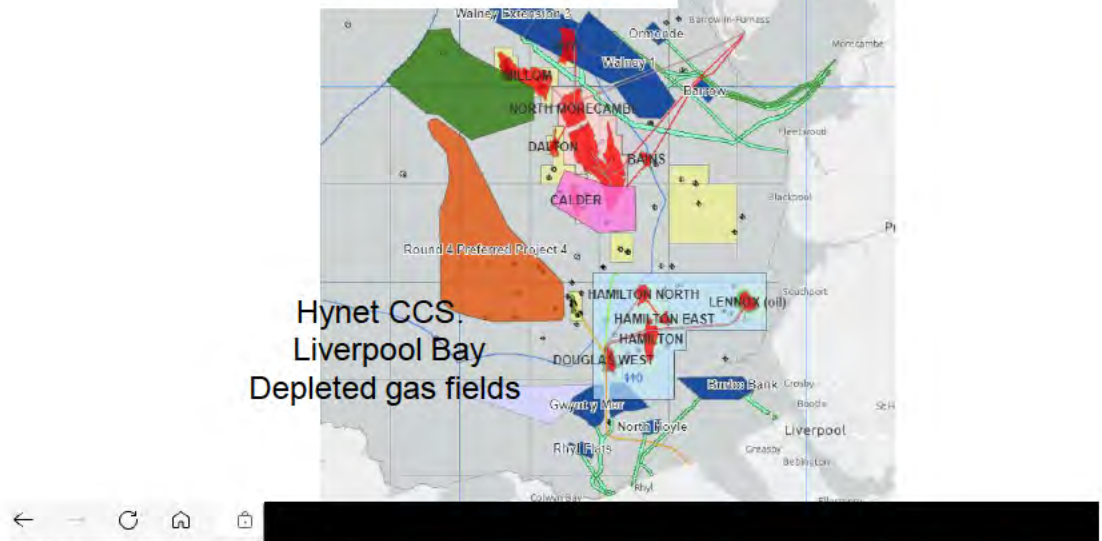


Fisheries fleets risk being sidelined as offshore wind booms across UK waters

## Southern North Sea



## East Irish Sea



# Marine Seismic Operations around Windfarms #1



North Sea Transition Authority

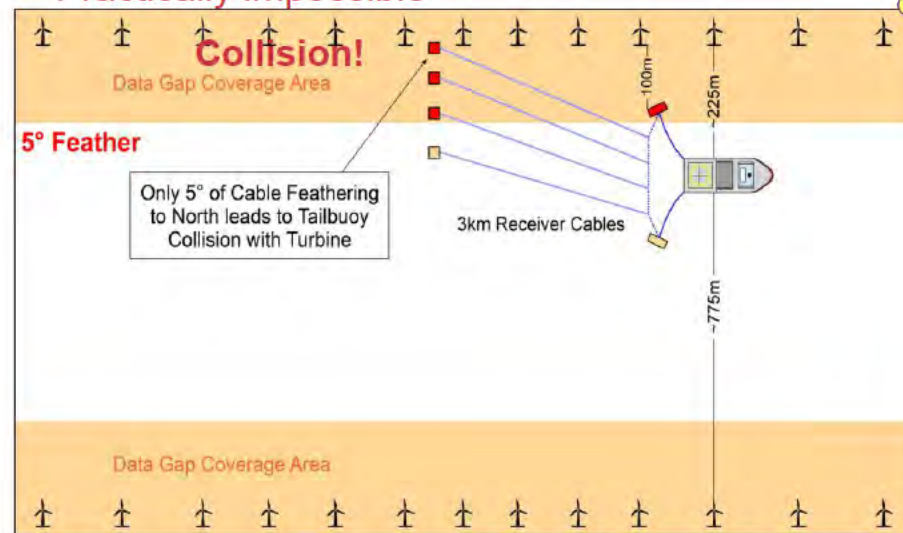
Conventional streamer spread width along turbine corridor:

Impossible



Very much reduced equipment spread.

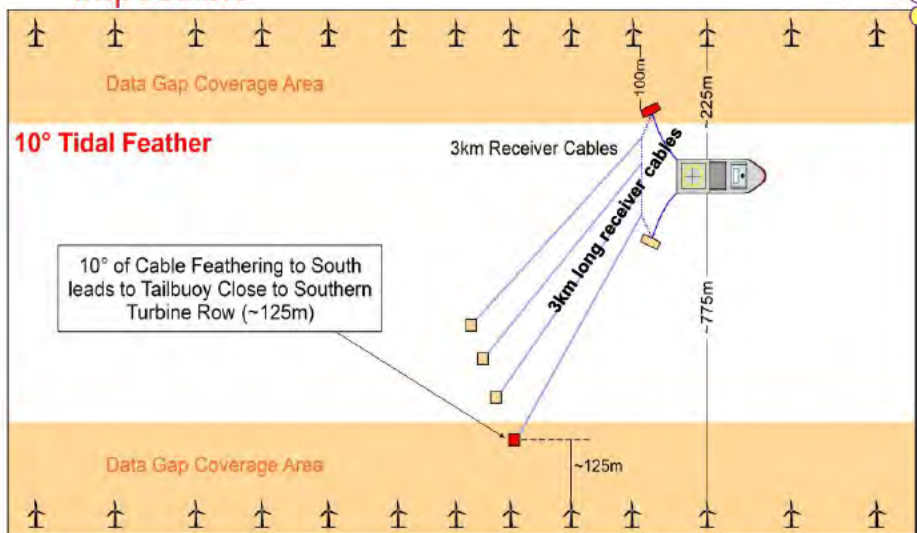
Practically impossible



Not to scale: X is 3 time longer than y's width

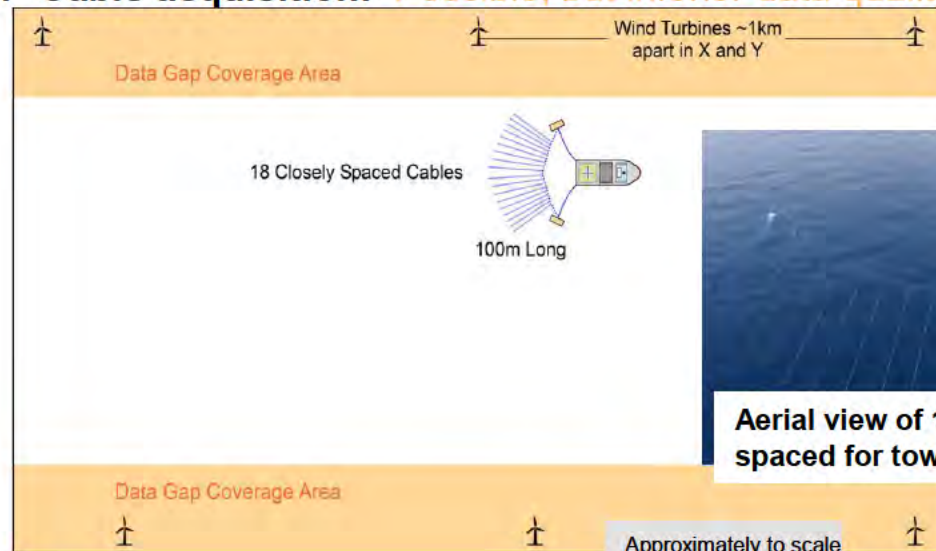
High or unpredictable currents -> moderate/large feather:

Impossible



Not to scale: X is 3 time longer than y's width

P-Cable acquisition: Possible, but inferior data quality



Approximately to scale



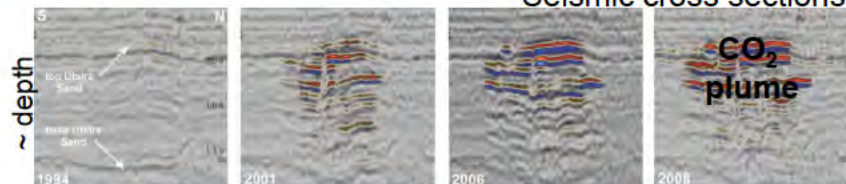
Aerial view of 18 x 100m cables closely spaced for tow width of about 200m

## 2. 4D examples

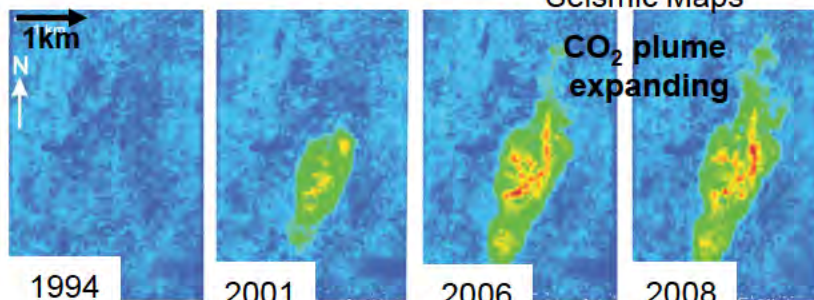
# Very Few Real world 4D CCS examples



## Sleipner CO<sub>2</sub>



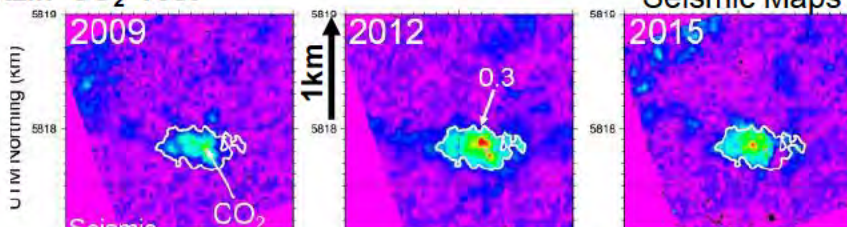
Seismic cross sections



Seismic Maps

Pre CO<sub>2</sub> injection: weak seismic response  
 Post injection surveys: Complex CO<sub>2</sub> "bright spots"  
 Direct detection of CO<sub>2</sub> plume distribution

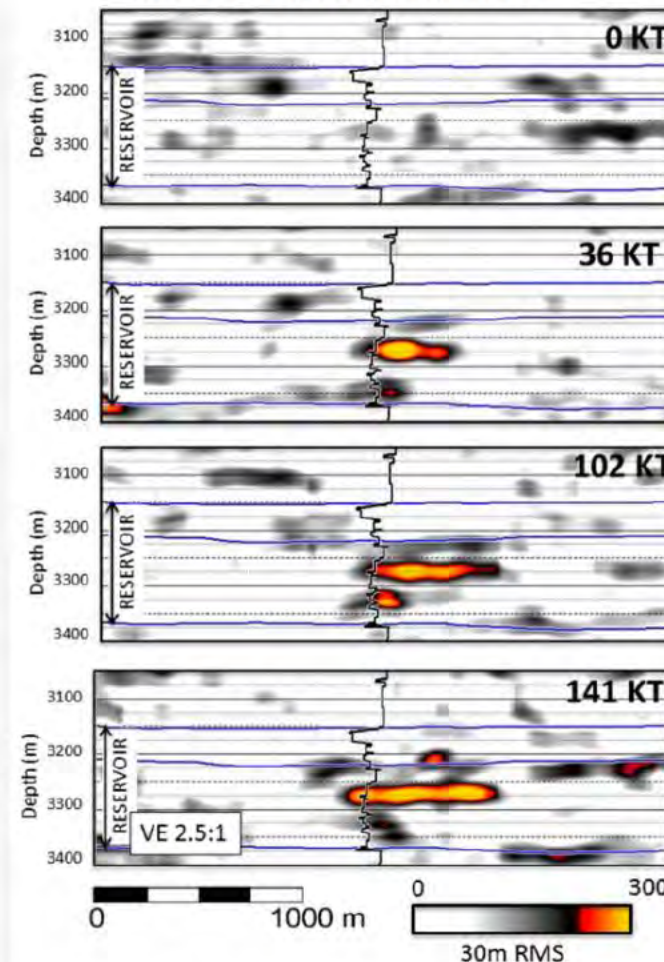
## Ketzin CO<sub>2</sub> Test



Seismic Maps

Post Injection plume increase with time & CO<sub>2</sub>  
 2015 Shrinking response = fast dissolution of the CO<sub>2</sub>.  
 Could only be detected with an intermediate (2012) survey

## Seismic Cross section DAS-VSP Time lapse difference



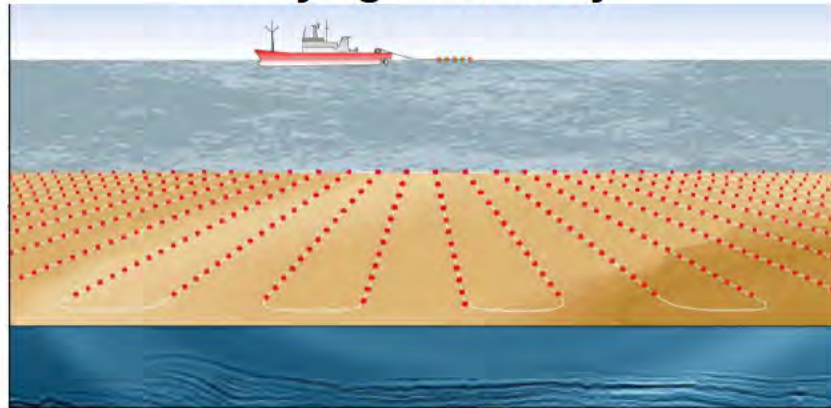
As volume of injected CO<sub>2</sub> increase the amplitude relative to baseline increases

## Important Notes: Very few actual CCS studies worldwide to underpin guidelines

- Guidance based around 20 years 4D technology deployment in O&G industry
- CO<sub>2</sub> has a complex behaviour in the subsurface (e.g. dissolution)

# 3. OBN (Ocean Bottom Node) Seismic Project

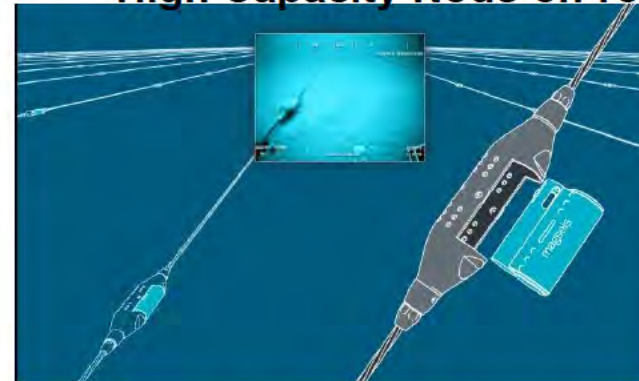
### Surveying node array



### Node & deployment on a rope



### High Capacity Node-on-rope



7kg node



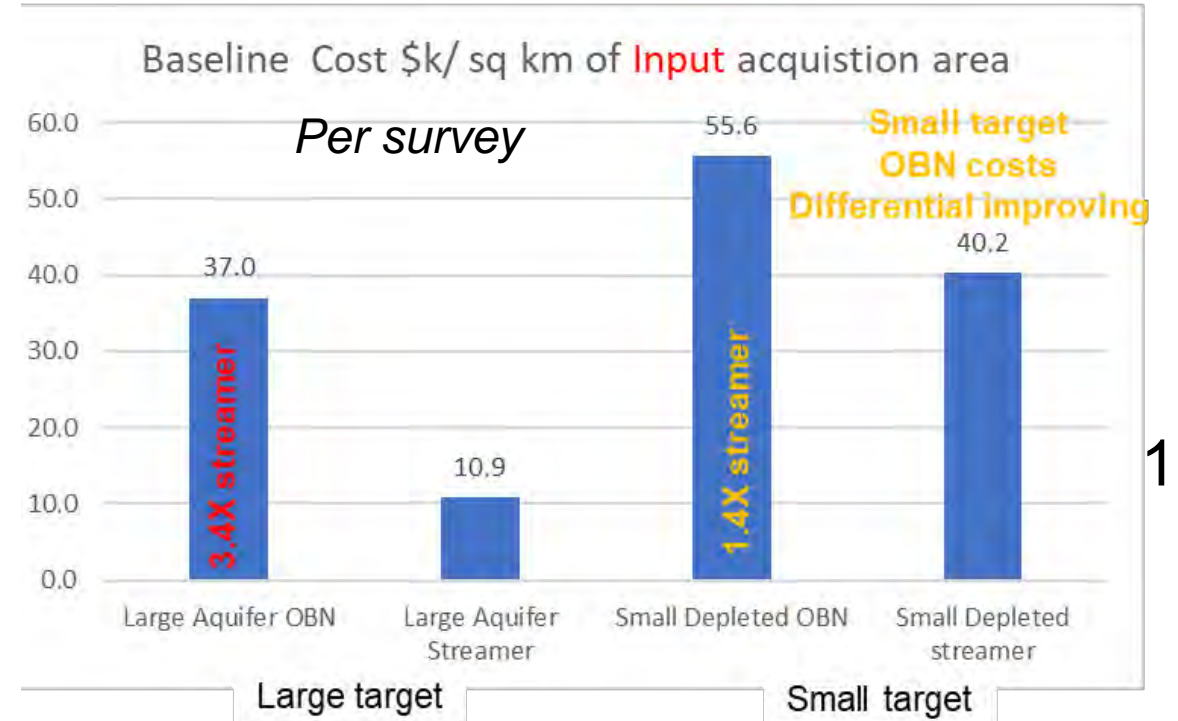
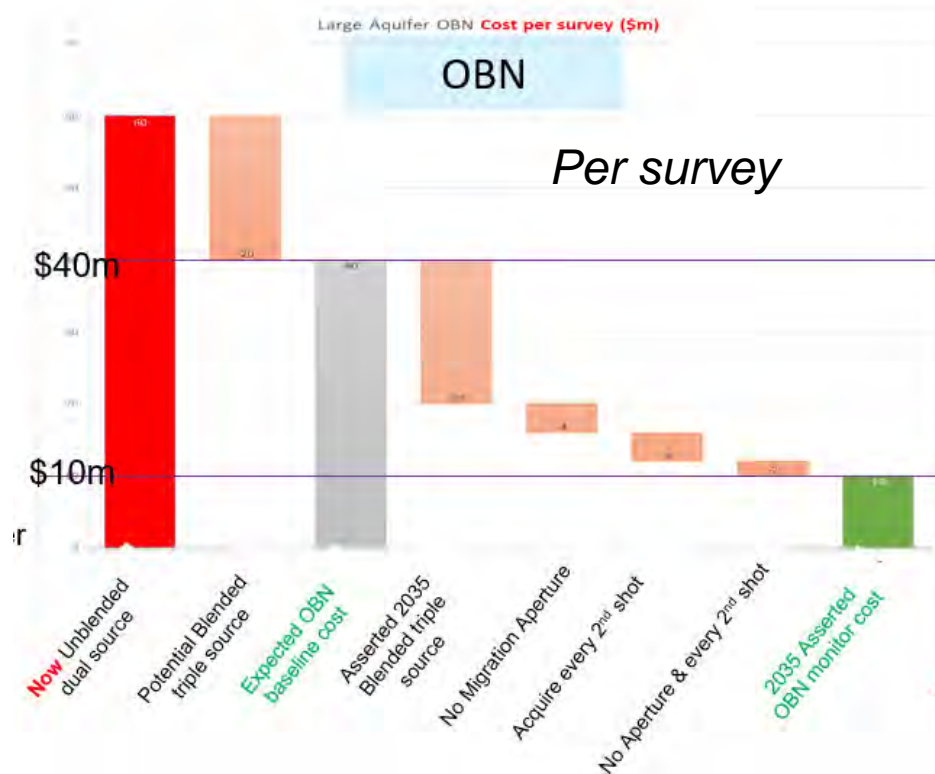
### Potential Node Handler (M/V Ocean Pearl)

- Lays/Picks up nodes in very controlled fashion
- Can/does go close to installations
- “redundancy of propulsion/steerage”
  - Not necessarily DP (dynamic positioning)

- Cables hold sensors/ No electronics in cable
- Autonomous
- Vessel holds several hundred kms of cable
- Robotic back deck speeds up deployment/ removes manual handling
- Automatic data transfer

# Acquisition cost comparison

- Using OBN & streamer configuration to give comparable resolution
- generic large “aquifer” survey vs small “depleted gas” field

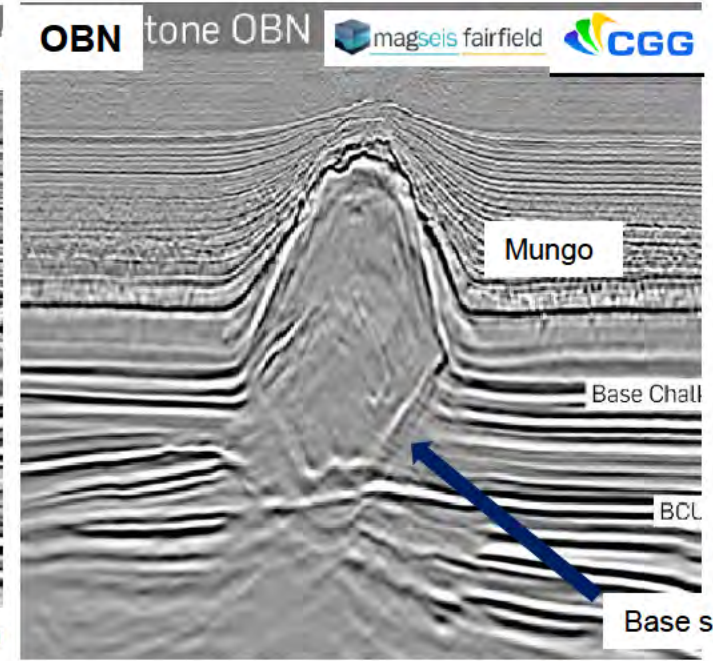
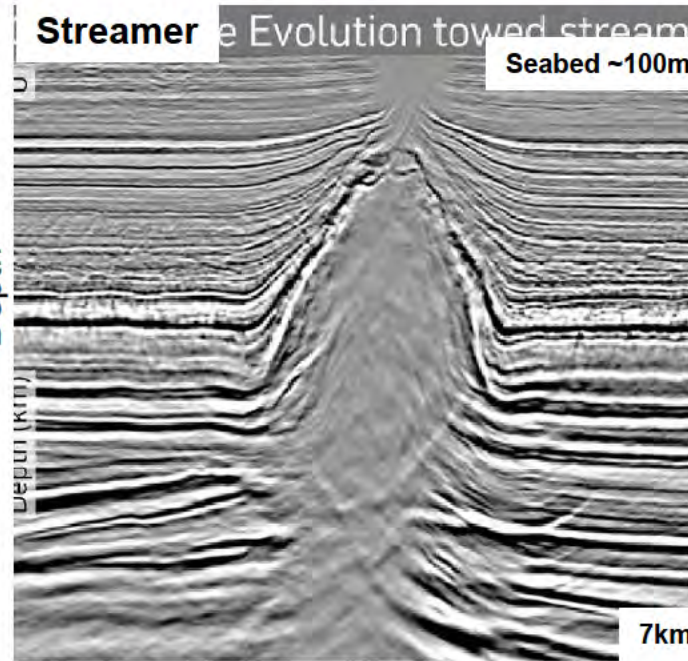
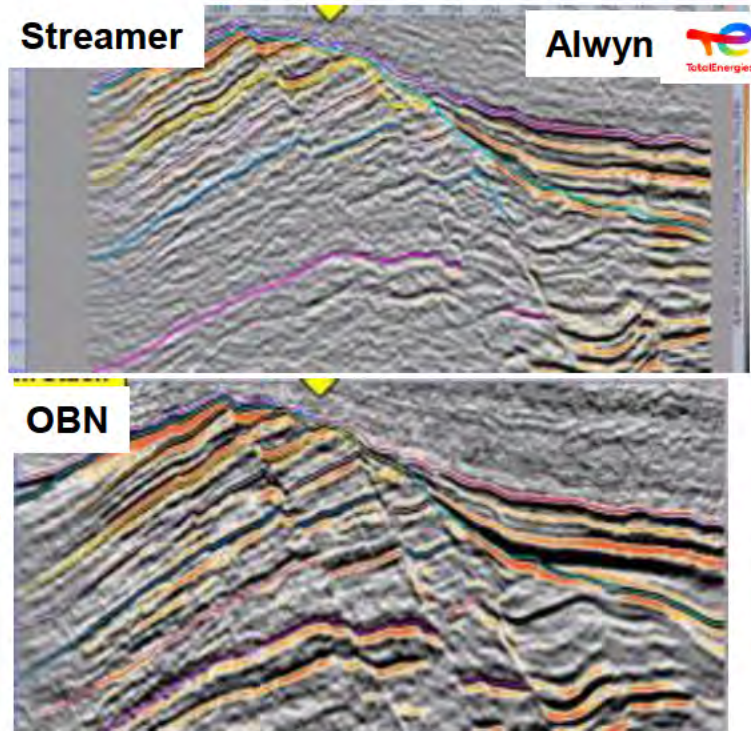


- OBN costs reduced by ~50% over last decade
- Some scope for further technology development
- OBN will always be slower (and more costly) than streamer

Total lifecycle 4D: Large Aquifer: \$96-146m (OBN) or \$54m (streamer) vs. Whole CCS project costs ~£5bn (1-2% of Capex)

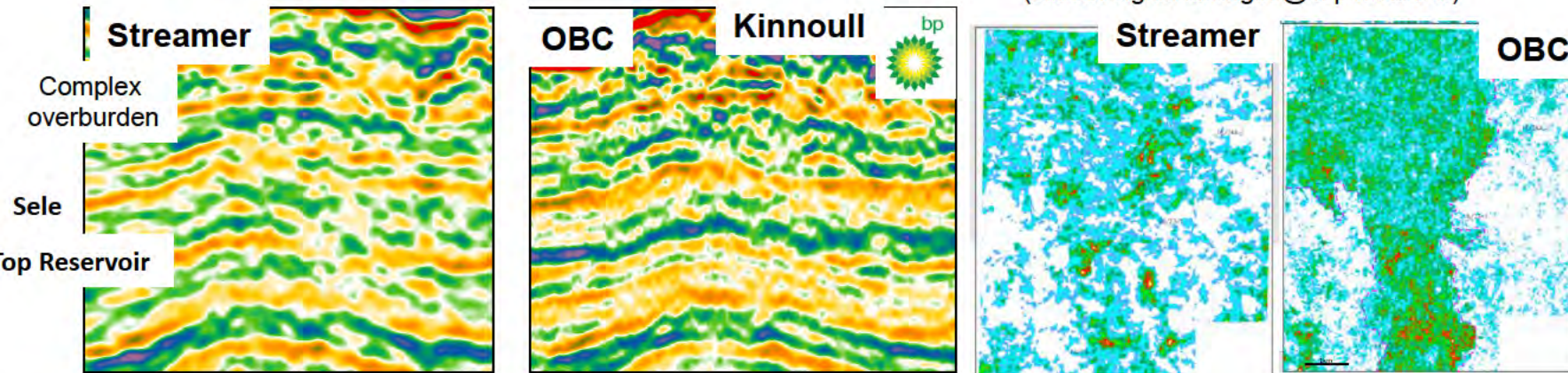
Seismic costs small proportion of total project capex, but very hard to justify the significant additional cost purely for marginal imaging improvement for most reservoirs

# OBN Traditional: complex structures or overburdens



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Seismic attribute map  
(extract signal strength @ top reservoir)



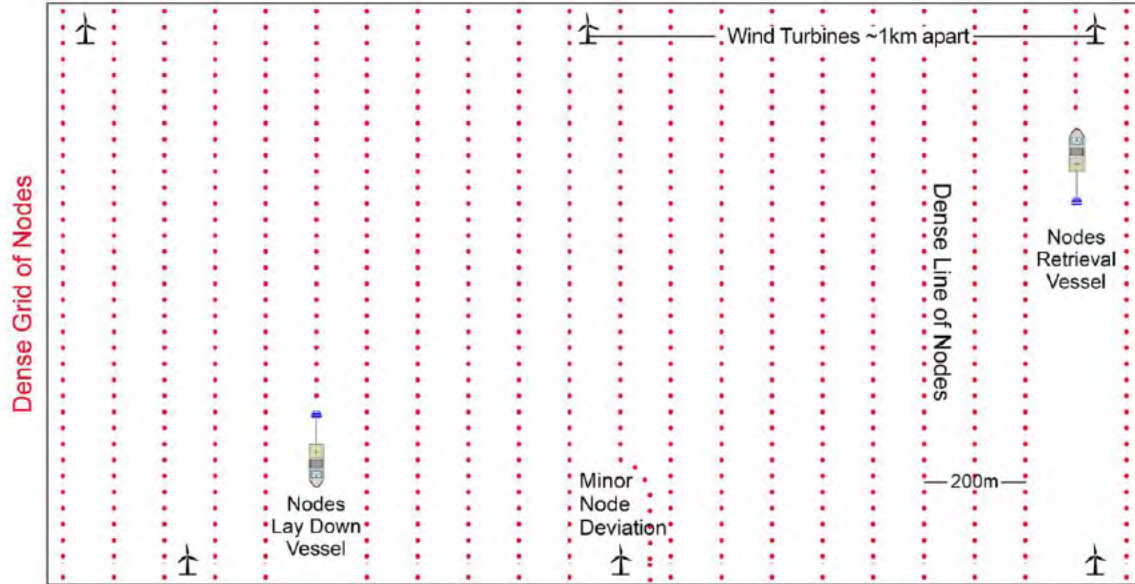
Many examples from UKCS where OBN has delivered superior image of subsurface e.g.

- Improved fault definition
- Increased horizon continuity
- Superior salt tectonic mapping
- 4D reservoir behaviour

OBN usually employed for complex targets/ Many excellent examples of geophysically superior imaging improvements

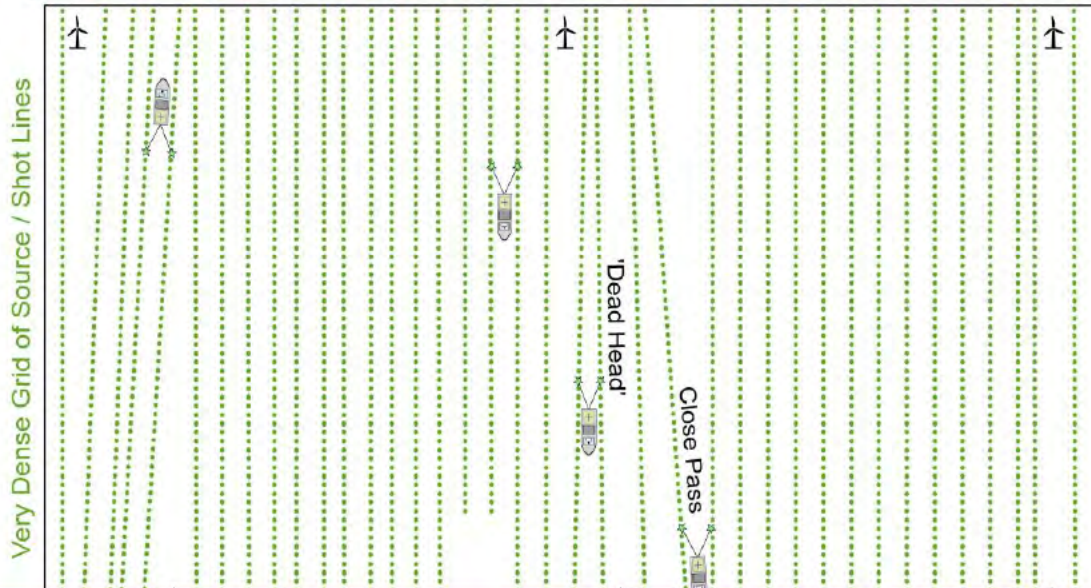


# OBN acquisition Proximity to obstructions



Geowave Commander (node vessel) on close approach (~350m) to platform. Picture taken from source boat

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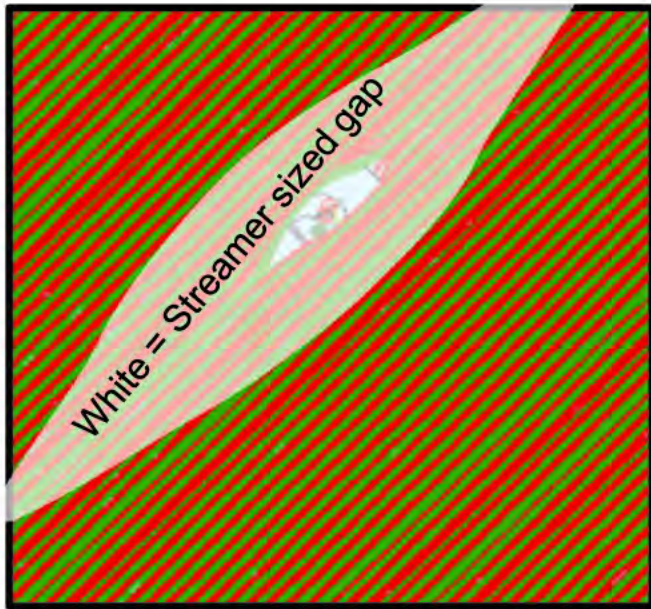


## Containerised Source System on PSV



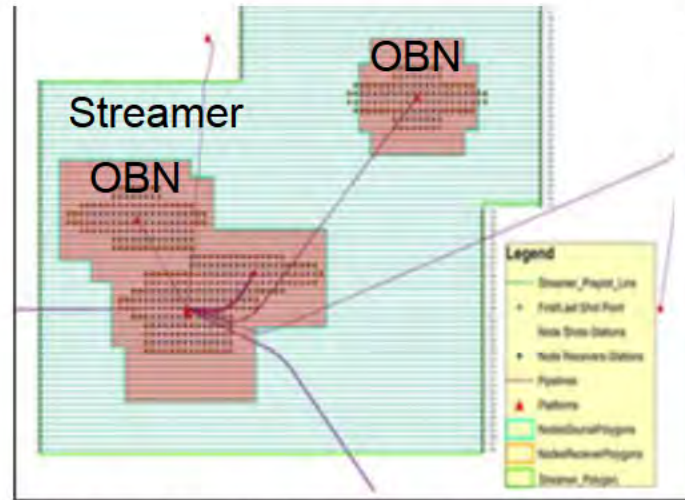
OBN can be acquired close to infrastructure

## Acquisition around single platform



Seismic source lines (alternating red & green direction, 25m apart) shooting into permanent installed nodes (PRM).  
Dead heads visible from NE

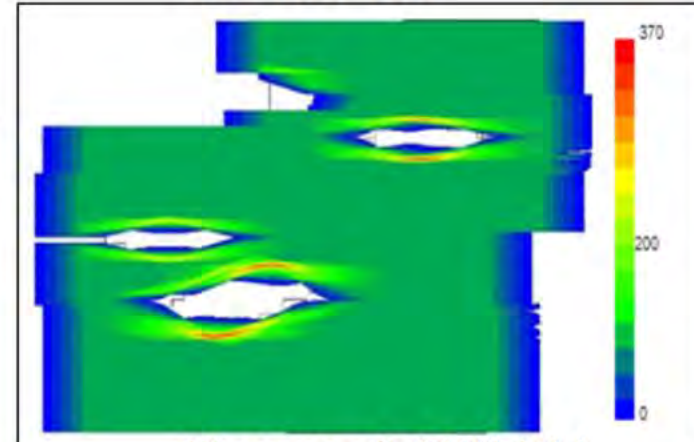
## Hybrid streamer & OBN around platform (Malaysia)



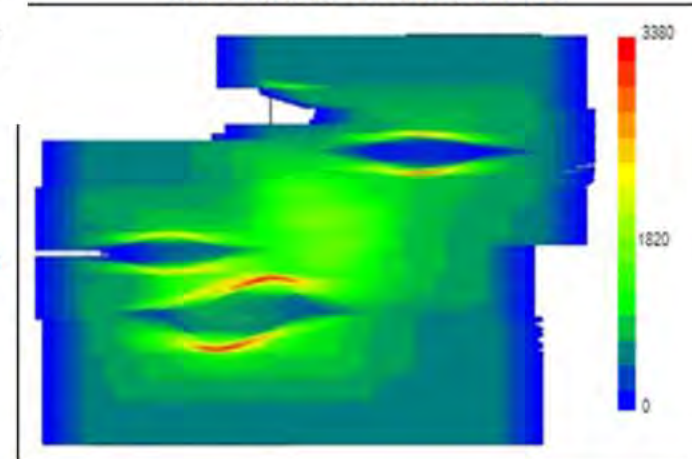
A cost-effective and efficient solution for marine seismic acquisition in obstructed areas – Acquiring ocean-bottom and towed-streamer seismic data with a single multipurpose vessel  
*Michelle Tham<sup>1\*</sup>, Tim Brice<sup>1</sup>, Artem Sazykin<sup>1</sup>, Wai Leng Cheah<sup>1</sup>, Stephen Winters<sup>2</sup>, Nigel Jones<sup>3</sup>, Sandeep Chandola<sup>4</sup>, Shamsul Shukri<sup>4</sup>, Subodh Kumar<sup>4</sup>*  
<sup>1</sup>WesternGeco, <sup>2</sup>Roc Oil Company, <sup>3</sup>Dialog Resources Sdn. Bhd., <sup>4</sup>PETRONAS Carigali Sdn. Bhd.

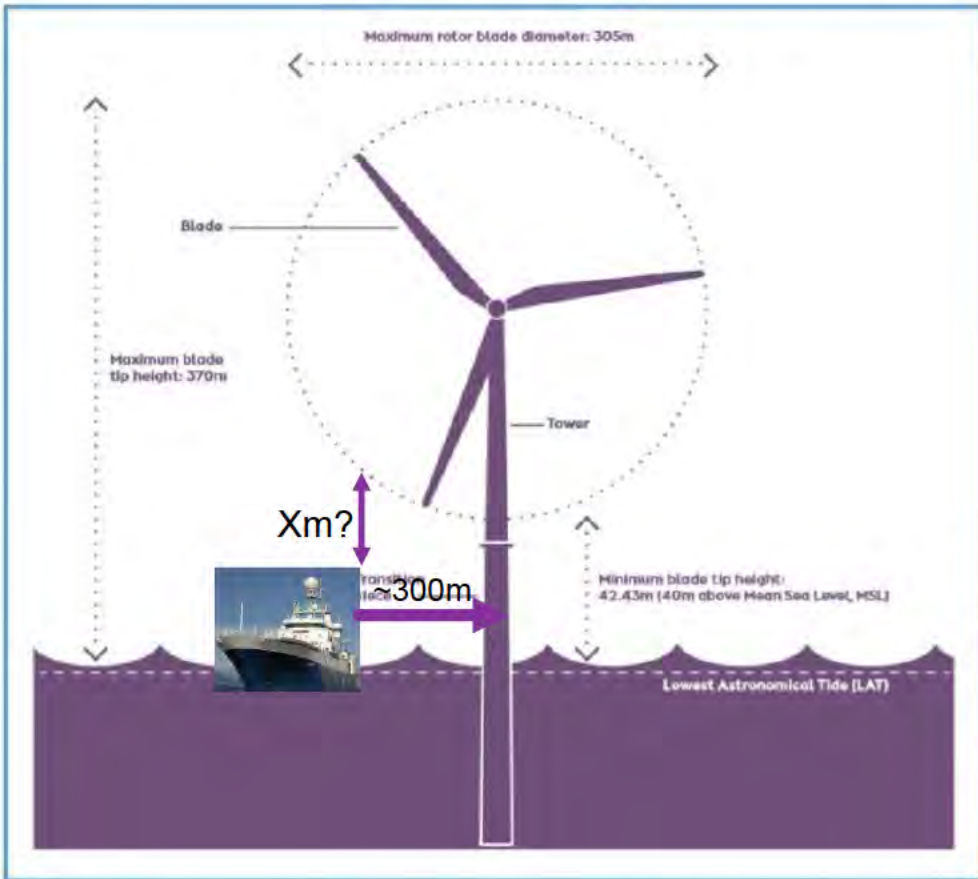
Claim hybrid survey ~25% cost of full OBN

## Streamer fold



## Streamer & OBN fold





## Intra-windfarm Cross disciplinary HAZID assessment

- Currently estimated seismic vessel- platform safety separation 250m (OBN) - 400m (Streamer)
- Seismic vessel Proximity to turbine?
  - Large turbines => longer blades
    - Impact on working beneath (e.g. radar domes)
  - Additional risks working within multiple obstructions
- Windfarm walk to work lessons

## Technology development: size of vessel and towing equipment 25

## Further Autonomous receiver node development

- Increase Receiver mode density
- Analogous Drone choreography advancements



Autonomous node



- Engineering Challenges for Autonomous seismic sources vision (RAM4D)
  - Source position, Obstacle avoidance and signal repeatability,
  - AUV endurance needs to be improved (>100km/day) / Limited OBN battery life
  - Additional power to energise source / Local Windfarm energy supply opportunity?

Further investigation into seismic operations in windfarms required

# 4. Reservoir 4D signal > seismic noise

# The Signal > Noise See-Saw

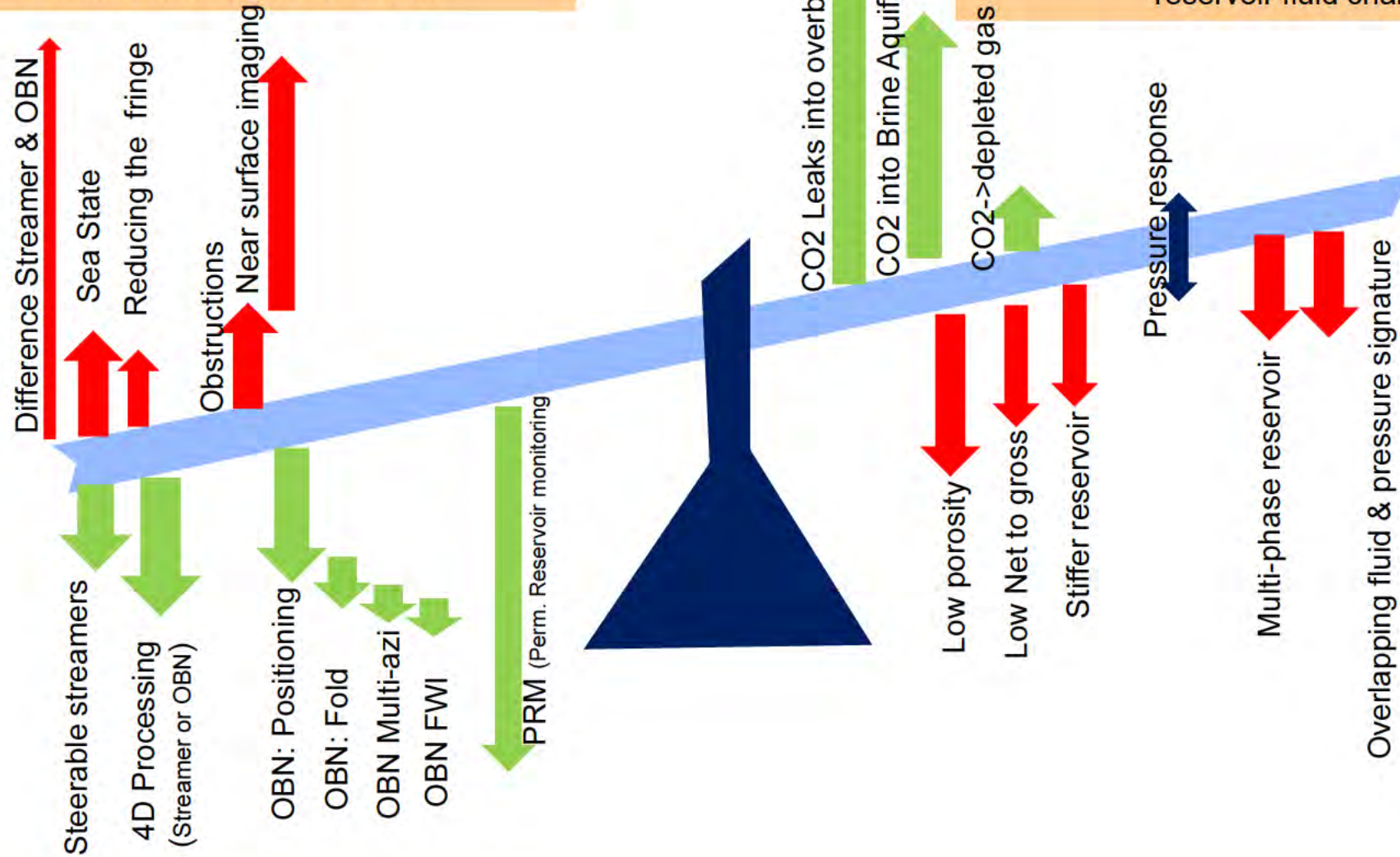


## Seismic Repeatability NOISE

Difference between baseline and monitor survey  
Will have level of random noise

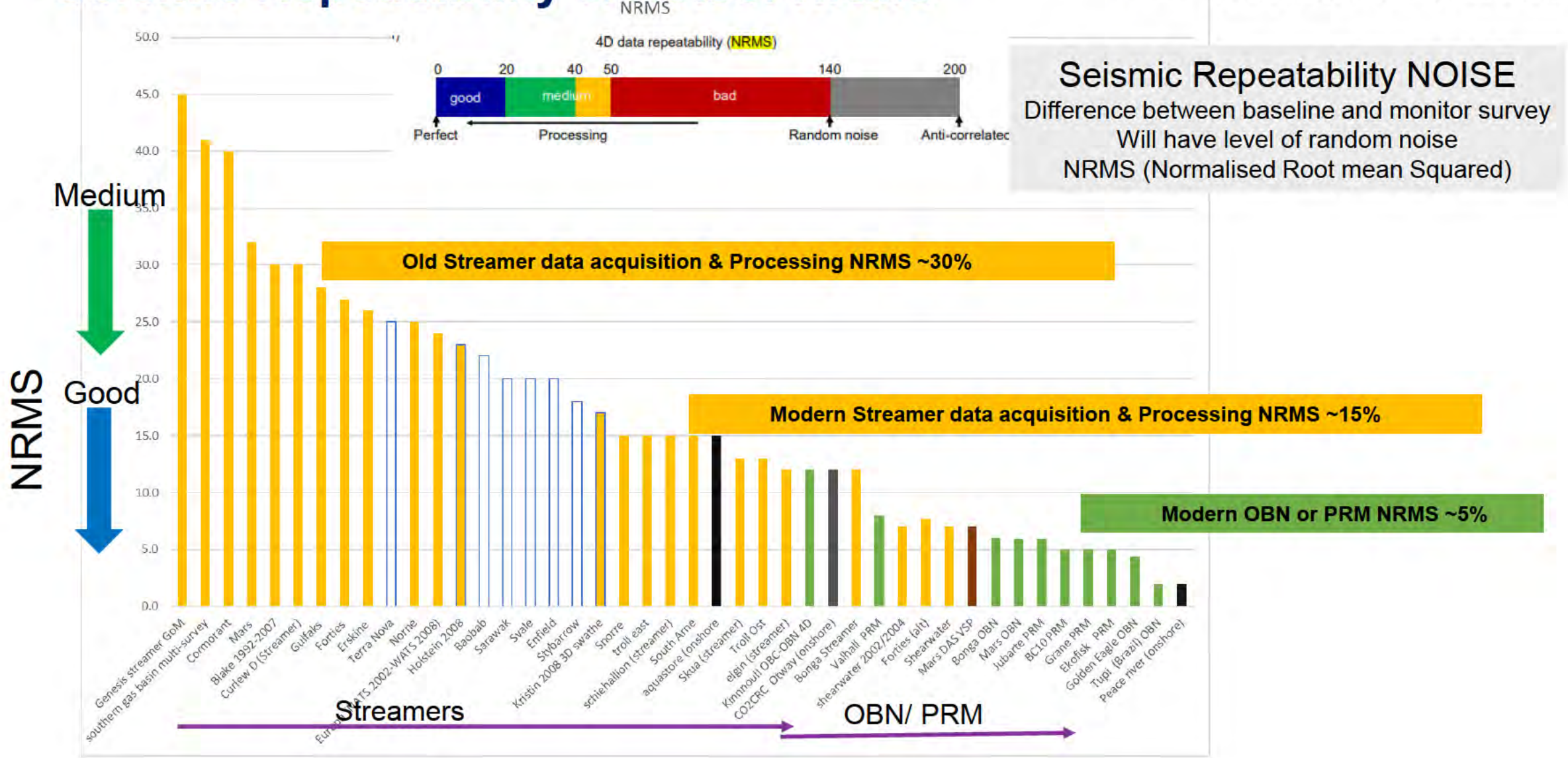
## Predicted 4D SIGNAL

(Strength of seismic signal as a resulting of reservoir fluid changes)



Critical to predict signal > noise before surveying

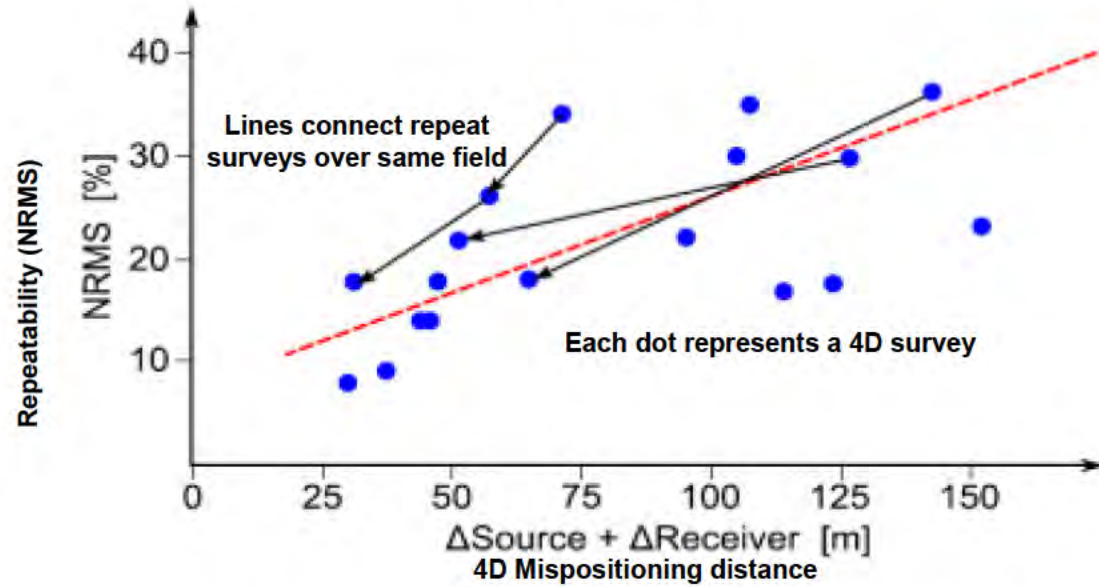
# Seismic Repeatability & Noise: NRMS



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OBN or PRM can significantly improve repeatability/ suppress the noise level

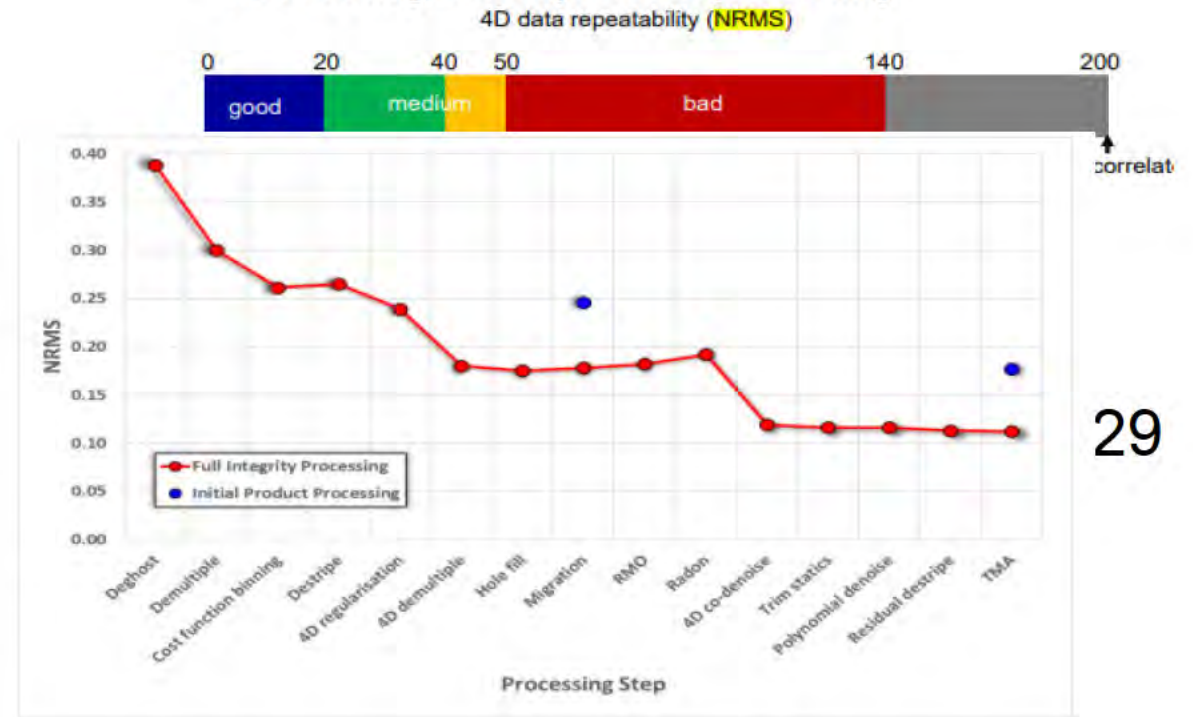
Clear linkage between source & Streamer Repeatability vs NRMS noise



Improving Repeatability (lower NRMS) with better source and receiver positioning

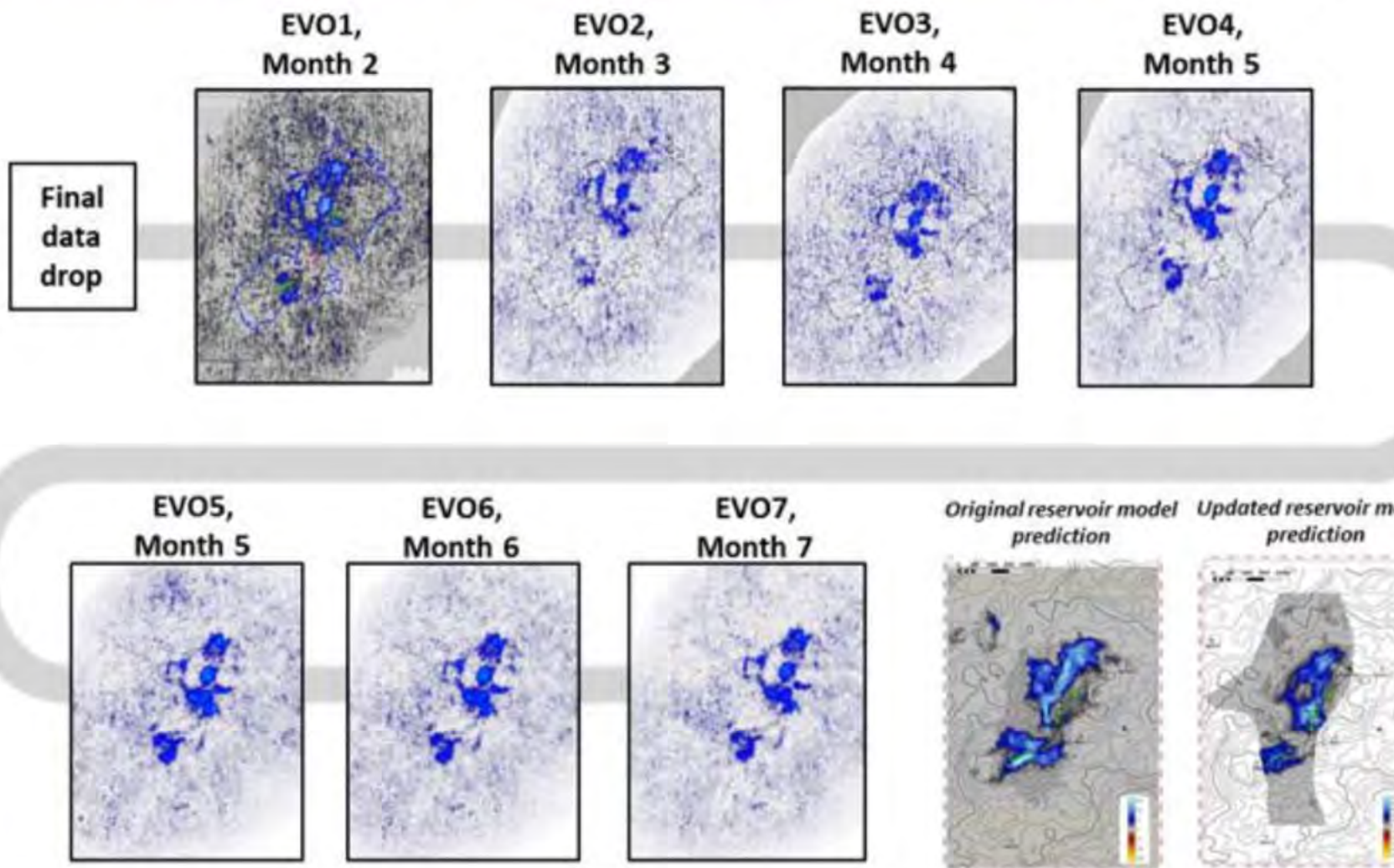
For comparison: OBN repeatability: 5m Node position 10m shots

Processing can improve Repeatability



Certain processing steps improve repeatability

# Processing Stage: Sharpening the image



Kinnoull OBC-OBN  
4D difference maps  
By processing step

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Full-cycle iterative processing: when is “good”, good enough?

A 4D North Sea case study

M. Walker<sup>1</sup>\*, D. Davies<sup>1</sup>, C. Hill<sup>1</sup>, C. Page<sup>2</sup>, P. Smith<sup>2</sup>, A. Irving<sup>2</sup>

<sup>1</sup>BP, <sup>2</sup>CGG

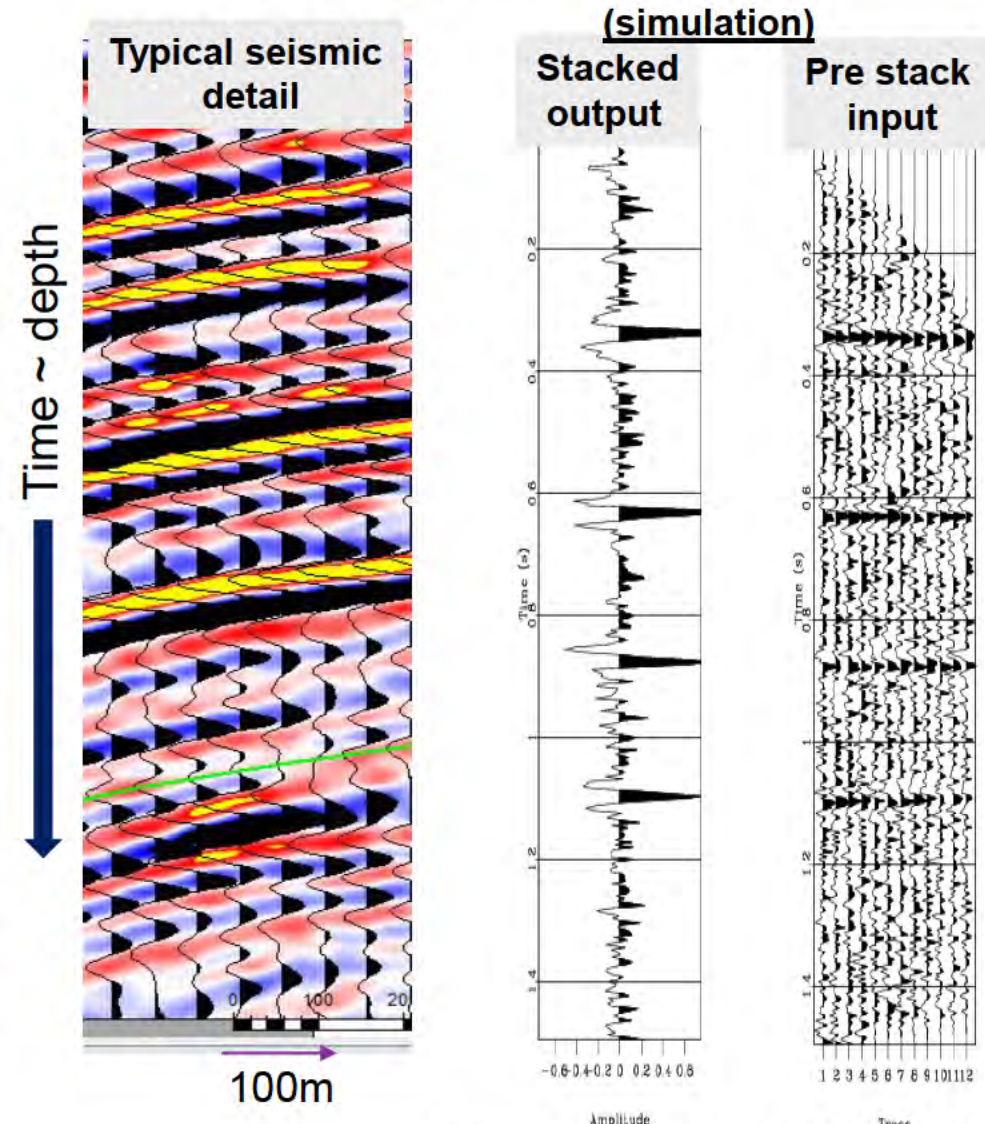


# OBN very high trace density/ Fold

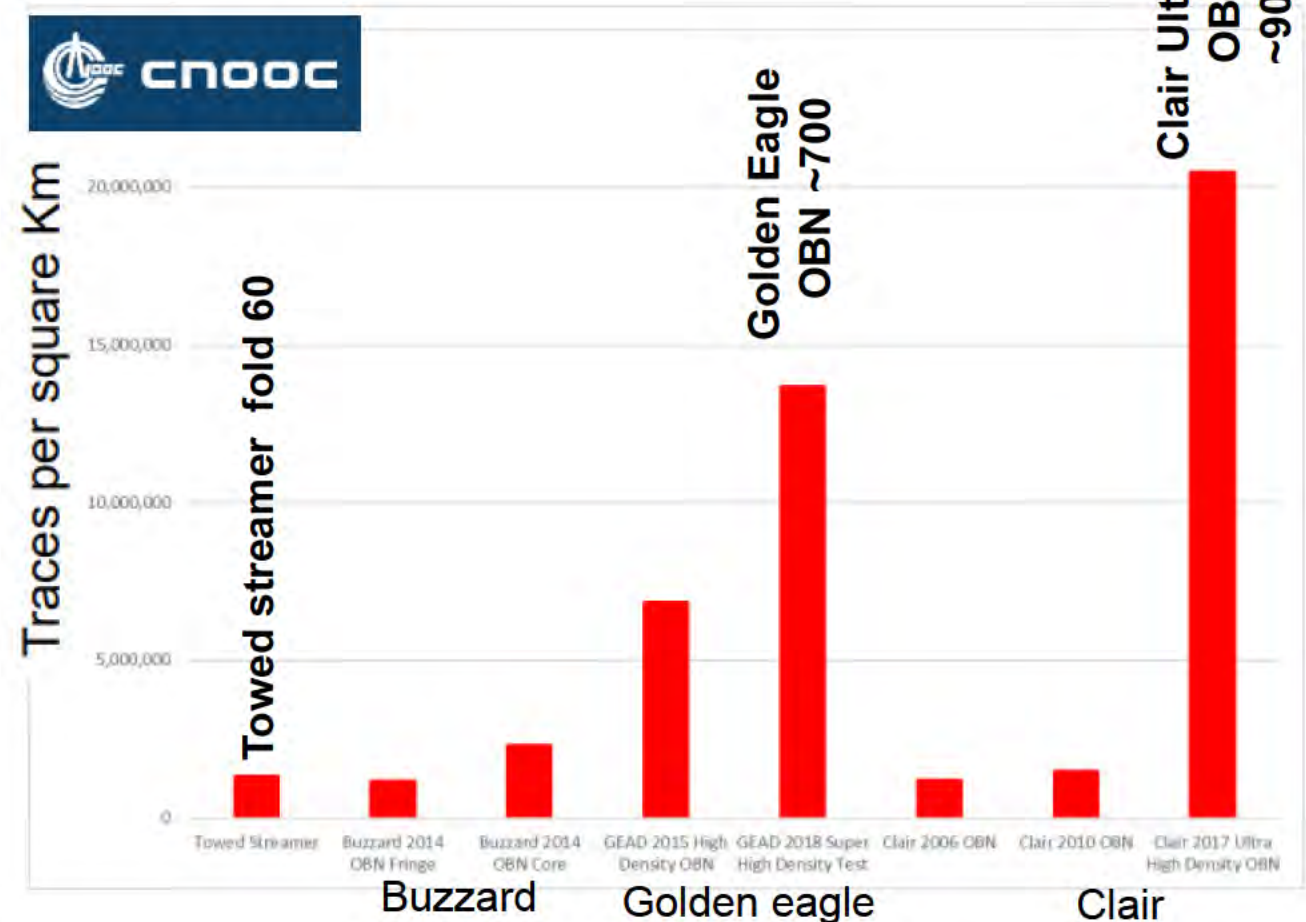
The Power of the stack



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Summing (stacking) 12 traces improves signal/ noise "fold"

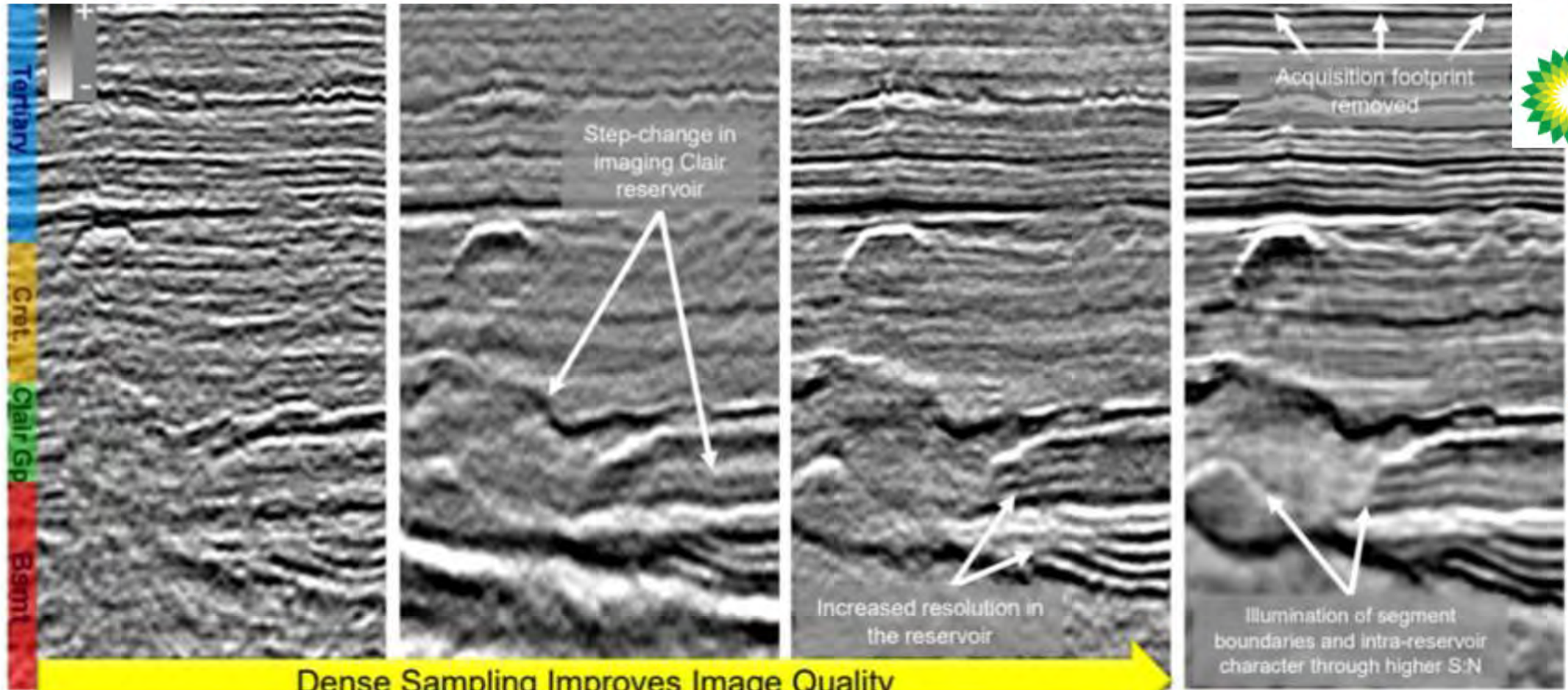


Signal to Noise improves  $\sqrt{\text{Fold}}$   
 => Golden Eagle OBN 4\* Better signal/ noise than streamer

Utsira Regional OBN ~1200

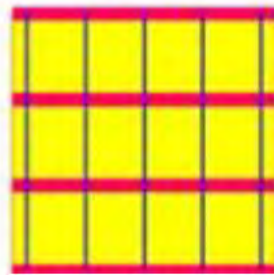
Clair Ultra HD OBN ~900

# Clair Ridge: Towed Streamer to UHD OBN

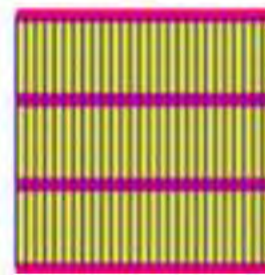


32

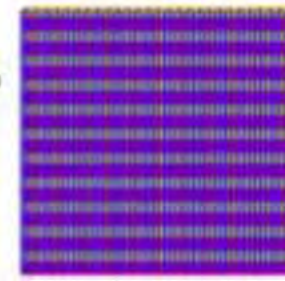
1990/92  
Towed  
Streamer



2002/06  
Sparse OBC PP  
Receivers 355x25m  
Shots 245x25m  
Trace density = 0.29/m<sup>2</sup>



2010 High  
Density OBC PP  
Receivers 350x50m  
Shots 50x50m  
Trace density = 0.36/m<sup>2</sup>



2017 Ultra High  
Density OBN PP  
Receivers 100x50m  
Shots 25x25m  
Trace density = 5.12/m<sup>2</sup>



- OBN technology is
  - Becoming mature & mainstream in oil and gas
  - Employed in special situations: shallow water, complex structures, overlapping activity, small 4D signal
- OBN is advantageous in obstructed space ( project focus on mono-pile)
  - Floating windfarms: Catenary cables & multiple anchor points, tension leg turbines?
  - Acquire baseline data before infrastructure installation
    - Impact repeatability?
    - Which has primacy: turbines or CCS baseline?
  - OBN acquisition feasibility within an operational windfarm is unclear
    - Cross-disciplinary (CCS/Wind/Seismic/Marine) HAZID assessment workshop recommended
- OBN is a geophysically superior reservoir imaging technology
  - Many examples from UKCS (and worldwide) of improved **complex** subsurface imaging
  - Many successful hydrocarbon (Streamer & some OBN) 4D case studies
- Major OBN drawback remains cost differential compared to streamer
  - OBN costs have reduced by ~50% over last decade (automatic node handling)
  - OBN will always be slower (and therefore more expensive) than streamer seismic
    - OBN multiplier of 2-5X streamer does not justify the cost in most situations
- Hybrid Streamer and OBN could be a valuable co-location compromise



# 5. Seismic Signal/ CO<sub>2</sub> Detection Project

# Carbon storage reservoir distribution



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**Licence:** CS003 Acorn  
**Location:** Goldeneye, Outer Moray Firth  
**Operator:** Storegga  
**Reservoir Age:** Lwr Cretaceous  
**Lithology:** sandstone  
**Depth:** 2860m MD  
**CS Type:** Depleted Field  
**Well:** 14/29a-3

**Results:**  
**Injection into aquifer-** 4D response expected ✓  
**Injection into gas leg-** no 4D response expected ✗?

- Utsira/Miocene sand
- Eocene/ Palaeocene( Inc. Forties/Mey)
- Lower Cretaceous( Inc. Captain)
- Triassic( Inc. Bunter)
- Permian ( Inc. Rottligende) NOT SHOWN

**Licence:** P046 Sleipner  
**Location:** CNS, Norway  
**Operator:** Equinor  
**Reservoir Age:** Miocene  
**Lithology:** sandstone, unconsolidated, thick, high NTG, high porosity  
**Depth:** 820m MD  
**CS Type:** Aquifer  
**Well:** N15/9-17

**Results:**  
**Injection into aquifer-** large 4D response expected (& observed, 1 Mtpa since 1996) ✓

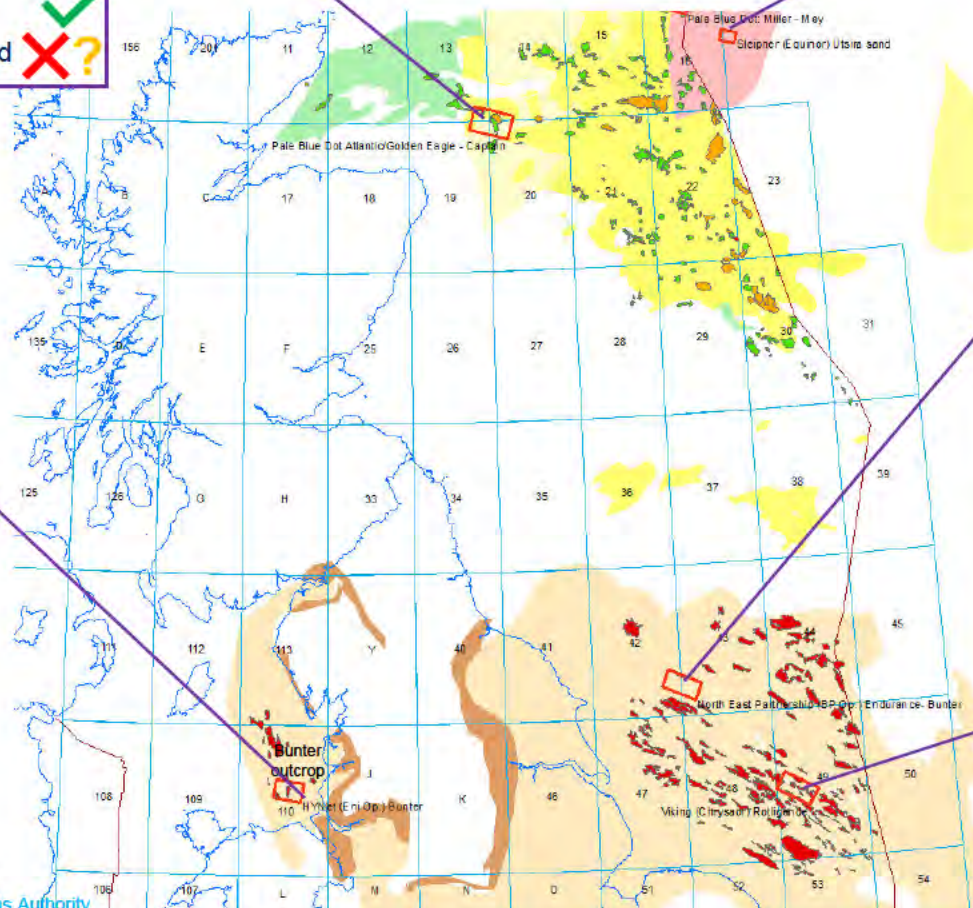
**Licence:** CS001 Endurance  
**Location:** SNS  
**Operator:** bp  
**Reservoir Age:** Triassic  
**Lithology:** sandstone, consolidated, thick, high NTG, medium porosity  
**Depth:** 1400m MD  
**CS Type:** Aquifer  
**Well:** 42/25d-3

**Results:**  
**Injection into aquifer-** 4D response expected ✓

**Licence:** CS004 Hynet  
**Location:** EIS  
**Operator:** ENI  
**Reservoir Age:** Triassic  
**Lithology:** sandstone, consolidated, thick, high NTG, mid-low porosity, very low initial reservoir pressure  
**Depth:** 1110m MD  
**CS Type:** Depleted field  
**Well:** 110/14-4

**Results:**  
**Injection into gas leg-** Limited 4D response expected ✗  
**Migration into aquifer:** observable response ✓

**Licence:** CS005 V Net Zero  
**Location:** SNS  
**Operator:** Harbour  
**Reservoir Age:** Permian  
**Lithology:** sandstone, consolidated, thick, high NTG, low porosity, very low initial reservoir pressure (450psi)  
**Depth:** 2680m MD  
**CS Type:** Depleted field  
**Well:** 49/12-2  
**Results:**  
**Injection into gas leg-** No 4D response expected ✗  
**Injection into aquifer:** Very small response ?



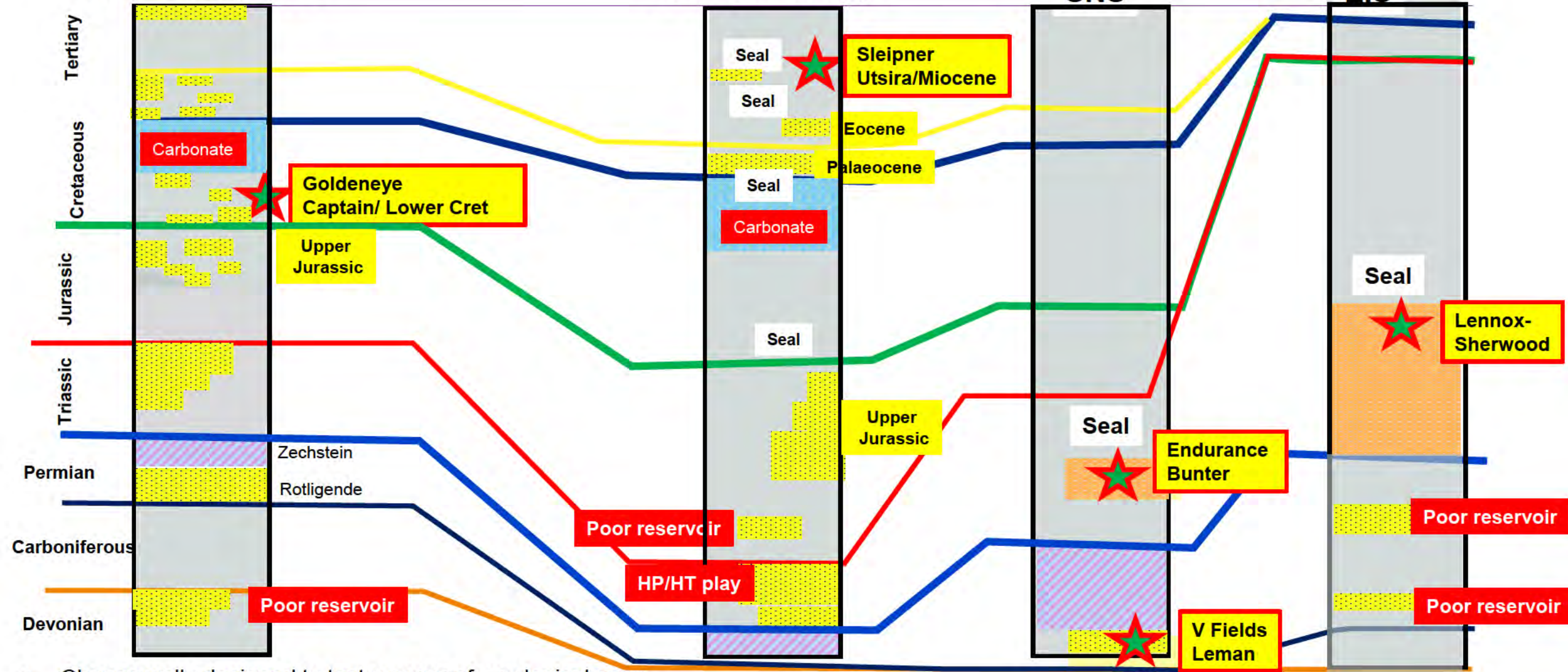
# Carbon storage reservoirs by age

## Outer Moray Firth

## CNS UK/Norway

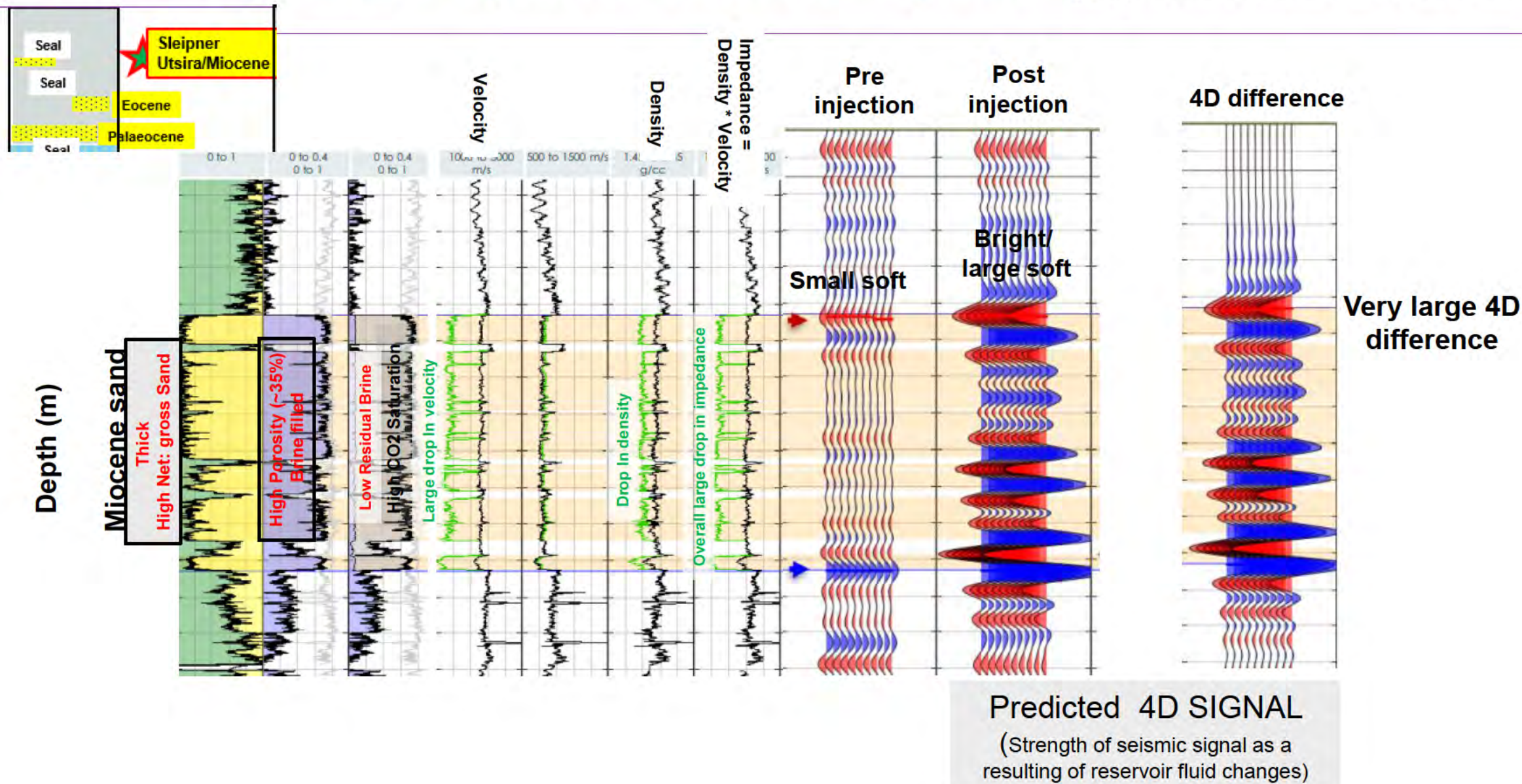
## SNS

## EIS



- Chosen wells designed to test a range of geological ages
- Some formations rejected as unlikely for CCS
- Potential future formation study options highlighted

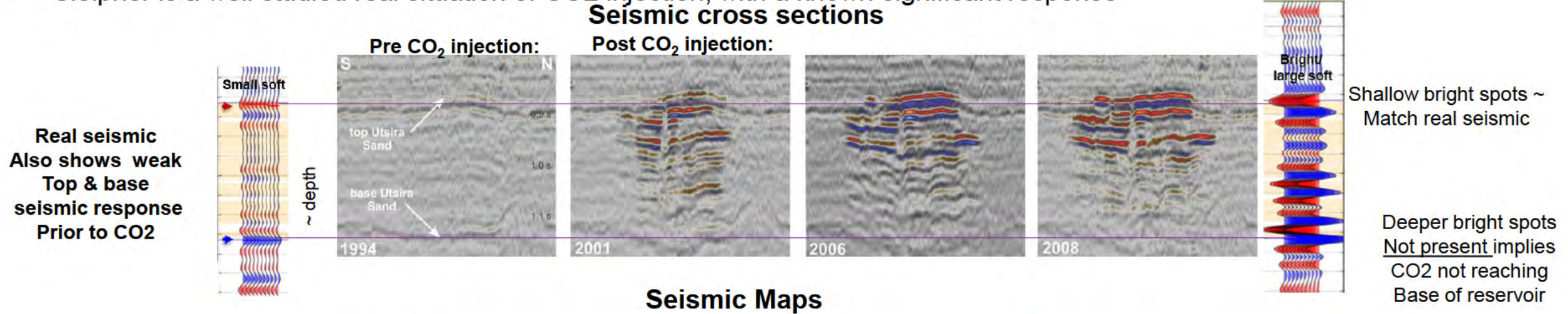
# “Easy 4D”: Sleipner CO2 injection/ “soft rock ”aquifer



Very large response, readily detectable

# Real 4D example: Sleipner comparison

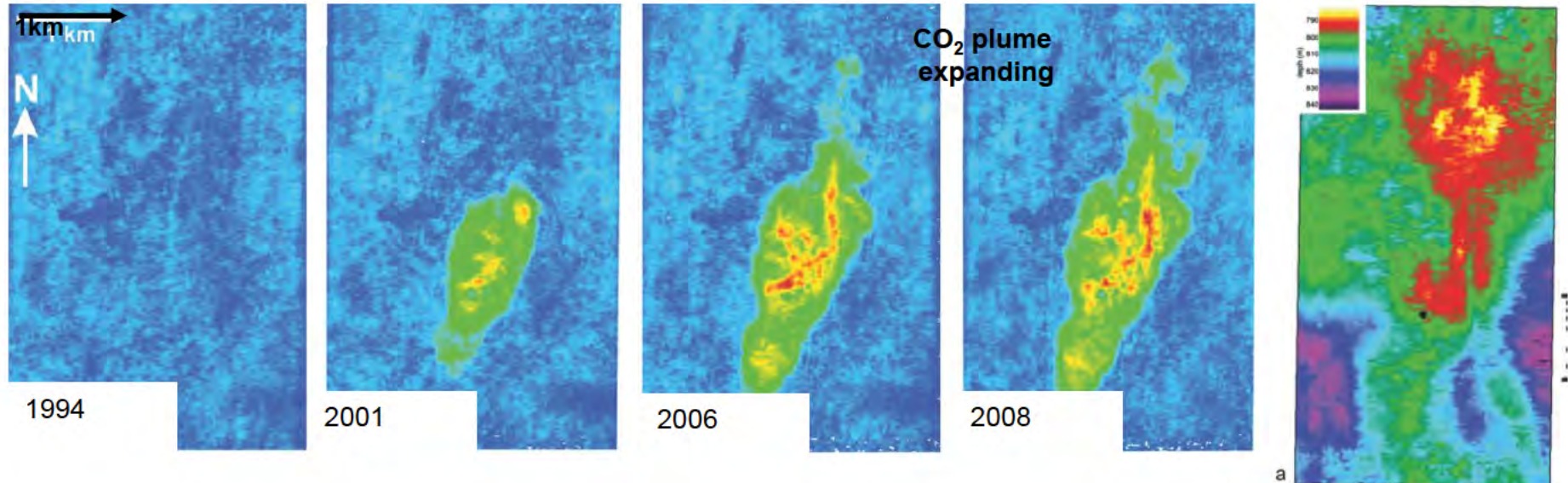
- Sleipner is a well studied real situation of CO<sub>2</sub> injection, with a known significant response



Real seismic  
 Also shows weak  
 Top & base  
 seismic response  
 Prior to CO<sub>2</sub>

## Seismic Maps

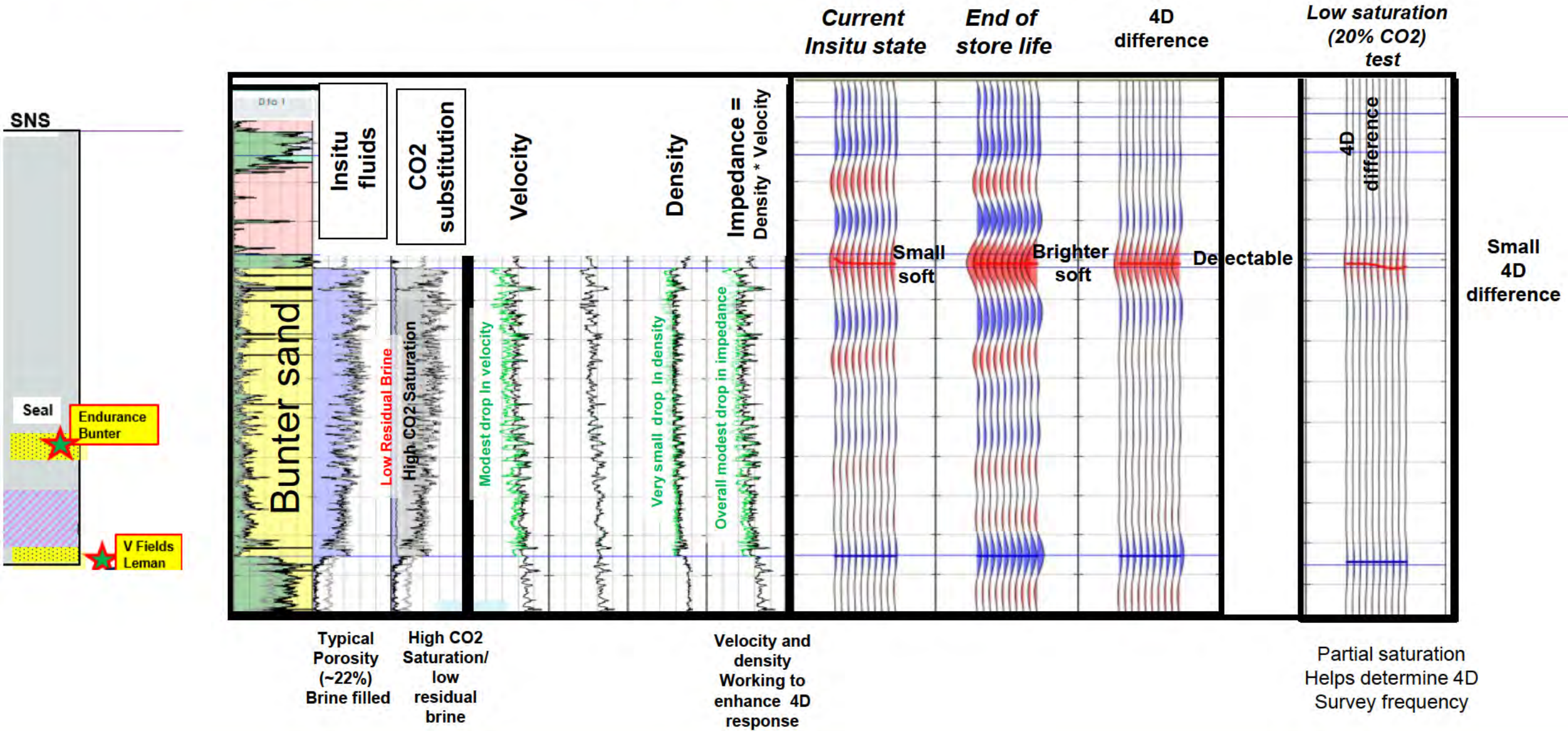
Mapping upper event  
 Shows CO<sub>2</sub> migrating  
 In clear NNE direction



Structure map : not to scale

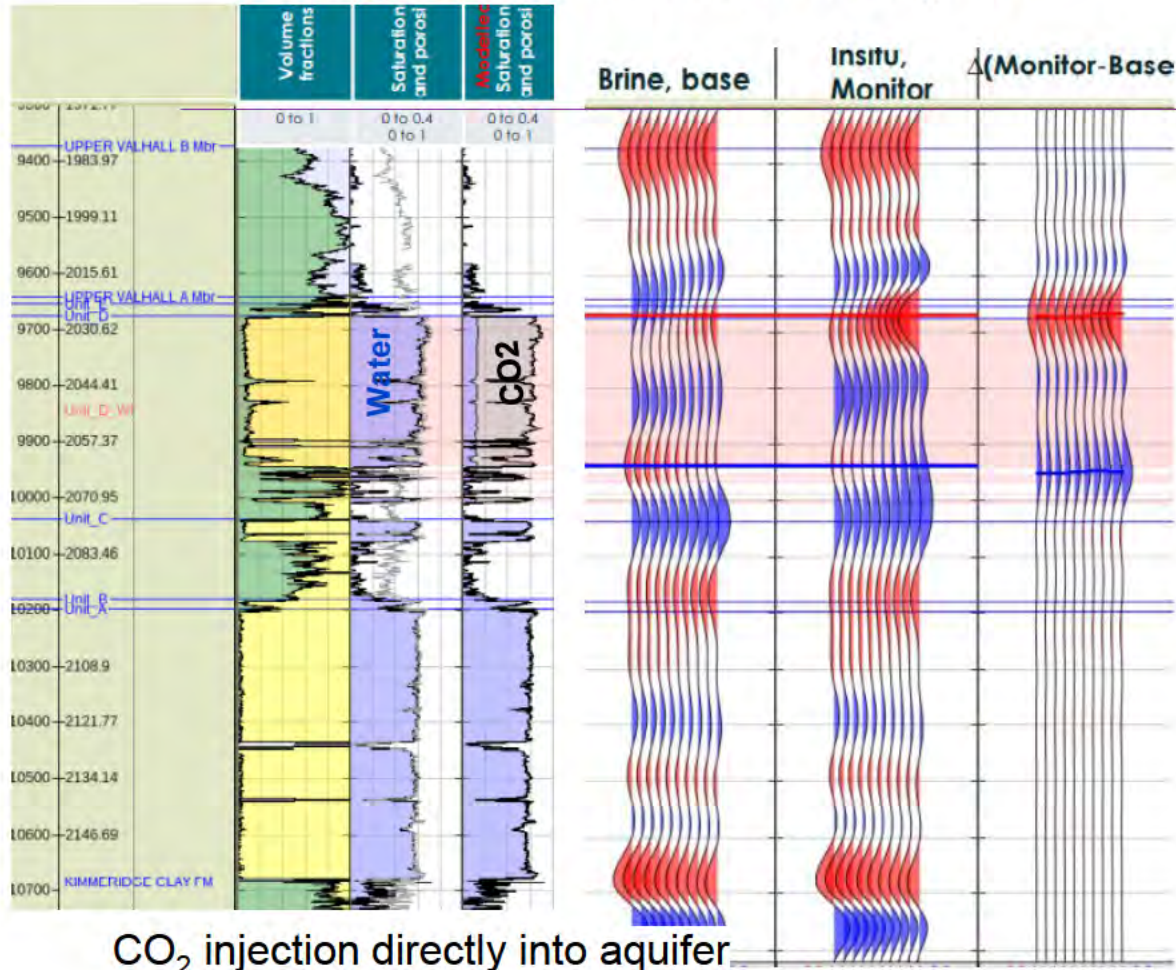


# “Medium 4D”: Endurance (SNS) Triassic Aquifer

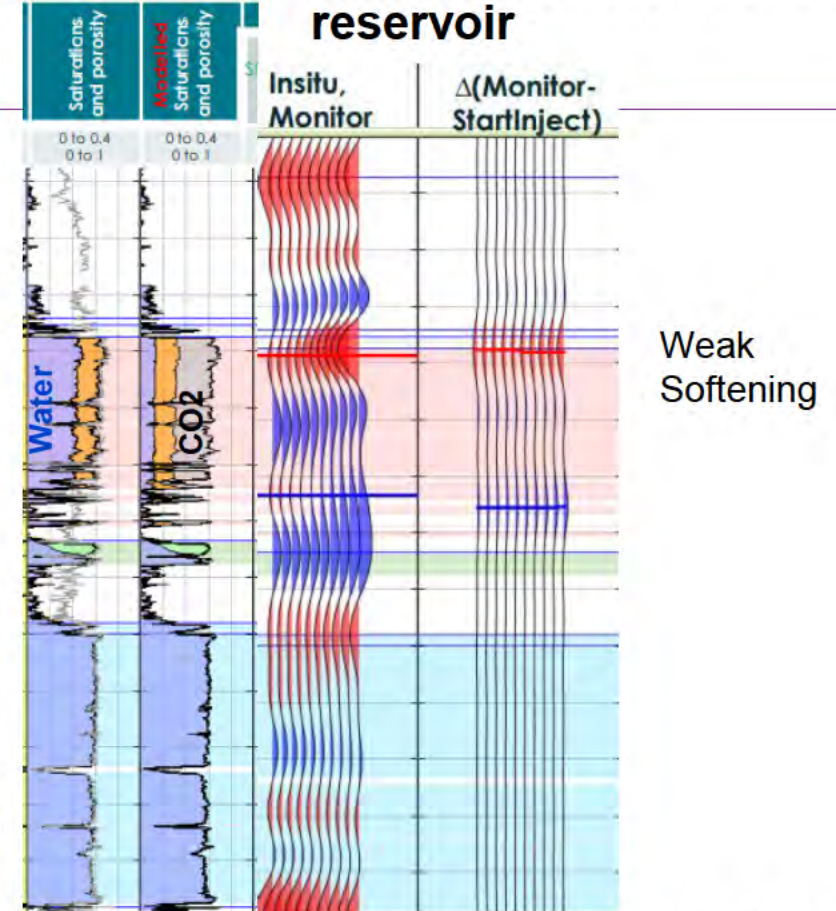


Highly likely to be observable with streamer or OBN seismic acquisition

## If CO<sub>2</sub> injected directly into aquifer



## CO<sub>2</sub> injection phase into depleted methane reservoir



CO<sub>2</sub> injection directly into aquifer

- Expected to be detectable with conventional seismic

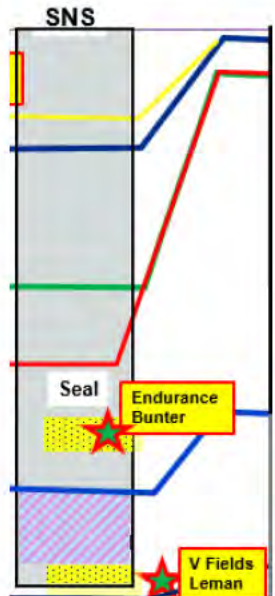
Post CO<sub>2</sub> injection with residual methane and water

- Difficult to detect.

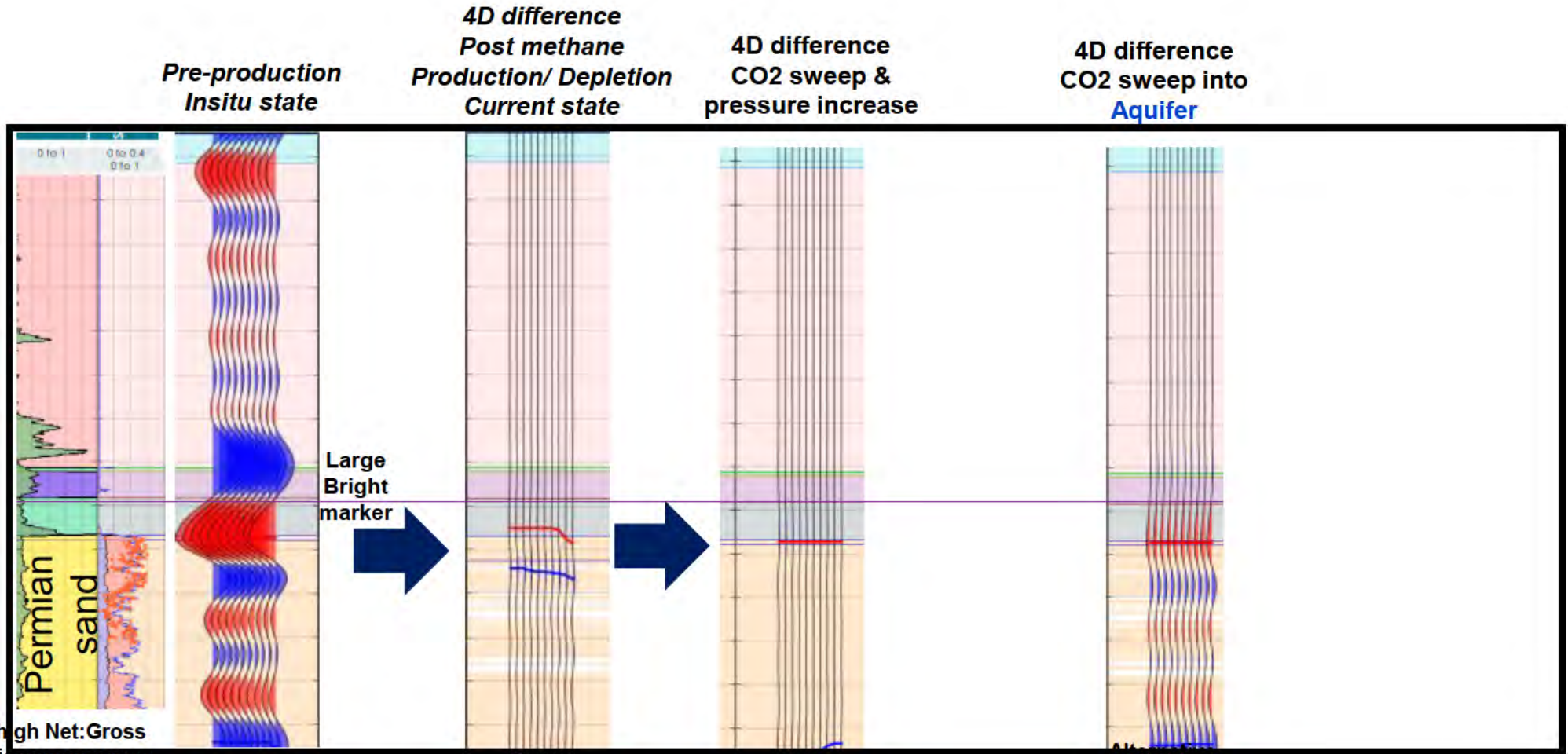
Significant expected response

CO<sub>2</sub> into depleted gas difficult to detect

# “Tough 4D” Low Porosity Permian V- Field gas field



Thick high Net:Gross consolidated methane reservoir, with modest porosity



Nothing observable

Nothing observable

CO2 injection into aquifer

Probably detectable signal

No detectable signal if CO2 injected into existing methane accumulation

Possible small signal if CO2 migrates into surrounding aquifer

Consolidated reservoirs are probably below 4D seismic detectability

# Influence of Dry Rock Frame/ Stiffness

- The dry rock frame (friable to consolidated & cemented sand) has a major influence on the magnitude of the seismic fluid effect response

## Porosity vs rock frame plots

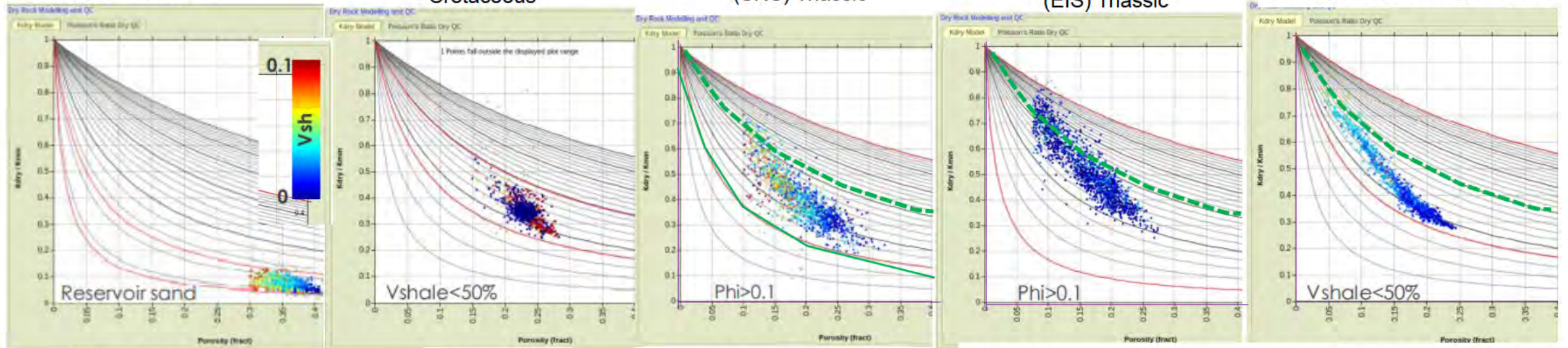
Sleipner- Miocene

Goldeneye (Moray Firth)  
- Cretaceous

Endurance- Southern North Sea  
(SNS) Triassic

Lennox- East Irish Sea  
(EIS) Triassic

V Fields- SNS Permian Leman



High Porosity, Friable  
& Very unconsolidated

Consolidated

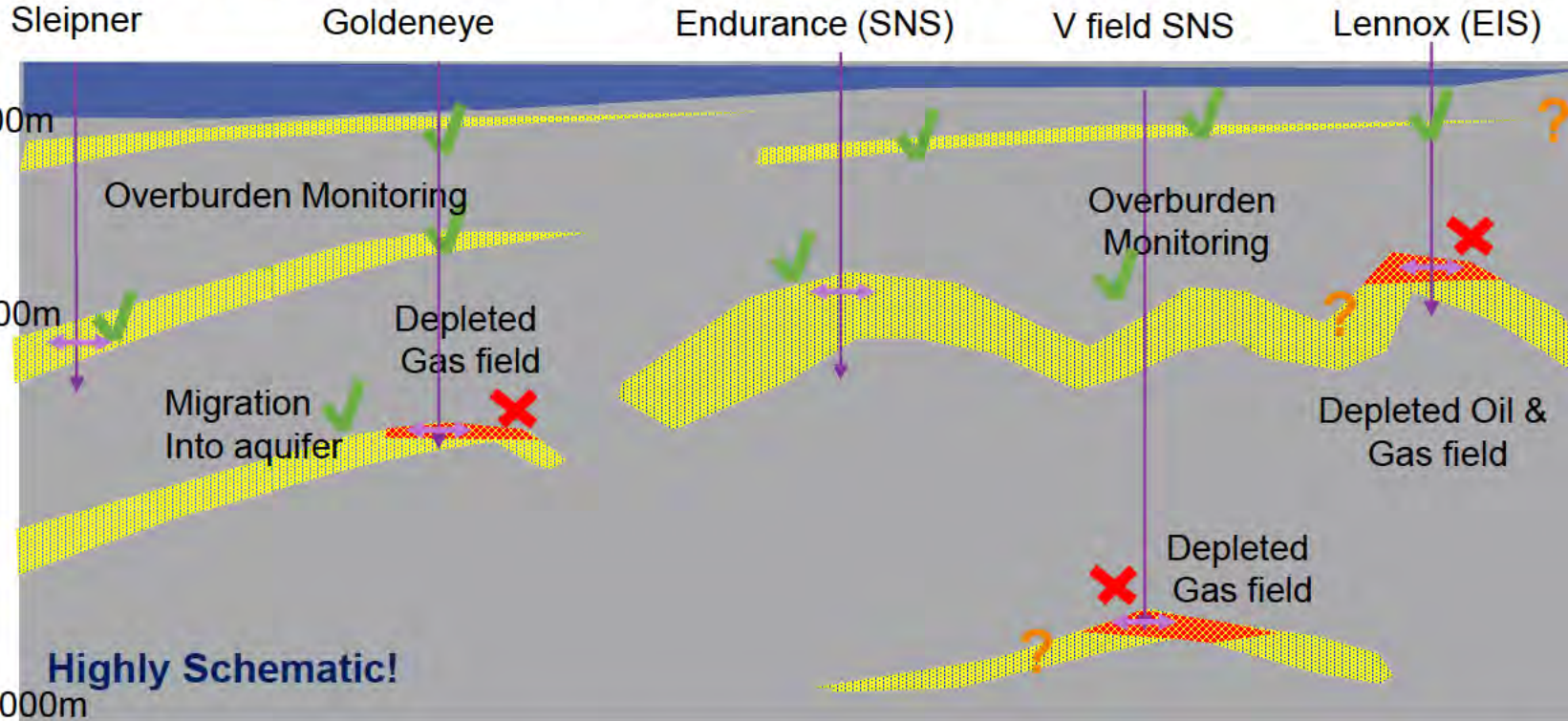
Further porosity reduction  
With more stiffer frame

Stiffer Triassic than SNS  
Greater burial & uplift in EIS?

Lower Porosity than SNS Triassic  
Greater reservoir depth

Understanding dry rock frame is key to predicting 4D response

# 4D seismic monitoring summary



1) A significant 4D seismic signal should be anticipated in most situations where the CO<sub>2</sub>

- Injected directly into an aquifer
- Laterally migrates into the surrounding aquifer or
- Leaks into a shallower/ overburden aquifer

2) The detection threshold is linked to the sand thickness, porosity, reservoir stiffness and level of CO<sub>2</sub> saturation at the time of surveying

3) Detection of a signal where CO<sub>2</sub> is injected into a pre-existing hydrocarbon fields is difficult

- Multi-fluid phase systems (e.g. brine, methane, oil and CO<sub>2</sub>) are likely to provide ambiguous interpretations
- A large change in pressure does not produce an appreciable 4D response.
- Monitoring these reservoirs
  - Acquire higher specification seismic improve the signal to noise:
  - Await higher CO<sub>2</sub> concentrations / greater separation between surveys
  - **Assume seismic monitoring is not part of the reservoir MMV strategy**

Higher cost for small signal difficult to justify  
 Too Late to influence?  
 HR seismic still required for overburden?

Each CCS site is unique, but Seismic monitoring is likely to be a key tool in many situations

- Onshore Literature review.
  - No published offshore experience. Large Gap in knowledge
  - UKCS One intra-windfarm streamer survey.
- Turbine generated noise is low within the seismic bandwidth(>1Hz)
  - “less than an distant earthquake” beyond 125m
  - Few discrete peaks exists in the 1-10Hz range
    - Identified by observational and engineering design
    - Newer, larger blade turbines have lower frequencies
- Turbine motion is very complex interaction of many different factors.
  - wind loading/speed, distance & size of turbine & subsurface properties

Conclusions: Windfarms are a clear operational hazard to active seismic acquisition, but **appear to be** a low level acoustic noise source within the seismic survey spectrum

Next steps:

- Develop operational OBN acquisition procedures?
- Acquire marine seismic background & environmental measurements?

**Thank You!**

**So..... What next?**



North Sea  
Transition  
Authority

## TECHNICAL REPORT

# Measurement, Monitoring and Verification (MMV) of Carbon Capture Storage (CCS) Projects with Co-Location considerations

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A technical study on the Monitoring, Measurement and Verification (MMV) Activities with reference to the co-existence of Offshore Carbon Capture Storage Wind and Oil/Gas Projects

July 2022

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The North Sea Transition Authority is the business name for the Oil & Gas Authority, a limited company registered in England and Wales with registered number 09666504 and VAT registered number 249433979. Our registered office is at 21 Bloomsbury Street, London, United Kingdom, WC1B 3HF.



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6. Seismic Surveys Around Windfarms
7. Other Active Seismic Options
8. Wider Range of Monitoring Technology
9. Conclusions & Next Steps
10. References
11. Appendix - Acronyms

# 1. Executive Summary

# Executive Summary

This document represents an internal NSTA technical study into the role of MMV for CCS sites, with a particular emphasis on those sites with restricted access owing to co-location with other seabed infrastructure users (e.g. windfarms). It is intended to provide both high level industry guidance and detailed examples of the type of technology to be considered around a CCS site



**There are no one-size-fits all solutions.** Monitoring, Measurement and Verification (MMV) activities must be tailored to clearly identified Carbon Storage site risks and uncertainties, taking into account store type, geometric arrangements/scenarios, injection strategies, met-ocean/seabed conditions, etc.



Seismic is the key geophysical monitoring technology providing best resolution. Surveying activities for carbon storage sites in and **around offshore windfarms** can be extremely challenging, and **unacceptable collision risk if deploying long towed seismic streamers (receivers)**. There are some potential mitigating seismic solutions (e.g. Ocean Bottom Nodes OBN) although with higher cost and more limited coverage.



MMV strategies and tools for carbon storage sites need to address conformance irregularities and containment breaches using a risk-based approach. **A robust suite of surface, marine and downhole tools/methods needs to be tested and deployed to support these strategies**, including through trials.



**First-of-a-kind (FOAK) projects may be expected to be potentially over-engineered**, particularly as MMV methods are tested and certified, and maintaining public confidence is crucial. Each project requires a robust environmental baseline.



**Periodic access to Carbon Storage infrastructure within Offshore Windfarms is a more significant obstacle.** The siting of platforms and wells with their associated access requirements for routine and emergency operations requires sufficient stand-off. **Consequently, largely overlapping carbon storage sites and wind farms are presently considered not to be feasible with current technology.**



**Co-existence of carbon storage and offshore windfarms requires active collaboration**, and could be enabled through **early establishment of cross-disciplinary teams of specialists** to optimise co-location/ seabed access design on a project-by-project basis.



## 2. Project Scope

# Project scope

The primary objective of this project was to identify and scope specific issues associated with offshore geological/geophysical surveying and monitoring activity.

## **Technical Study Aims**

Provide a general view of MMV activities for carbon storage sites in proximity to offshore wind farms. It is not specific to any particular carbon storage site, Offshore Windfarm, or Oil/Gas project, however, individual project developers have contributed key learnings and insights from existing and planned projects.

- Build on work undertaken by the OGA/NSTA-led Energy Integration Project and with The Crown Estate's 'Project Vulcan', covering generic CCS vs Offshore Wind engineering interactions. (Reference 1)
- While this project identified potential solutions, the intent was to identify further studies that could provide more detailed recommendations or actionable results in support of industry and regulatory activities.

## **Report Method**

This report is largely based upon insights gleaned and distilled from ~ 30 meetings with a selection of over 20 relevant and interested parties in early 2021

- Parties ranged over oil and gas operators and others with CCS licences/leases (or an intent to enter this market), seismic/geophysical contactors, site survey contractors, academia, other regulators/government bodies, geophysical service analysis providers, wind farm operators, suppliers of novel geophysical acquisition and processing techniques.
- Whilst not every possible interested party was consulted, it is believed that a fair cross-section of views was likely sampled.
- This MMV report was revised, prior to public release, after a subsequent 2022 project considering OBN technology.



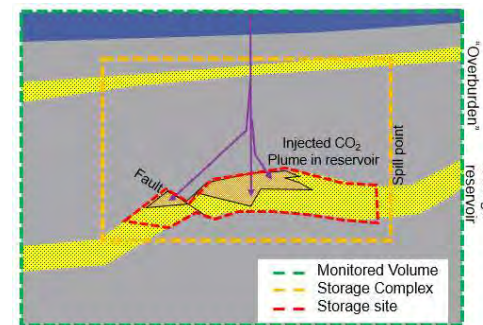
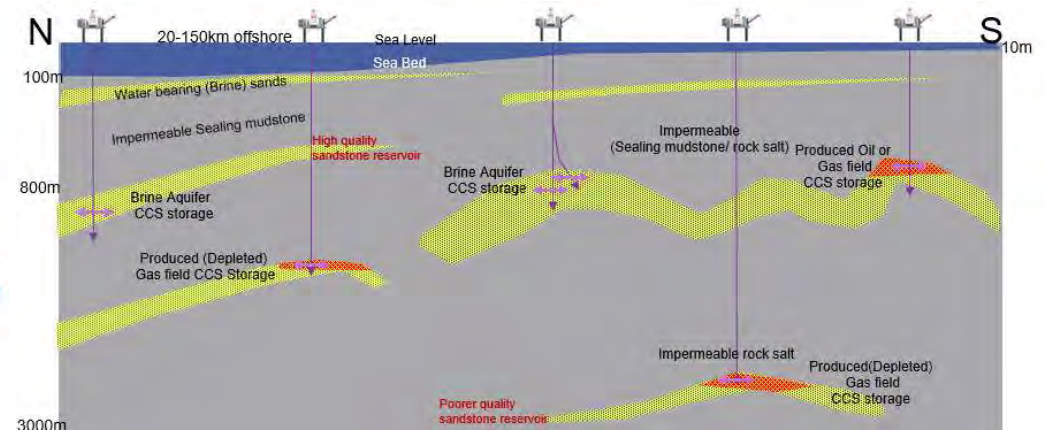
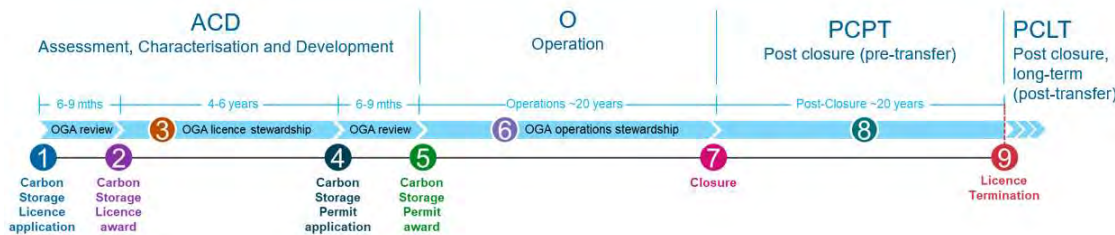
# 3. Background & Acknowledgements

# Background: CO<sub>2</sub> storage

The UKCS is a critical energy and carbon storage resource, with oil and gas exploration and production, offshore wind generation, and significant potential for carbon storage and energy hubs integrating these activities. With government's ambitious net zero targets, the demands on the seabed are expected to increase – while there are huge opportunities for energy transition, there will also be challenges around the spatial and temporal coordination through the project lifecycles.

Offshore subsurface carbon storage sites cover a significant area of seabed, that will require ongoing surveying and monitoring. Before the NSTA can award a Carbon Storage (CS) permit, a licence holder needs to complete a full geological characterisation of the storage site and provide an MMV monitoring plan to understand and verify if the distribution of injected CO<sub>2</sub> within the reservoir rocks matches modelled predictions, and identify any potential risks which may lead to leakage from the wider storage complex.

Monitoring, Measurement and Verification (MMV) Activities will be required throughout the lifecycle of a CS Licence, including prior to the CS Permit award and following site closure. The total duration of activities can therefore be well in excess of 40 years.



Schematics showing Range of UKCS storage sites & more detailed CO<sub>2</sub> injection site configuration

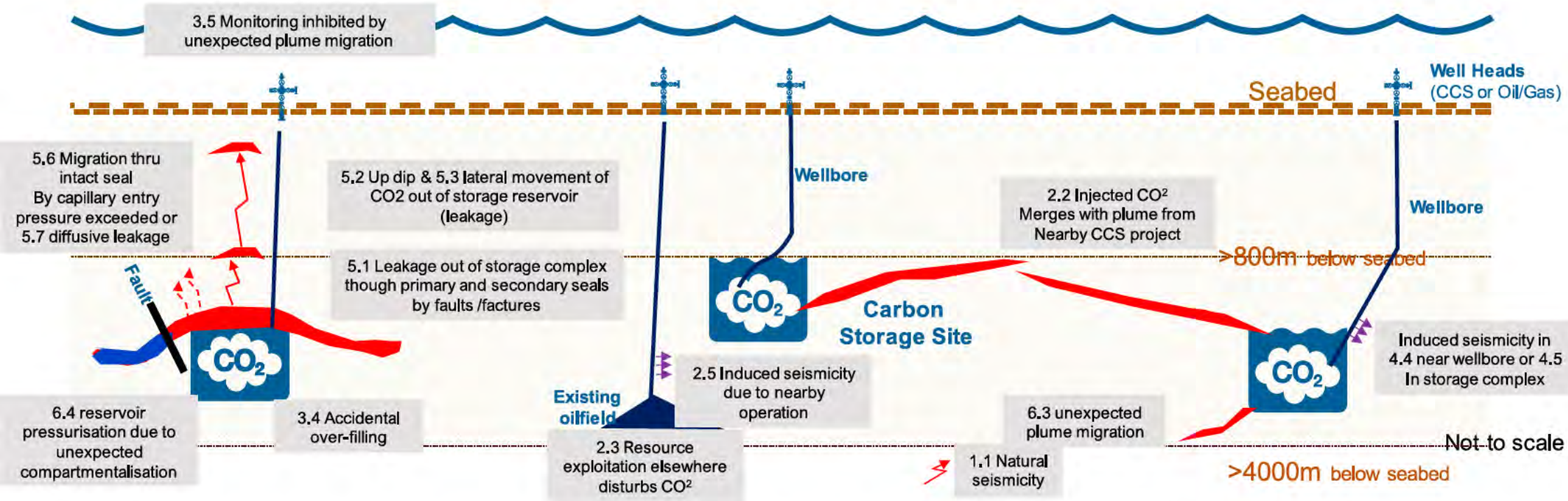
Collectively, the operational Monitoring, Measurement and Verification (MMV) plan is used to demonstrate that the storage site performance and the wider storage complex complies with regulations. This means monitoring for the duration of the site operation (~ 25 years), and to ensure environmentally safe storage of the carbon dioxide a further ~20 years post-injection.

# Potential Risks which can be monitored by seismic



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The MMV plan establishes the pre-injection baseline data acquisition, and describes periodic monitoring required during the injection phase. This is undertaken with a spectrum of MMV technologies, but most likely a combination of “remote sensing” geophysical data acquisition and physical/chemical measurements and sampling. These data are used to assess and verify conformance with reservoir fluid distribution computer models; early identification of any unexpected behaviour of CO<sub>2</sub> allows corrective measures for storage risks within and around the complex to be implemented. The OGA/NSTA-sponsored report led by Quintessa indicates the range of potential risks that may require monitoring throughout the lifecycle of a Carbon Storage project. (Reference 2) [Quintessa](#) [Merlin Energy Resources Ltd](#) [TNO Innovation for life](#)



The area of the carbon storage complex will require careful consideration of any co-location interfaces and impacts with other users of the sea-bed, such as offshore wind farms, to avoid undue interference with other surrounding users.



# Acknowledgements



Engagements with the following companies and organisations helped to inform the content of this report, and the NSTA gratefully acknowledges all consultees for the time, effort, and insights freely and openly given. However the final content and conclusions are those of the NSTA.

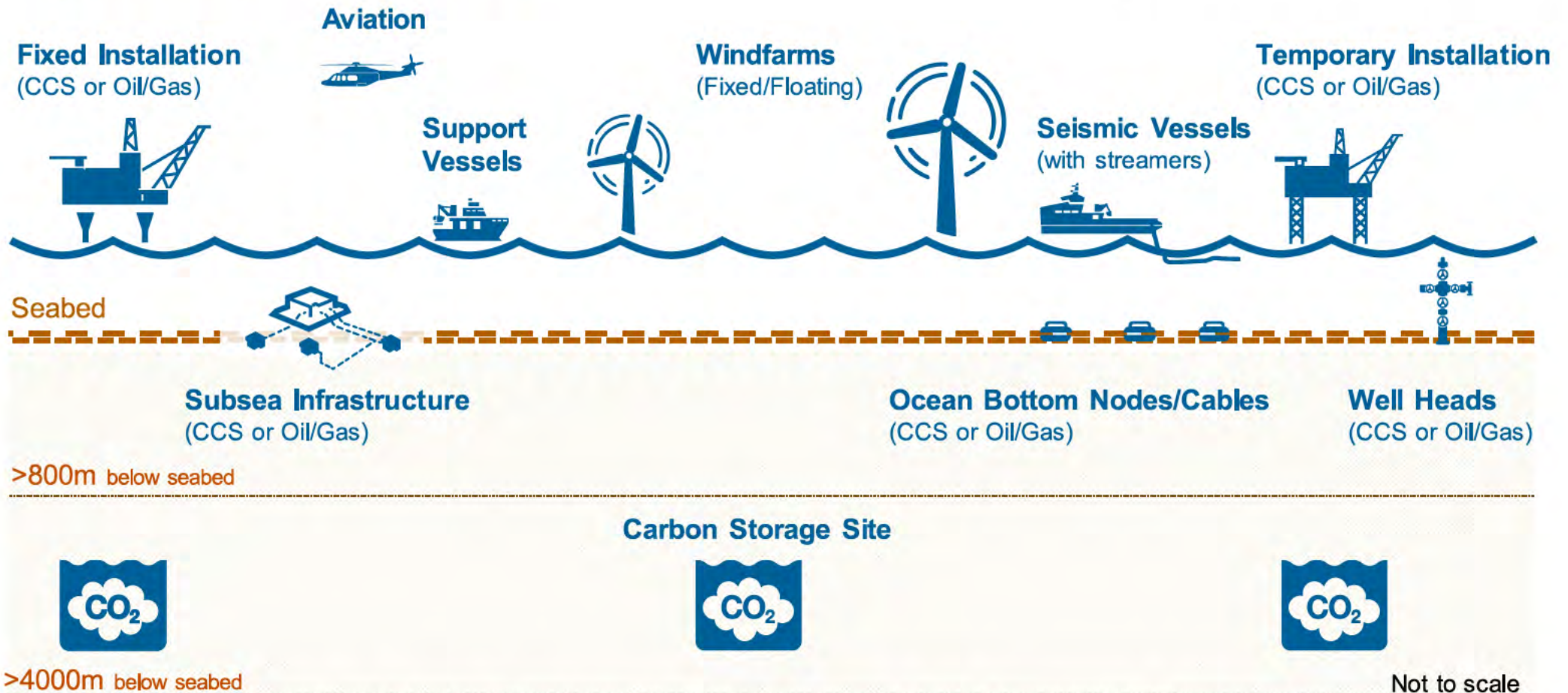


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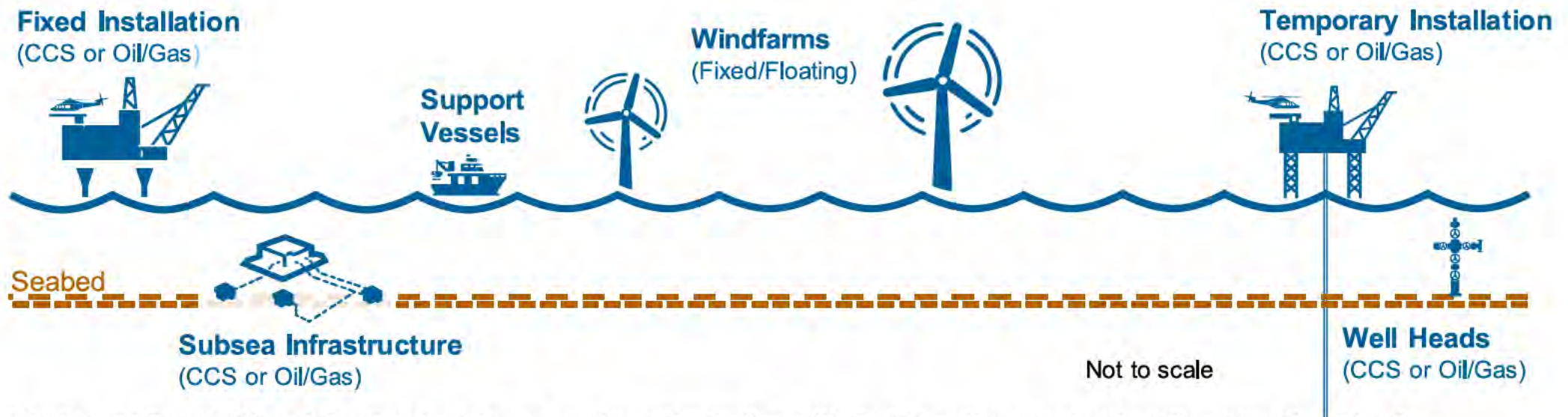
# 4. Operational Scenarios & Monitoring Objectives

# Operational Scenarios



**There is no one-size-fits all MMV solution.** Monitoring every offshore co-location scenario have different critical risks to be managed and different geometric arrangements including subsurface constraints (reservoir type, extent and depth, fluids displaced), installation designs (new and existing well stock), marine (incl. fishing) and aviation traffic, met-ocean/seabed conditions, etc.

# Operational Scenarios - Infrastructure



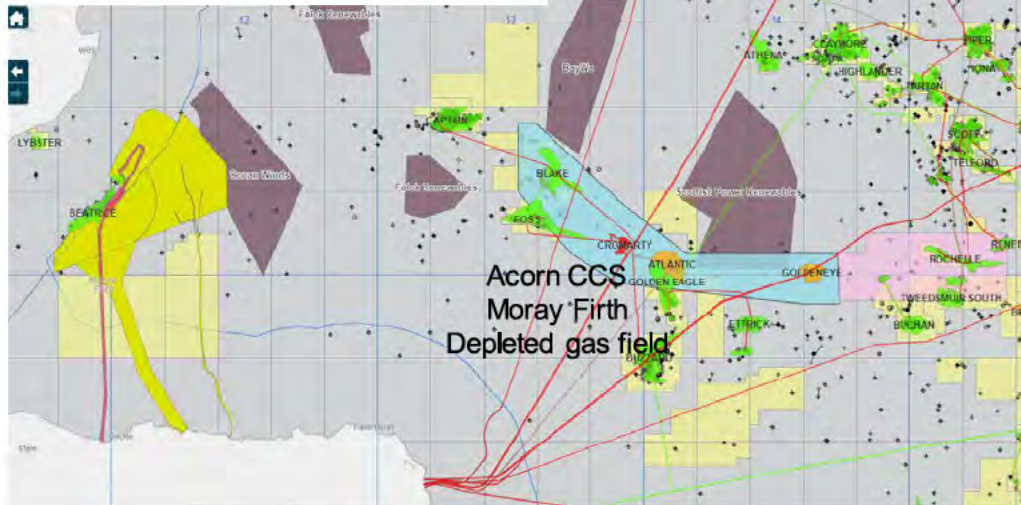
- Marine CCS or Oil/Gas infrastructure types are broadly similar, with their location predominantly determined by the location of the subsurface fields or stores (immovable).
- Offshore windfarms can be fixed or floating depending on the water depths, and the locations are predominantly determined by wind conditions and environmental constraints. Current turbine spacings are up to ~1km, and arrays can spread over large areas. They are generally on a regular grid, but additional turbines can be located around the edge to maximise yield.
- All operation types require vessel and aviation support/supplies.
- CCS or Oil/Gas operations require the drilling of wells, initially with temporary installations, but with fixed surface installation or subsurface equipment during injection/production.
- Wells require a clear zone around them for maintenance and emergency operations, including the drilling of relief wells and final abandonment.

# UK Offshore Current Co-location areas



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## NE Scotland/ Moray Firth



### NSTA Offshore Fields

- Condensate Field
- Gas Field
- Oil Field

### NSTA Offshore Carbon Capture Storage Licences

- CES Carbon Capture Storage Sites

### NSTA Carbon Storage Areas Offered for Application

- [Area]

### TCE Offshore Wind Farms

- Government Support on Offer
- Active/In Operation
- Under Construction
- Consented
- In Planning
- Pre-planning Application
- Area of Search

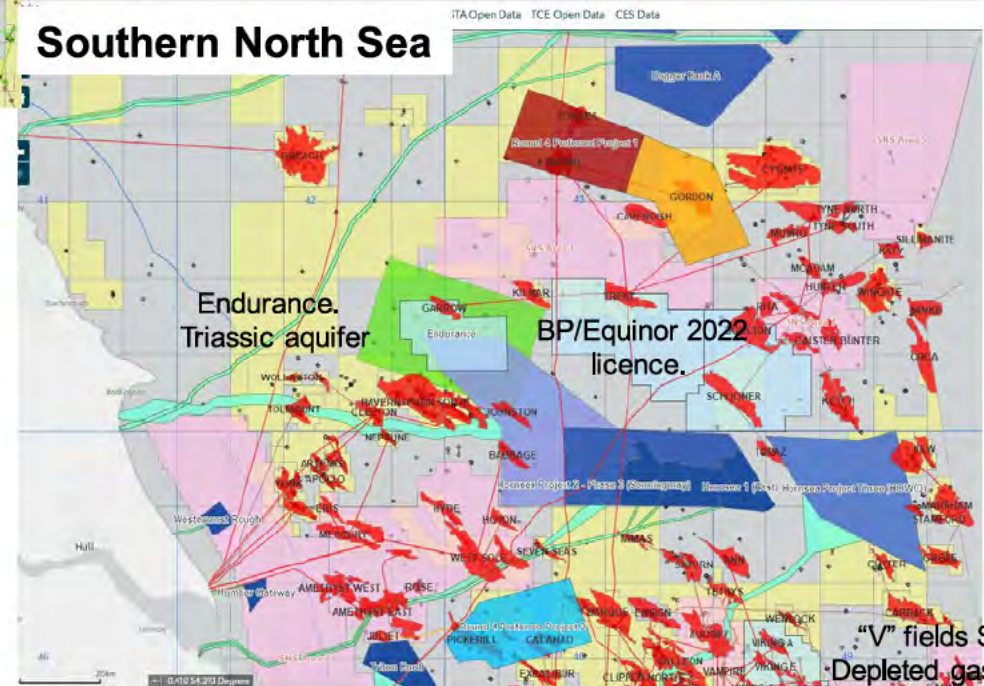
### TCE Offshore Wind Leasing Round 4 Preferred Projects

- 1 - RWE Renewables, 1500 MW Capacity
- 2 - RWE Renewables, 1500 MW Capacity
- 3 - Green Investment Group - Total, 1500 MW Capacity
- 4 - Consortium of EnBW and BP, 1500 MW Capacity
- 5 - Offshore Wind Limited, a Joint Venture between Cobra Instalaciones y Servicios, S.A. and Flotaon Energy plc, 480 MW Capacity
- 6 - Consortium of EnBW and BP, 1500 MW Capacity

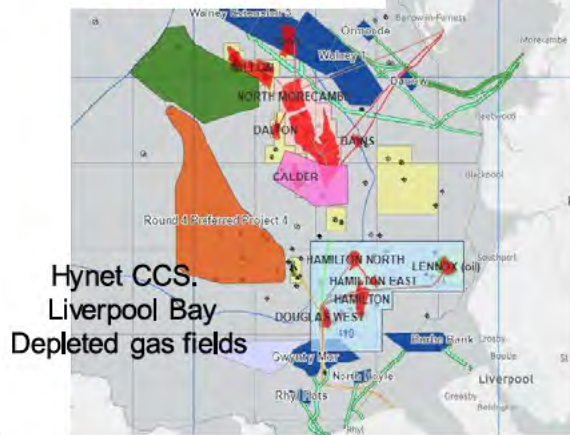
### CES ScotWind Offers



## Southern North Sea



## East Irish Sea



# Operational Scenarios - Aviation



The details of aviation constraints were beyond the scope of this study. This requires further engagement with the CAA.

## CAA Policy and Guidelines on Wind Turbines (CAA 764) References (4& 5)

### Consultation zones around offshore helidecks

3.30. For many years, the CAA has emphasised the importance of operators and developers taking into consideration all existing and planned obstacles around offshore helicopter destinations that might impact on the safe operation of associated helicopter low visibility approaches in poor weather conditions. In order to help achieve a safe operating environment, **a consultation zone of 9 NM radius exists around offshore helicopter destinations.** This consultation zone is not a prohibition on development within a 9 NM radius of offshore operations, but a trigger for consultation with offshore helicopter operators, the operators of existing installations and exploration and development locations to determine a solution that maintains safe offshore helicopter operations alongside the proposed development. This consultation is essential in respect of established developments. However, wind energy lease holders, oil and gas developers, and petroleum licence holders are advised to discuss their development plans with each other to minimise the risks of unanticipated conflict at a later date.

Topics for discussion within any such consultation should include, but are not limited to:

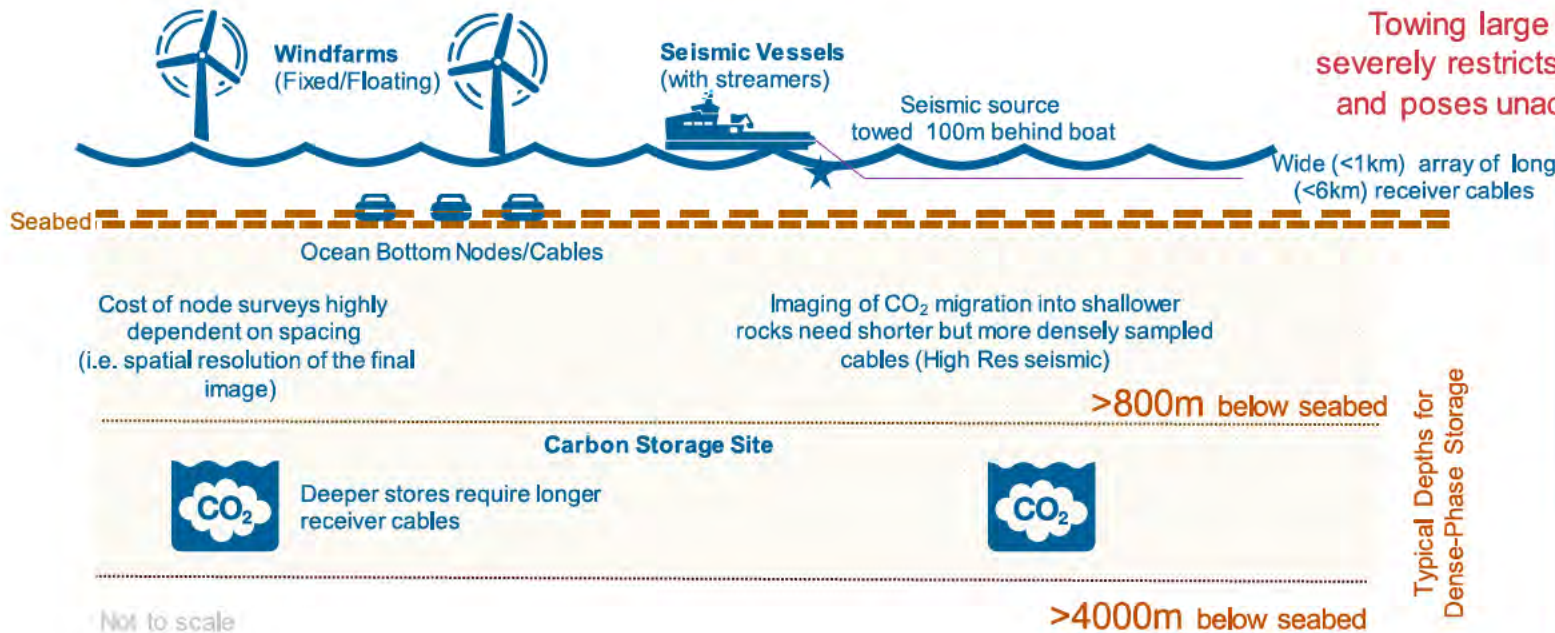
1. Prevailing weather conditions, including predominant wind direction;
2. Manning status of the installation;
3. Frequency of flights to the installation and predominant routes;
4. Performance limitations of offshore helicopter types utilising the helideck;
5. Established helicopter instrument and low visibility approach procedures;
6. Mandated constraints on approaches to helidecks on installations;
7. Long term access to well and subsea infrastructure;
8. Concurrent wind farm operations and oil and gas operations to well and subsea infrastructure;
9. SAR operations to the installation in the event of an emergency;
10. Location and height of potential obstacles including proposed wind turbines

# 5. Seismic Surveys and Monitoring

# Operational Scenarios – Seismic Surveys



- Seismic surveys remain the primary geophysical tool of choice for imaging the subsurface.
  - Essential for mapping the geometry and extent of storage sites and complexes which underpins dynamic fluid prediction models.
  - A high-quality baseline survey is expected for all CO<sub>2</sub> Storage Sites, since this data will be used for decades beyond post-closure
  - Seismic Acquisition parameters will depend on the subsurface scenarios that need to be addressed
  - Reprocessed old surveys (>~15 years) are unlikely to adequately address risks.
  - Streamer surveys are lower cost, but use of **long streamers are impossible** close to & within dense turbine infrastructure
  - Ocean Bottom receivers (nodes) surveys are available at a much higher cost. They can be deployed within infrastructure, if seabed conditions are conducive. A high specification/more manoeuvrable (dynamically positioned) seismic source boat is still required.
- **In some situations**, seismic may also be able to directly image fluids (inc. CO<sub>2</sub>)
  - Time lapse **monitoring** its movement in the subsurface (a.k.a. 4D seismic)



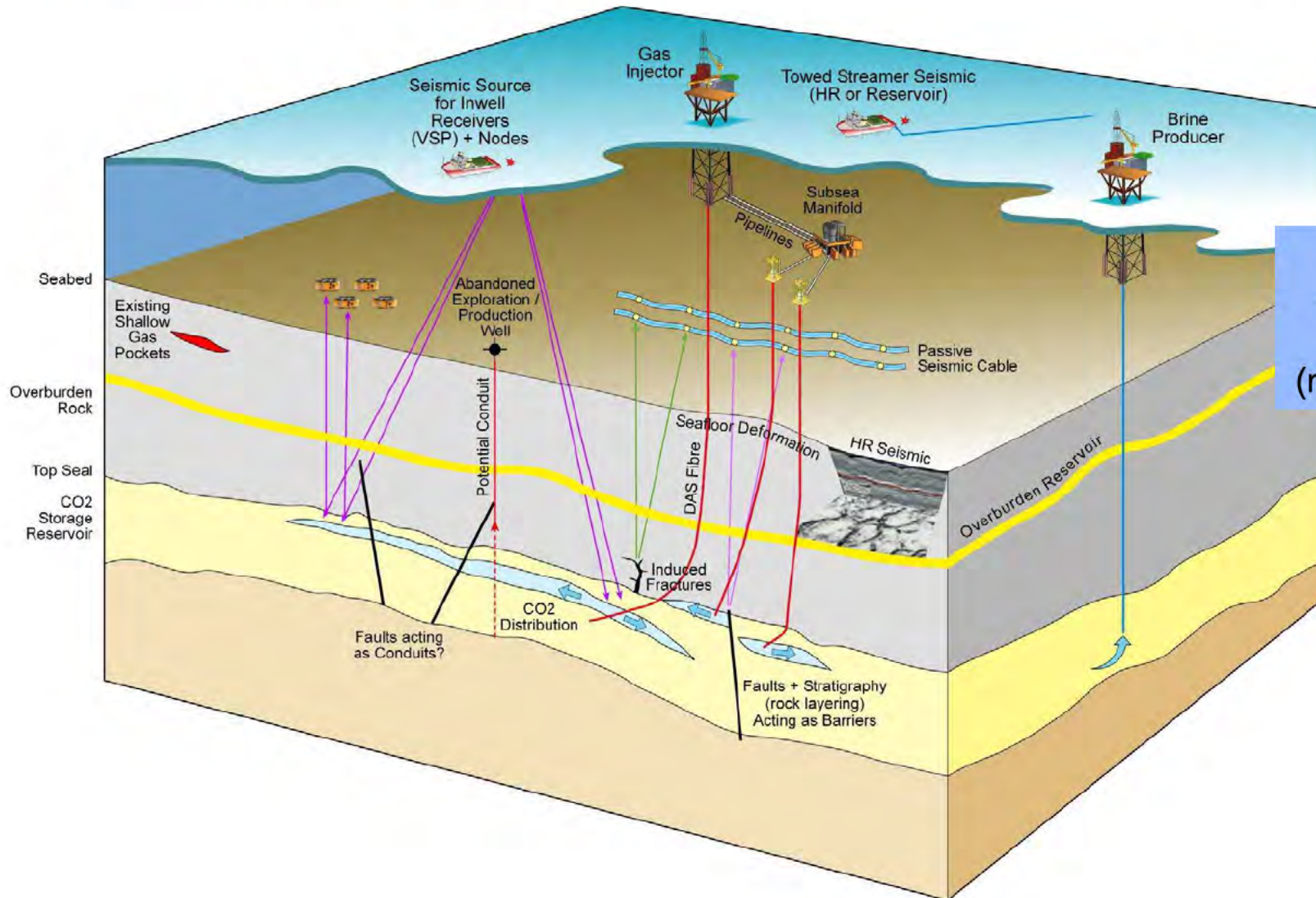
Towing large array of equipment severely restricts vessel manoeuvrability and poses unacceptable collision risk

Introduction to Seismic video

Reference (6)



# Seismic MMV summary



Active source (towed streamer, OBN, in-well VSP) and passive (microseismic) monitoring

# Seismic – Regulatory Requirements

## Framework

- Legislation is not prescriptive with respect to specific MMV solutions
- MMV scope is subject of NSTA stewardship discussions up to the Carbon Storage Permit stage
- Ensures a fit-for-purpose approach according to specific site and complex risks

## Geophysical Monitoring

- Most potential UK CCS operators are assuming that repeating seismic is the main tool for ongoing MMV
- Seismic monitoring widely accepted as a hydrocarbon field management tool, for many, but not the majority of fields.
  - Some O&G fields were developed after 4D seismic technology invented (late 1990's)
  - Some fields and future CCS stores will not have sufficiently detectable response
- Mixed approach non-UK CCS pilot projects:
  - Onshore US: expected to have time lapse 4D
  - Dutch sector: Emphasis on classical reservoir engineering (pressure, temperature, volume of fluids) with minimal seismic
- The NSTA and UKCS operators generally acknowledged FOAK surveys should be over-engineered
- Non-seismic geophysical remote sensing techniques can complement, but are unlikely to replace active seismic acquisition

## Monitoring objectives & specification need to be closely aligned to anticipated risk/uncertainties from project register

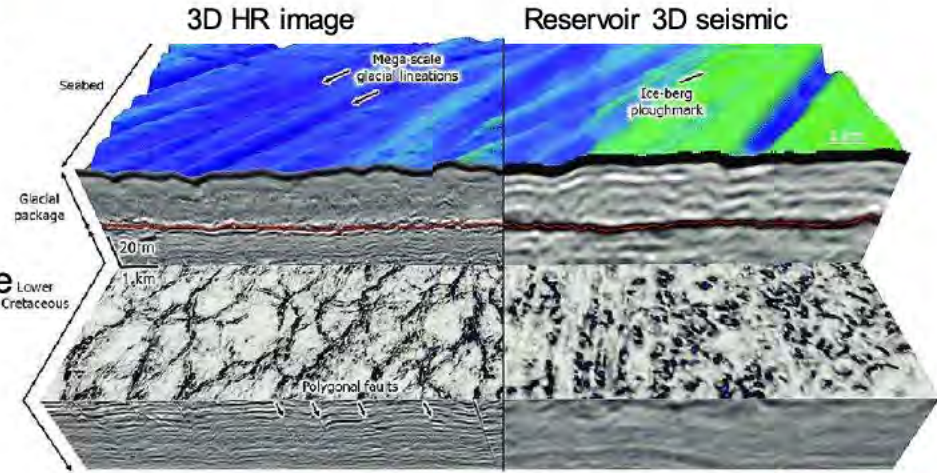
- A large 4D be acquired across the entire site closure for direct fluid detection? OR / AND
- More targeted monitoring to help calibrate reservoir simulator calibration near an injection site? OR / AND
- A single survey imaging from seabed to base reservoir? OR
- 2 separate surveys: deep reservoir seismic and contingent HR overburden?
- Role of In-well seismic? : Excellent vertical resolution, but very limited spatial extent
- Can Gravity and passive seismic play an intermediate role?

# Seismic Vertical (Temporal) and Spatial Resolution

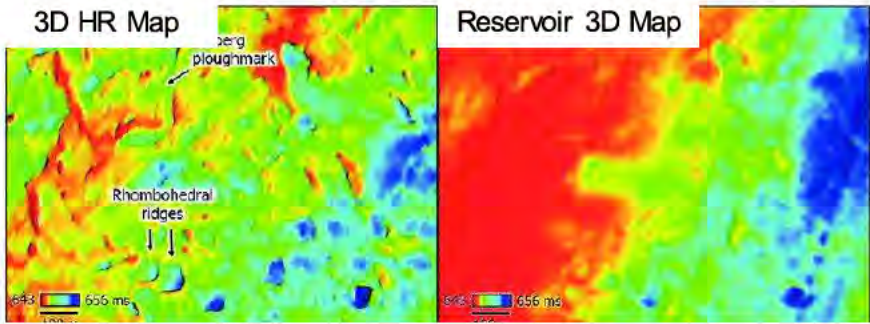


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- Seismic surveys fall into 2 broad types: Reservoir/Deep imaging & Site Survey/High resolution (HR)
- Modern reservoir 3D seismic is critical for characterisation of the deeper injection site
  - Detailed vertical (~10m) & spatial (12.5x12.5m) 3D-subsurface image
  - Can be acquired via streamer or OBN receivers



- HR3D provide higher vertical & spatial resolution for upper 2km
  - Higher frequencies (<400Hz) imposes depth restrictions
  - Short offset (Small distance between seismic source & receiver) acquisition
    - Noisier image (Lower fold & processing/ demultiple challenging)
    - No AVO (Amplitude vs Offset a.k.a. no advanced geophysical analysis)



Comparison of 3D HR and reservoir seismic Reference (7)

**Seismic Streamer surveys remain the obvious choice where clear water access is available**

(i.e. there are no windfarms anticipated over CCS site)

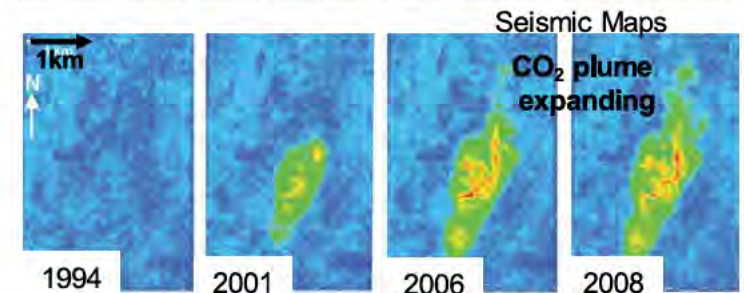
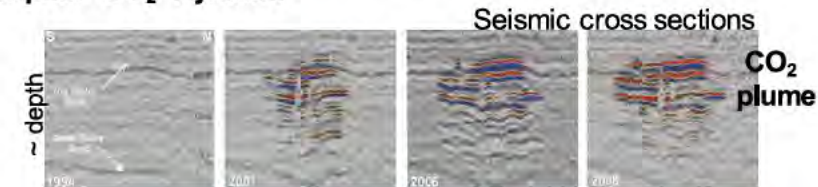
# Seismic Signal Detection Capability

- \* Undepleted aquifer CO<sub>2</sub> site: **Clear rationale for seismic monitoring**
  - \* Uncertainty about vertical distribution,
  - \* Lateral containment,
  - \* Pressure build-up
  - \* *Expecting “should see”* time lapse effects (like Sleipner & Ketzin examples)
  - \* Seismic monitoring expected to provide critical role in MMV strategy
  
- \* Depleted Gas Field injection site: **More difficult justification**
  - \* Prior Gas containment supporting CO<sub>2</sub> containment model
  - \* Underfilled & low-pressure structural closure provides injection limits
  - \* Marginal seismic detectability,
    - \* CO<sub>2</sub> injected into residual gas expected to generate small seismic signal
    - \* **Main benefit any displaced hydrocarbons/CO<sub>2</sub> into aquifer**
  
- \* Overburden Monitoring: **Technically sound reasoning**
  - \* **If** CO<sub>2</sub> has significantly escaped expected into an overlying aquifer
    - \* Potential for fault or near well bore escape imaging
  - \* Expecting high resolution “should see” effects
  - \* Baseline critical to rule out natural pre-existing shallow gas pockets

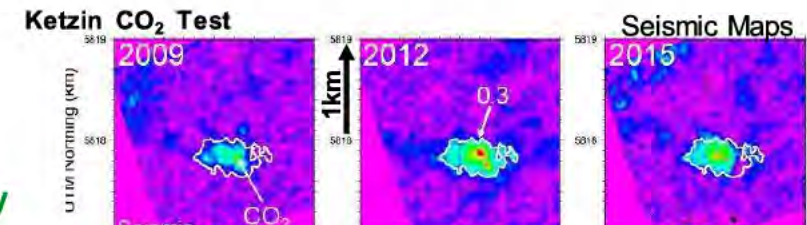
## Important Notes: Very few actual CCS studies worldwide to underpin guidelines

- Guidance based around 20 years 4D technology deployment in O&G industry
- CO<sub>2</sub> has a complex behaviour in the subsurface (e.g. dissolution)
- Limited rock/ fluid substitution examples to predict response
  - NSTA Seismic Detection study in prep (2022)

## Two examples of direct CO<sub>2</sub> Seismic Detection Sleipner CO<sub>2</sub> injection



Pre CO<sub>2</sub> injection: weak seismic response  
 Post injection surveys: Complex CO<sub>2</sub> “bright spots”  
 Direct detection of CO<sub>2</sub> plume distribution



Post Injection plume increase with time & CO<sub>2</sub>  
 2015 Shrinking response = fast dissolution of the CO<sub>2</sub>.  
 Could only be detected with an intermediate (2012) survey

(References 8 & 9)

# Seismic Monitoring for CCS



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## 4D (Time Lapse 3D) seismic remains the principal, proven, reliable monitoring method supporting

- Conformance/ Reservoir management- Where is the CO<sub>2</sub> distributed within the reservoir?
  - Weather Analogue: Modelling predicts fluid distribution, rainfall radar verifies
- In-fill well targeting: Which subsurface locations have not yet been CO<sub>2</sub> saturated?
- Containment: Is fluid migrating laterally outside planned site, or vertically into overlying rock?
- Public awareness: 4D seismic images can be intuitive (c.f. time lapse photography)

## There are two approaches to demonstrating conformance:

### 1) Data Led Conformance Demonstrate agreement between predictive reservoir models & monitoring observations

- Very difficult to match predictive fluid distribution models solely with **well based monitoring**
  - A perfect, unique match to injected flow rate and pressure is virtually impossible to achieve
- **Seismic monitoring** always shows unexpected fluid distributions, usually within an acceptable range
- CO<sub>2</sub> sequestration & hydrocarbon extraction projects both have the same issues.

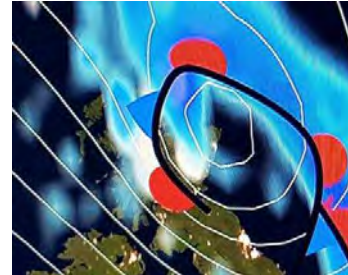
### 2) Refresh Predictive model with monitoring data

- Progressively improve predictive reservoir simulation modelling capability as more dynamic data becomes available
- Seismic monitoring indicates the geological and simulation model assumptions are basically robust
  - Additional data leads to progressive model improvement and refinement
  - Provides increasing confidence and potentially decreasing need for mid/late life seismic

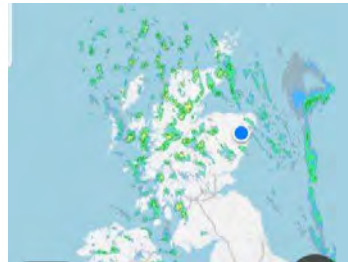
The latter is the generally accepted approach in hydrocarbon reservoir management & applied to Sleipner CO<sub>2</sub>

- **Implications for future MMV regulations**

**Weather analogue**  
Predictive reservoir model



Rainfall radar



Simulation models are most accurate with regular update of direct observations

(Reference 8)

# CCS Seismic Monitoring Considerations

Seismic monitoring reliant upon consistent, repeatable acquisition & careful processing

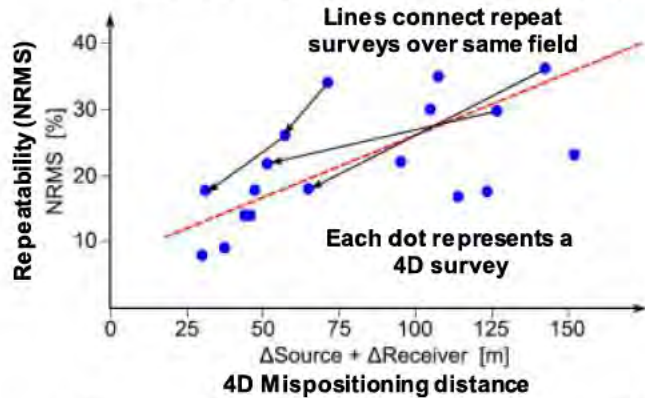
Quality of differences will be driven by (pre injection) baseline acquisition specification is not prescribed, assumes

- Post 2010 broadband acquisition ( broad range of seismic source frequencies) &
- Accurate source/receiver positioning
- Modern Pre-Stack Depth Migration processing

NRMS is a measure of repeatability

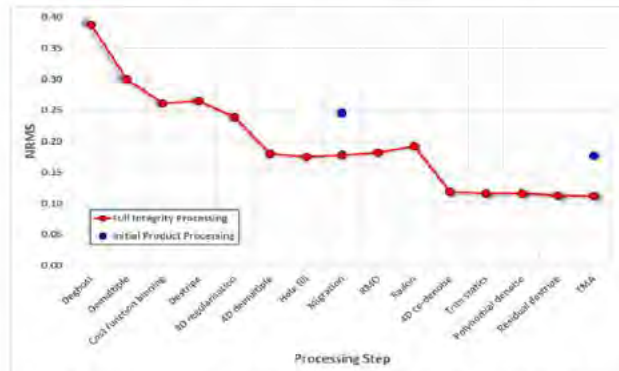


Minimise Towed Seismic 4D Geometrical differences improves repeatability



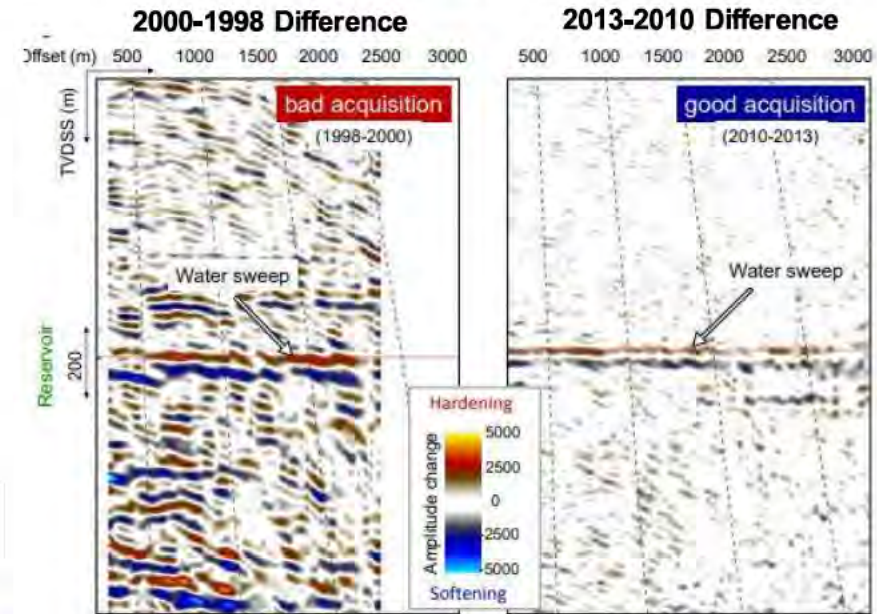
Improving Repeatability (lower NRMS) with better source and receiver positioning (Reference 10)

Processing can improve Repeatability



Certain processing steps improve repeatability (Reference 11)

Forties oil field 4D repeatability



Legacy 3D technology Water swept response subtle Above considerable background noise

Steerable streamers replicate positions Very clear 4D seismic difference

(Reference 10)



# 6. Seismic Surveys Around Windfarms

# Seismic Options around Offshore Windfarms



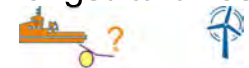
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- **Co-existence using reservoir towed streamer seismic is not considered safe nor practicable.**
  - Schematics show challenges of acquiring streamer seismic (towing long receiver cables) within confines of windfarm
  - Long cables and their unpredictable lateral movement / "feathering" presents unacceptable collision risk



- **Potential monitoring acquisition options**

- **Very Restricted HR towed source only or very short streamer length seismic may work amongst turbines.**
  - Requires shallow targets with large expected response
    - Short offset HR seismic which may not deliver reservoir image
    - Cannot provide fieldwide 4D
  - HR contractors currently **hesitant to commit** to minimal HR scope (any more than 1 x 600m cable) between turbines
  - Alternative P-Cable arrangement (multiple ultra-short cables) / still does not present full spatial data
  - "2.5D" monitoring gives very limited image



- Ocean Bottom nodes (OBN) **could be deployed** amongst turbines
  - Differencing Baseline Streamer & Monitor OBN currently not effective.



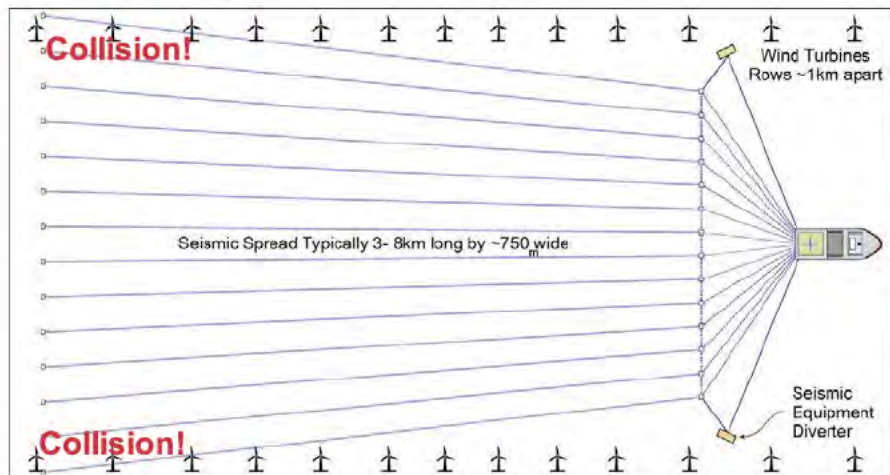


# Marine Seismic Operations around Windfarms #1



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## 1) Streamer spread width along turbine corridor: Impossible



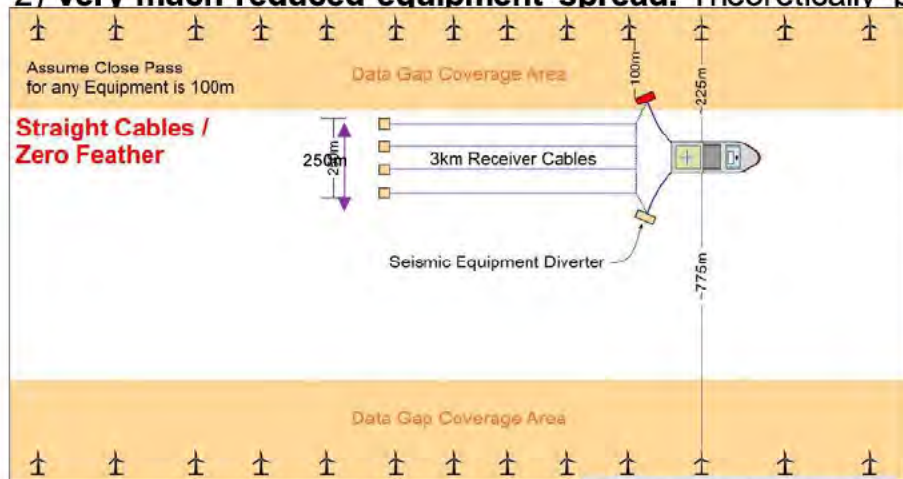
Not to scale: X is 3 time longer than y's width

- Fantail spread: Streamers wider at tail ->
- Feathering (lateral drift) displaces tail 100's m ->
- No vessel escape route

collision risk +  
collision risk +  
unacceptable for captain



## 2) Very much reduced equipment spread. Theoretically possible, but practically impossible



Not to scale: X is 3 time longer than y's width

- Transition point to HR contractors
- Even with zero feather->
- Furthest point for vessel is only 775 m

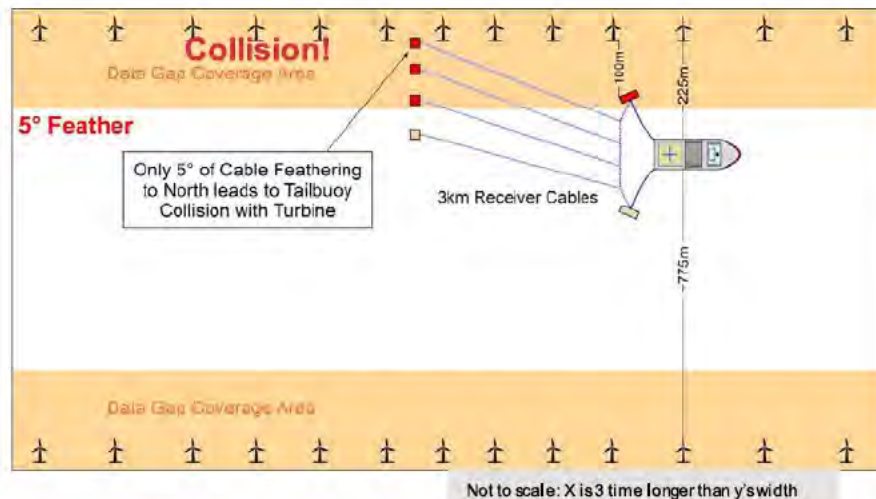
Significant data gaps  
Still very little escape room



# Marine Seismic Operations around Windfarms #2



North Sea Transition Authority



### 3) Very small & predictable feather:

May be acceptable in exceptionally good situations, (less strong or more predictable tide)

Subject to risk assessment acquisition **may be possible** in low predicted feathering,

- Short as feasible streamers,
- large turning circle (2.5-3.5km radius)
- Acceptable vessel capability & escape routes.



Large data gaps remains

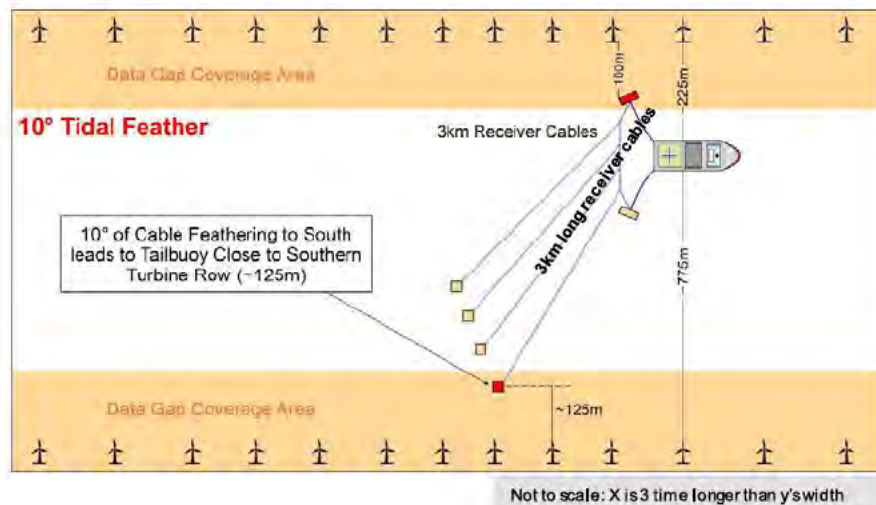
Note:

In high current/tidal areas (e.g. SNS) high feather often occurs

- > 5° feather-> **collision would occur**



Seismic contractor utilise tides to provide safe streamer drift to "south"  
but this further enlarges the data-gap



### 4) High or unpredictable currents -> moderate/large feather: Impossible

- Very high tidal flow (e.g., 10°) gives **very little room to manoeuvre**:
- Plan for vessel drift-off to north, but tailbuoy **drift-on to the turbines in south**
- Data coverage further squeezed to N & S

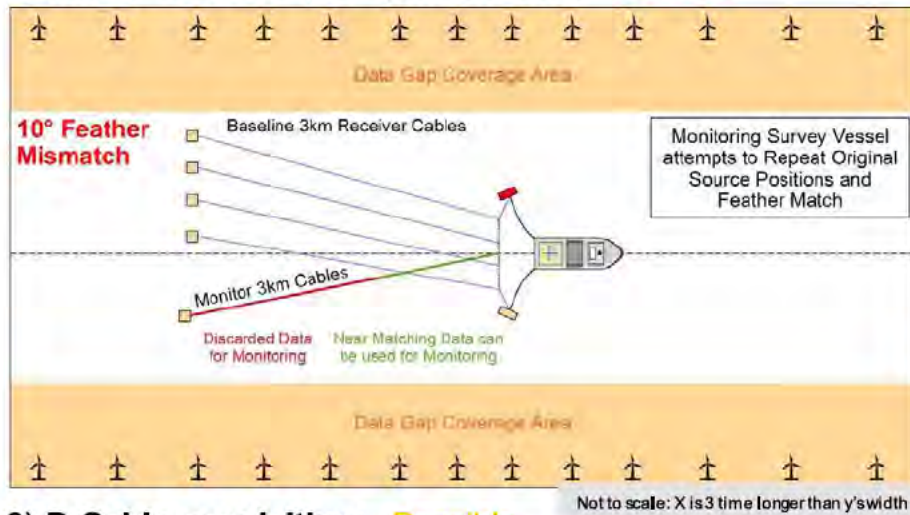


**Note: all these scenarios are simplifications and do not show:**

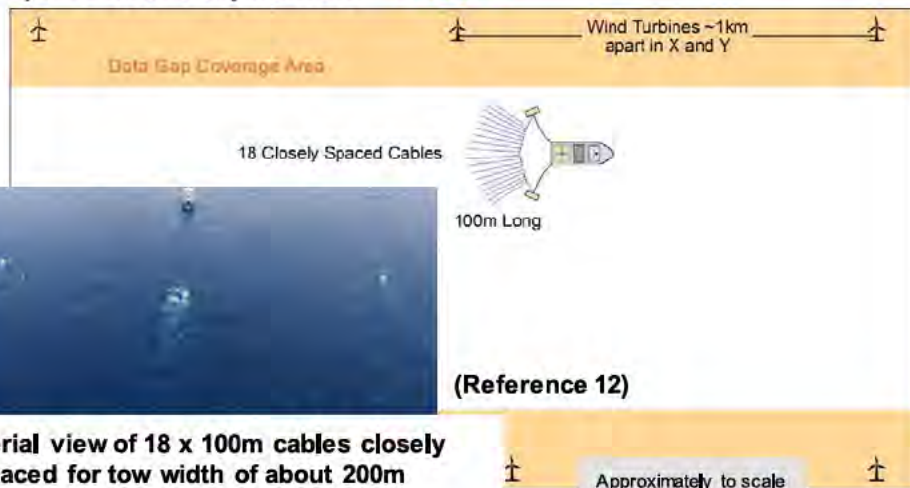
- Vessel escape routes and
- Turbines in more complex arrangements

**NSTA is aware of only one, carefully planned field example of intra-windfarm 2D HR survey acquisition**

## 5) Highly reduced (2.5D) monitoring: Possible



## 6) P-Cable acquisition: Possible



- 1) If a clear water **baseline** streamer survey is acquired, then
- 2) A restricted 2.5D **monitor** survey may be acquired with turbines using selected subset of matching data with reduced acquisition
  - Monitor survey vessel attempts to replicate baseline acquisition.
  - Green data can be matched to existing baseline
  - Red data discarded: no feather match between baseline and monitor
  - Result: restricted short offset 2D seismic line



### Positives

- Very small footprint, but ~ same towing width
- May be more acceptable for Captain/Party Chiefs working amongst windfarms.
- Potentially very high resolution in shallow section
- Smaller airgun sources so more marine mammal friendly

### Negatives

- **Smaller power need to be tested for penetration and resolution over target**
- Lot of equipment remains in the water at (lessened) collision risk
- Diminished escape routes
- Still data gaps along lines of turbines
- Only near offset data

Aerial view of 18 x 100m cables closely spaced for tow width of about 200m

(Reference 12)

# Ocean-Bottom Seismic

Introduction to ocean bottom cables (OBC) and ocean bottom nodes (OBN)  
Please see References 13,14,15

**Ocean Bottom Node most likely provide robust & future proofed MMV co-existence solutions.**

## • Technologies

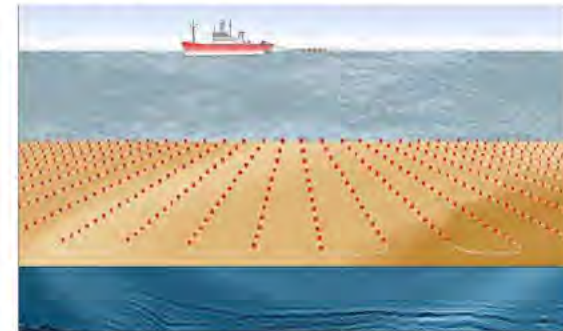
- Ocean bottom cables
- Nodes:
  - Autonomous recording unit
  - Contains a hydrophone and three directional geophones,
  - Lightweight nodes on rope OR
  - ROV placed carefully around infrastructure

## • Current developments

- Node count increasing/ Costs decreasing
- Targeted/ localised intra-turbine solutions in development.
- Hybrid: HR streamer or P-Cable with OBN may provide more widescale data
- Autonomous Underwater Vehicles (AUV) **References 16& 17**
  - Small number of self- directing nodes "e.g. Spicerack" / Autonomous Robotics
  - Fully autonomous sources and nodes
- Nodes on "parachute"

**More detail on the status of OBN technology is available in a separate NSTA publication (2022 in prep.)**

## Surveying node array



## Node



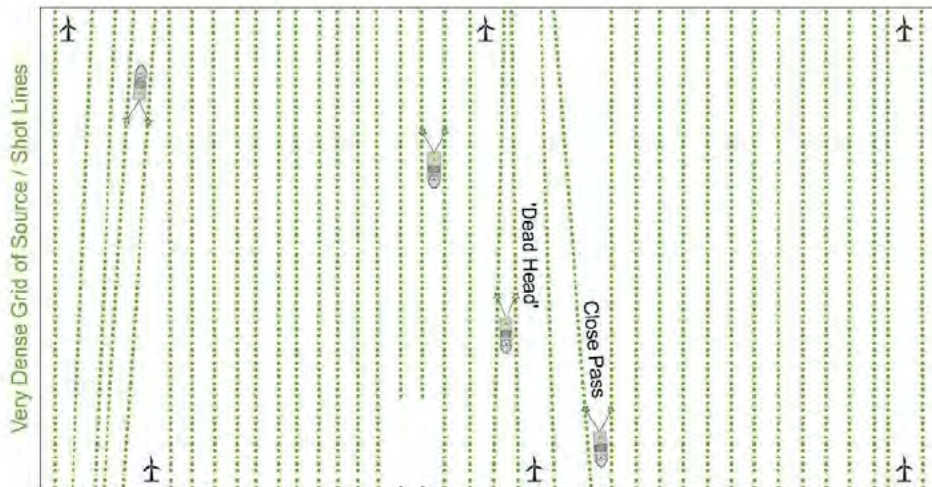
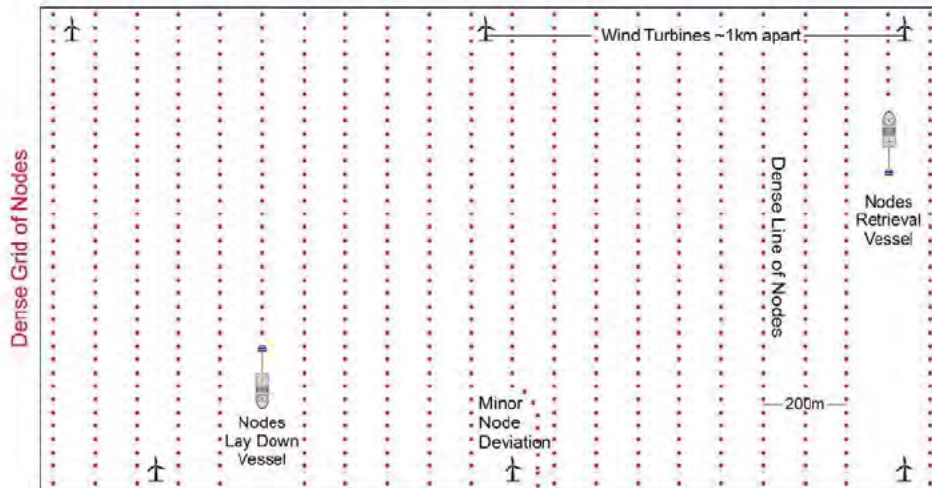
## Autonomous node



## Node on rope



# Ocean-Bottom Nodes Acquisition within Windfarm North Sea Transition Authority



## Operationally challenging, but feasible

- High density /quality broadband baselines to enable future 4D differencing
- Vessels capabilities entering close turbines
- SIMOPS (Simultaneous Operations)



## Positives

- Robust to exclusions
- Node vessels lay in very controlled manner
- Can easily and safely make minor deviations
- Orderly grid and complete coverage
- Greater 4D repeatability
- More comprehensive seismic acquisition
  - Increased data type collection: 4 Component data (Hydrophone + 3x geophone)
    - Useful for imaging below gas cloud (e.g. shallow CO<sub>2</sub> plume)
  - Complete illumination: Multi-azimuth seismic Quieter environment (no wave action)
  - Data can be acquired in very shallow water

## Negatives

### Cost & duration

- Deployment Speed
  - Placing receivers much slower than towing streamers
  - Ocean bottom nodes are much bulkier and heavier than cables
  - Individual placing/ retrieval by ROV deployment is very slow
- Multiple vessels (source, lay-down pick-up, guard)
- Completion of survey within seasonal weather window
- Coverage gaps @ seabed & shallow section
  - Needs High density/ very narrow receiver line spacing to compensate
  - Significant cost factor

# Seismic Monitoring Considerations

## Frequency and timing of 4D surveying is project dependent

- CCS survey frequency determined case-by-case basis. Estimated 3-10 years
  - More frequent lower cost streamer vs Infrequent costly OBN
  - Identification of CO<sub>2</sub> dissolution within reservoir may require more frequent surveys (e.g. Ketzin Site Pilot)
  - Monitoring Survey frequency every 3-5 years typically assumed for **hydrocarbons**,
- Separate deep reservoir monitoring seismic and targeted overburden imaging?
  - As & when required HR to test if CO<sub>2</sub> migrated above the reservoir / into the top seal
  - Periodic low-density node for reservoir imaging/ initial fluid distribution

## Future proofing technology for 60 years is a significant concern

- Pre-injection surveying (<5 years) + Active Site (25 years) + Post closure monitoring (30 years)
  - Seismic monitoring requires consistent acquisition and processing
    - Hydrocarbon 4Ds often have to reprocess *all surveys* to bring them to modern standards
  - Seismic Imaging and OBN acquisition still rapidly evolving
  - Contrast modern seismic acquisition, processing and imaging barely recognisable from 1960's:
    - Crude 2D Acquisition ->3D ->4D. Single -> 16 Streamers -> OBC-> OBN -> UAV/USV seismic
    - Limited manual Unmigrated Processing -> highly complex, computer intensive . Post stack-> Pre stack Time -> Pre stack depth migration
    - Fluid and lithology/ AVO analysis and inversion were not invented.

## Environmental

To avoid collateral damage to marine environment CCS operators strongly encouraged to reduce seismic acoustic output

- Current surveys generally looking at smaller sound sources/ new technology development
- Shared noise budgets with windfarm operators likely
- Operator awareness of extended consent timeframe in SAC (Special Areas of Conservation)



# 7. Other Active Seismic Options

# Localised / Spot Seismic Monitoring

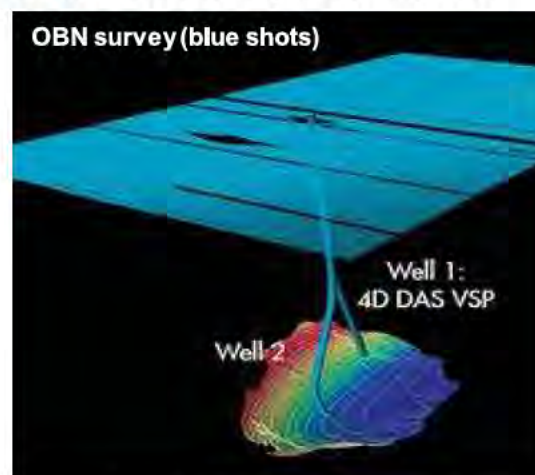


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Rather than illuminating a full 3D volume of rock, it is possible to target a particular subsurface point, near a CCS well.

- Repeated VSP (Vertical seismic profiles)
  - Enabled by DAS cables & Surface seismic survey
  - Images a narrow corridor around a wellbore
- Soundsabre: **Reference 19**
  - Node based permanent reservoir monitoring system.
  - Vertical array of 4C sensors in shallow boreholes around specific well target
  - Possible for passive seismic monitoring
- Subsurface spot illumination **Reference 20**
  - Minimal source and receiver pairs,
  - Located upon 3D illumination study & sufficient repeated data (fold) to form a common spot gather.
  - Potential for continuous (e.g. daily) monitoring

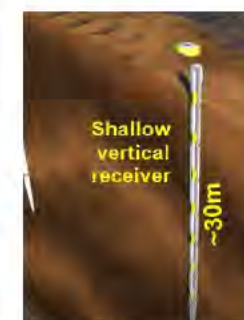
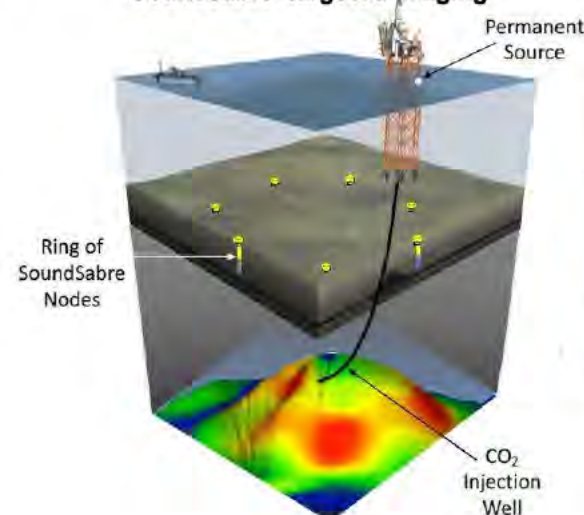
Monitor DAS VSP acquired during OBN



Dense shot carpet provides small 3D cube around wells

**Reference 18**

Soundsabre targeted imaging





# Role of Un-crewed Surface Vessels (USV)

Flotilla of smaller surface unmanned vessels be developed to provide a viable and safe surface tow replacement?

References 24, 25

Targeted illumination: build up coverage/fold with a low intensity over an entire acquisition season

## Range of developing USV's



Reference 21



Reference 22



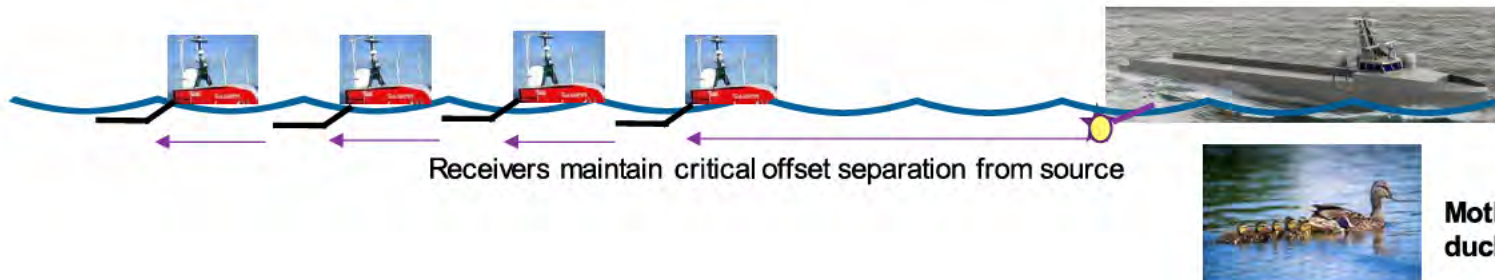
Reference 23

Analogous aerial drone swarms choreography



Flotilla of smaller USVs with short streamers provide targeted subsurface imaging

Medium sized USV towing a conventional air gun source or marine vibrator



# Permanent Reservoir Monitoring (PRM)



PRM involves the fixed installation of monitoring equipment on the seabed for multi-season acquisition

- Useful for *frequent* monitoring when tracking very rapid fluid distribution changes
  - Aimed at 3-6 month frequency compared to 3-10 years with streamers
- Globally very few permanent installations only associated with very large scale projects .  
Clair in UKCS, Valhall and Ekofisk in Norwegian waters

Positives:

- Provides very high repeatability
- Lower repeat monitoring costs
- Containerised seismic source from supply vessel

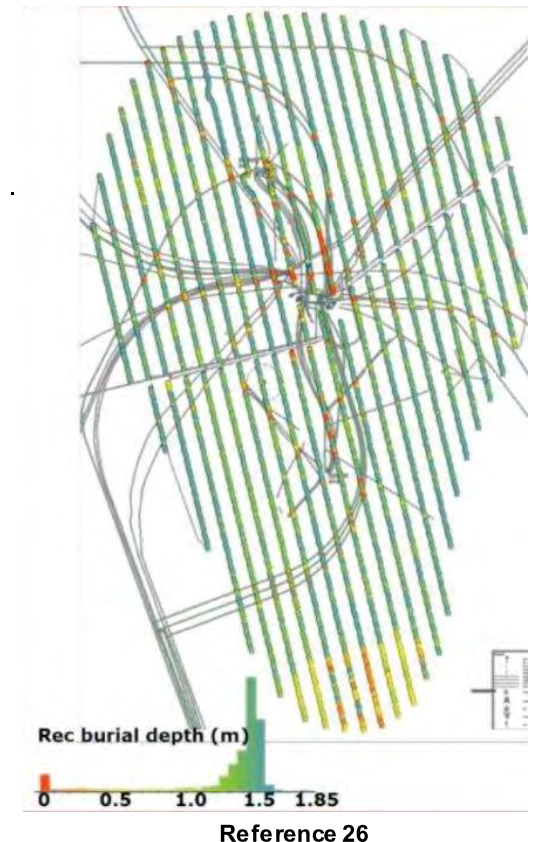
Negatives:

- **Very High up front capital expenditure,**
- Equipment durability,
- Cable based systems inflexible to expansion
- Permanent installation prevents CCS subsea development/ windfarm expansion
- **Seafloor PRM is likely to exacerbate the coexistence issue and is unlikely to have a significant role in congested areas.**

Possible Future Fibre optic development as PRM

- Currently used in-well
- Noisy seafloor environment for untrenched light weight cable

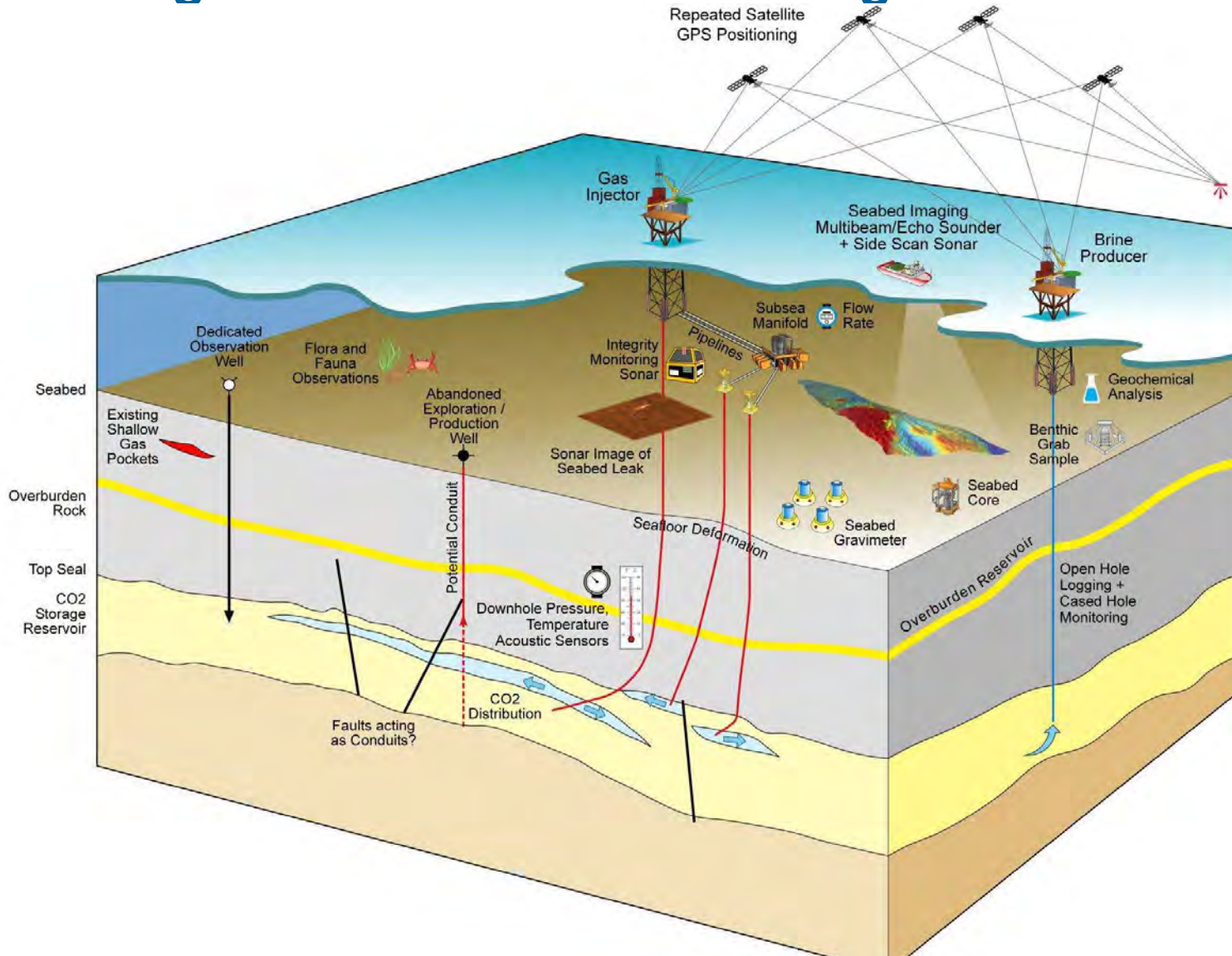
Ekofisk PRM array





# 8. Wider Range of MMV Technologies

# Range of Other MMV Technologies



There is a broad range of complementary MMV technologies which could be routinely applied or could be applied for specific purposes.

# Passive Seismic (Microseismic) Monitoring Technologies



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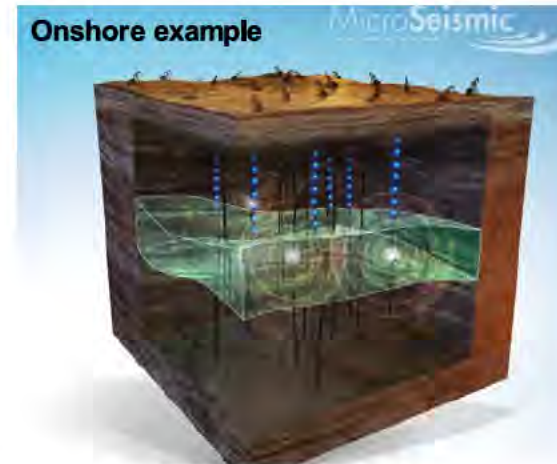
CO<sub>2</sub> Injection is likely to trigger extremely small earth tremors

- High pressure fluids break down lateral or vertical barriers.
- Continuous real time seismic monitoring
- Analysis of passive seismic events help track CO<sub>2</sub> plume migration

## Passive Seismic Array

Reference 27

- UK seismometer network used for onshore fracture injection monitoring
  - Usually onshore receivers too remote from distant offshore CO<sub>2</sub> injectors
- Offshore Receivers can be located
  - Vertically in an observation well above/ close to the CO<sub>2</sub> storage reservoir to detect smallest tremors
  - Nodes located around an injection site
    - High marine noise environment?
    - Mobile seabed?
  - Semi-permanent or Permanently installed seabed array around reservoir to triangulate the position of the events
    - Cuttlefish Tensor Geo



© 2017 MicroSeismic, Inc

**Fracture events create very small tremors, detectable with surface array or in-well seismometers**



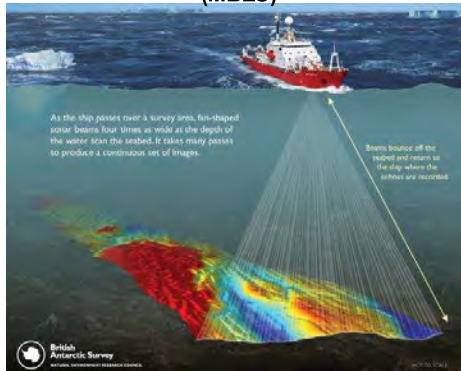
**3 component seismometer and hydrophone receivers linked by fibre optic cable on seabed**

Reference 28

# Marine Monitoring Technologies

- Marine surveys investigate the water column/ seabed (Bathymetry)
- Collect samples of the flora and fauna to monitor marine habitat (benthic study)
- Form part of baseline environmental and geological data.

## Bathymetry Multi Beam EchoSounder (MBES)



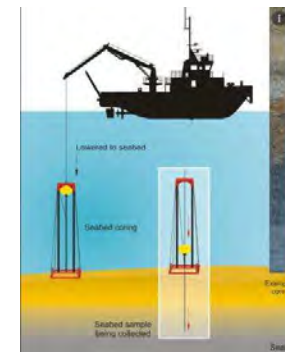
Reference 29

## Benthic Grab Sample - Sea floor sampling



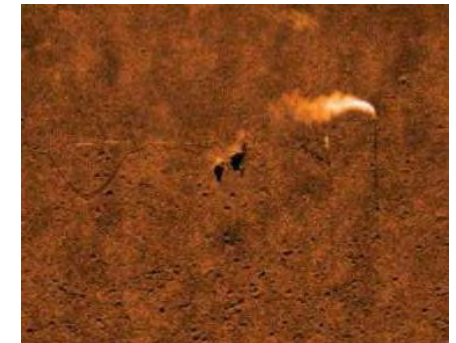
Reference 30

## Seabed Coring



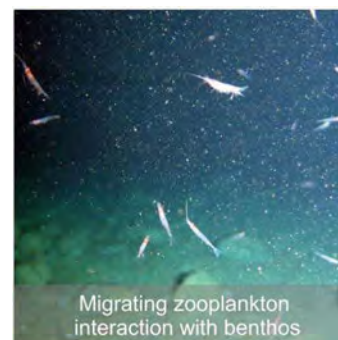
Reference 31

## Sidescan Sonar (SSS) Detecting CO<sub>2</sub> plume leak trial



Reference 32

## Examples of Benthic Studies



Reference 33

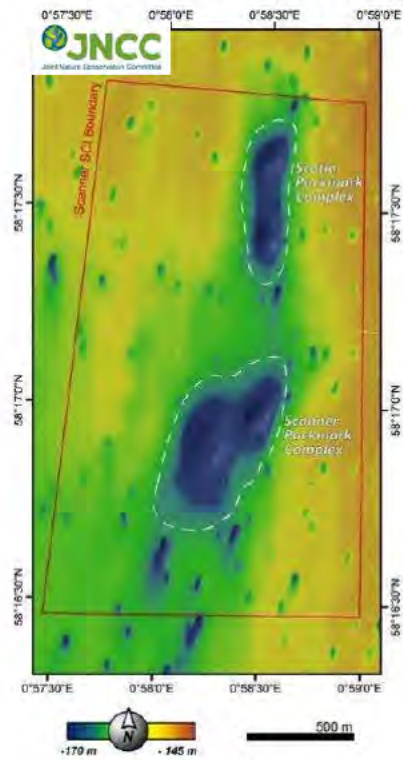
# Understanding Shallow Migration Pathways



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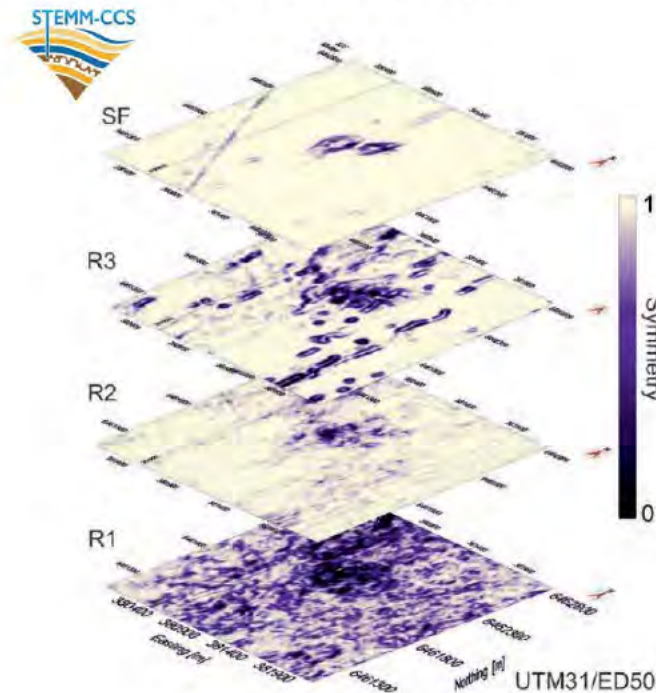
- Multi-beam & High resolution seismic can be used to identify pockmarks/ natural methane gas escape features on the seabed.
- Baseline surveys required to understand the pre-existing pathways, prior to potential CO<sub>2</sub> disruption

Multi-beam Depth Map



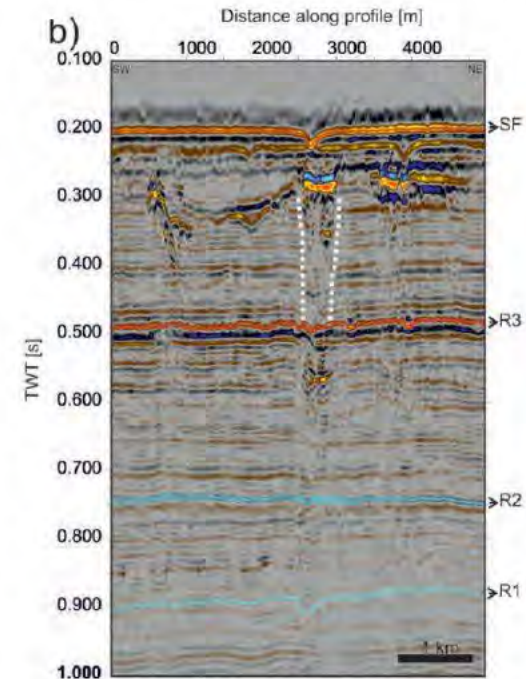
Reference 34

Slices through a 3D coherency cube



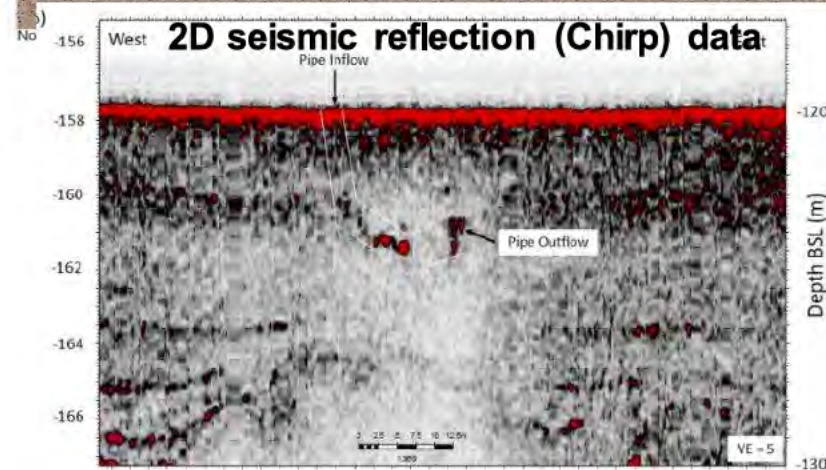
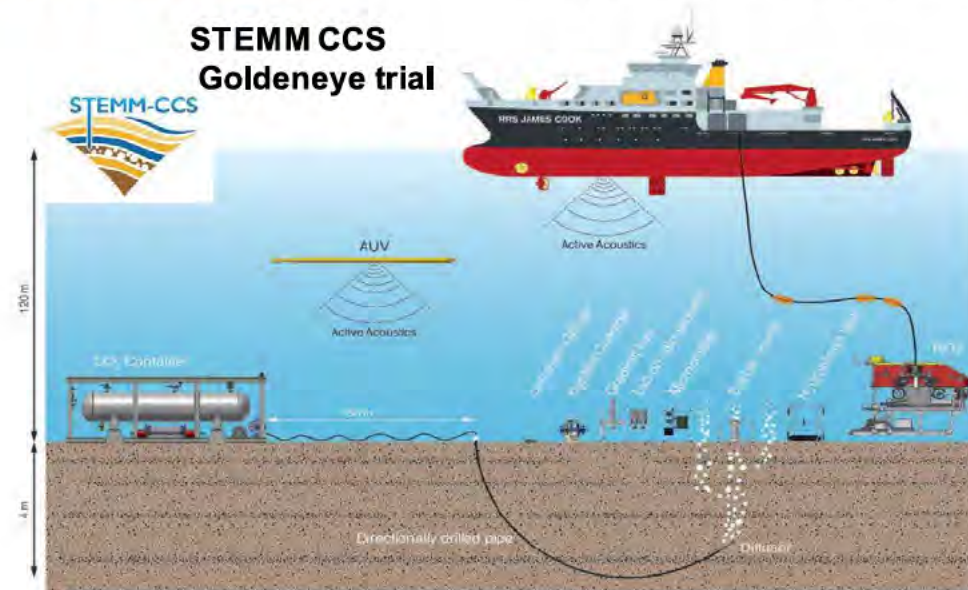
Reference 35

3D seismic image of the pipe structure underneath the Scanner pockmark



# Water Column Monitoring Technologies

- Geochemical sampling (laser) of water column to identify monitor leaks and seeps **Reference 36**
- Photographs of bubble stream
- Shallow Chirp profiler acquisition
- Laser measurements via AUV paired with surface USV
- Optodes measuring pH or  $p\text{CO}_2$  (the partial pressure of  $\text{CO}_2$ ) as indicators of  $\text{CO}_2$  in both the water column and seafloor sediment.
- Goldeneye trial:  $\text{CO}_2$  concentration greater than baseline and seasonal variation **Reference 37-42**



**CO<sub>2</sub> outflow pipe experiment**

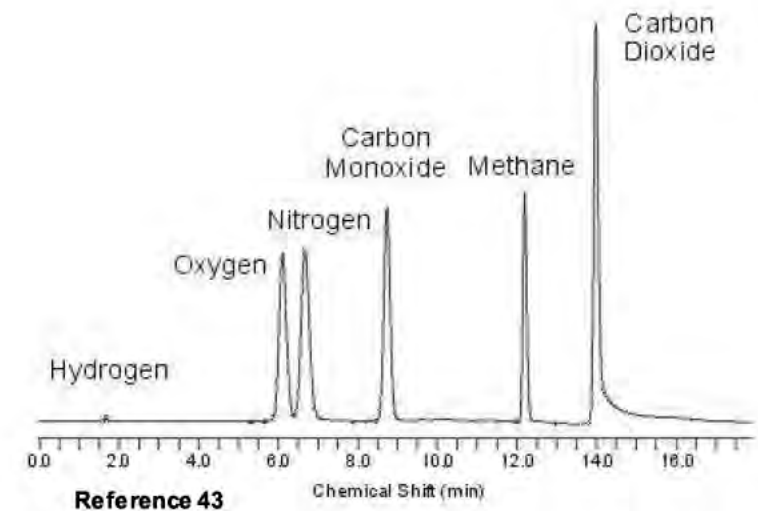


# Geochemistry/ Geochemical Analysis

- CO<sub>2</sub> interacts with the rock and existing pore fluid
  - Dissolution and precipitation of minerals in the reservoir and seal rocks
  - Modification of the properties of mineral surfaces occurs
  - Effects occur on fluid flow and capillary trapping
- Geochemistry traces fluid-fluid interactions and fluid-rock processes
- Analysis includes:
  - Gas Ratio data
  - Carbon and Oxygen isotopes
  - Isotopic changes in Calcium and Magnesium in the rock
  - Trace metals in overlying aquifer waters
    - upward migration & acidification of CO<sub>2</sub> from storage form



Component		Mole%
H <sub>2</sub>	Hydrogen	0.00
H <sub>2</sub> S	Hydrogen sulphide	0.00
CO <sub>2</sub>	Carbon dioxide	3.12
N <sub>2</sub>	Nitrogen	0.21
C <sub>1</sub>	Methane	76.25
C <sub>2</sub>	Ethane	10.59
C <sub>3</sub>	Propane	4.72



Reference 43

# Downhole Well Monitoring Technologies

- Baseline rock and fluid formation data is collected during and immediately after a well is drilled
  - Gives very high resolution, but only **very close to well bore (<~5m)**
  - Routinely collected “open-hole” prior to running production steel casing
- Injection/production well access can provide time lapse reservoir fluid saturation or production logging
  - **Restricted to very occasional access to offshore wells** (cost and risk)
  - Virtually no access to subsea wells
- CO<sub>2</sub> wellbore measurements have included:
  - CO<sub>2</sub> saturation in brine reservoirs estimated from decrease in sonic (P-wave) velocity & increase in resistivity (induction tool)
  - Repeat Reservoir Saturation Tool (RST) using pulsed neutron capture to determine changing brine saturation
- Future downhole gravity may sense density changes further into reservoir

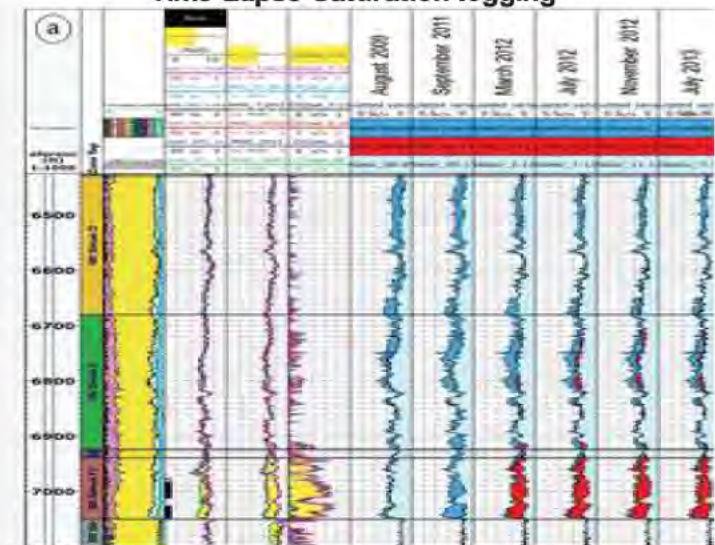
Reference 44


 North Sea Transition Authority  
 Downhole logging schematic  
 Downhole gravity tool



SSG downhole gravity tool

Time Lapse Saturation logging



Reference 45

Saturation increasing with time

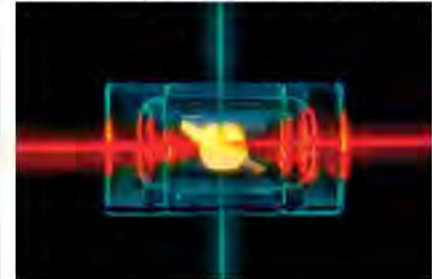
# Realtime Wellbore Monitoring Technologies



North Sea Transition Authority

- Wellhead measurements routinely provide pressure and CO<sub>2</sub> injection rates
- Downhole gauges located near casing perforations (open sections to reservoir)
  - Usually provide continuous downhole pressure and temperature
  - Well pressure correlates between the injection rate vs. the reservoir pressure.
    - Ensures overall dynamic equilibrium within the reservoir.
- Distributed sensors continuously measure physical properties along an entire fibre optic cable.
  - Vibrations from the surrounding environment, disturb the light in the fibre and observed (Distributed Acoustic Sensing or DAS)
    - Permanent installation with well completion
    - Mitigate tube ringing noise: preferable deployed behind casing rather than via tubing
  - Detection of leaks/seeps in and near wellbore
  - Temperature (Distributed Temperature Sensing/ DTS) and
  - Strain (via Distributed Strain Sensing or DSS)
  - DAS – Vertical Seismic Profile (VSP) can provide early indications of CO<sub>2</sub> plume development
- Risk of near wellbore leakage means that DAS could play a significant low cost monitoring role. [Reference 46](#)

Quartz Crystal Pressure gauge



[Reference 47](#)

Rig up for DAS installation



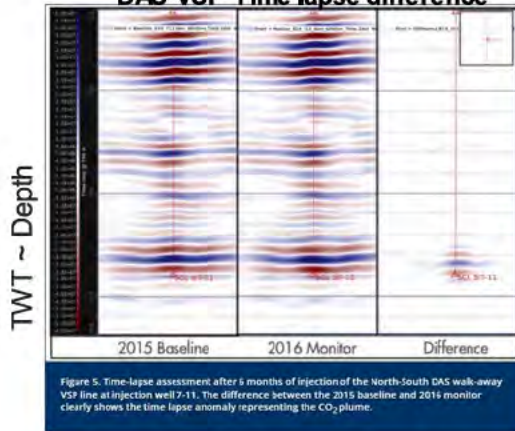
[Reference 48](#)

# DAS- Vertical Seismic Profile

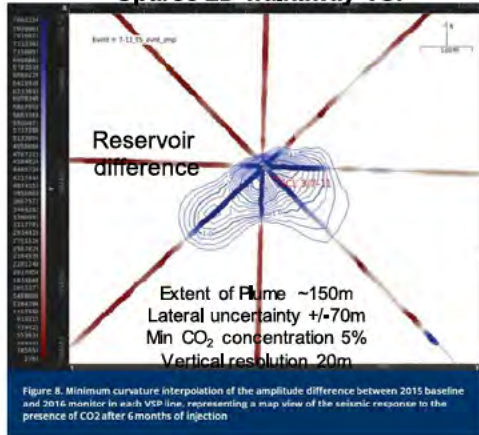
DAS – Vertical Seismic Profile (VSP) can provide early indications near wellbore CO<sub>2</sub> plume development

Lower cost 2D “walkway” (from wellbore)

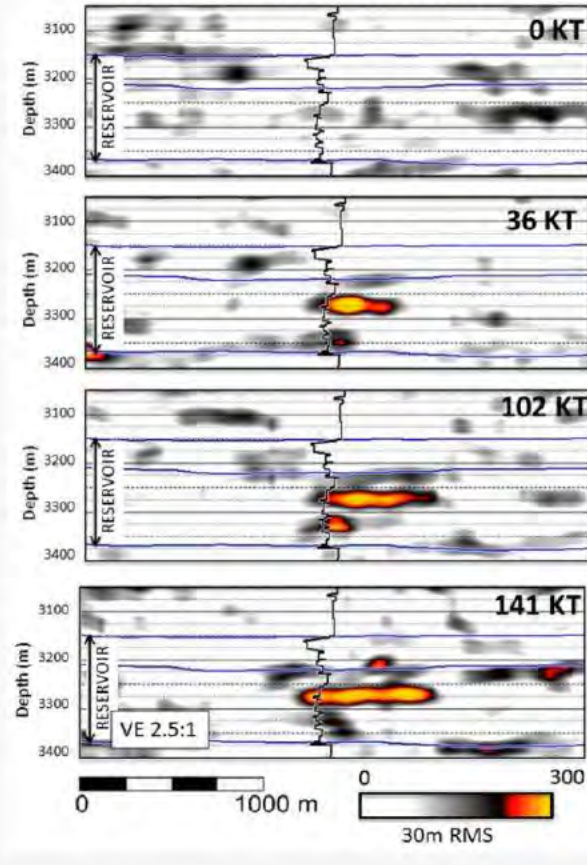
Reference 49 Seismic Cross section  
DAS-VSP Time lapse difference



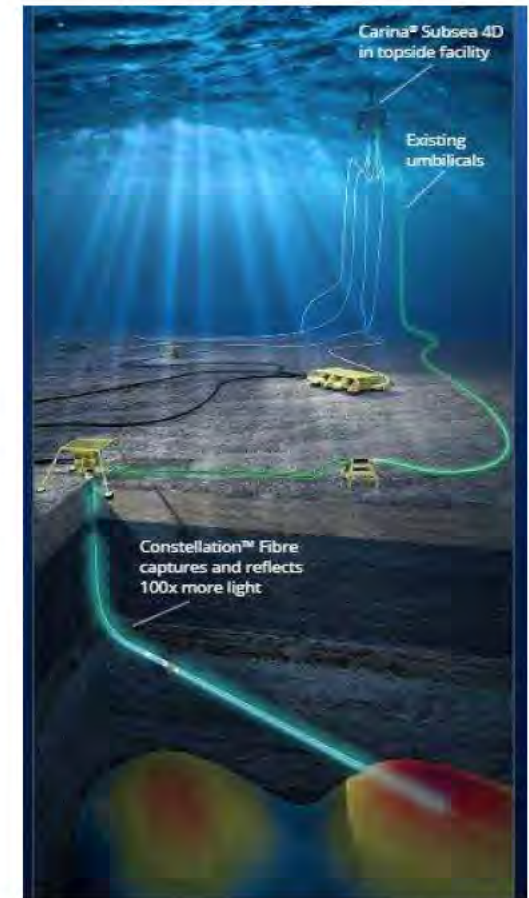
Map CO<sub>2</sub> Plume development from Sparse 2D walkaway VSP



Reference 50 Seismic Cross section  
DAS-VSP Time lapse difference



Permanent In-well Seismic concept



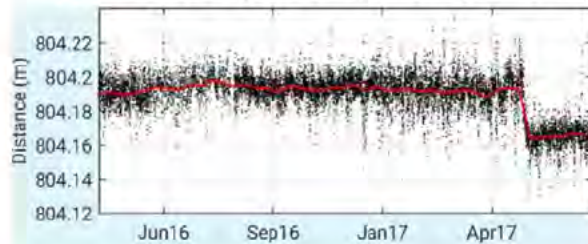
Reference 51

# Seafloor Deformation Monitoring

Hydrocarbon extraction occasionally generates minor subsidence, expected that CO<sub>2</sub> injection/ sequestration may create seafloor *inflation*.

- Average subsidence Ekofisk 10-15cm/year, Deep water US/Brazil fields ~ 2-5cm/year
- CCS related predicted inflation has not been studied, but likely small
- Long term subsea seafloor deformation monitoring
  - Vertical displacement by Pressure Monitoring Transponder (PMT)
    - Self calibrating/ Currently being trialled on Ormen Lange
  - Autonomous Monitoring Transponder (AMT)
    - Pressure, Temperature, sound velocity and dual-axis inclinometer
    - Horizontal accuracy of <15mm
    - Long endurance: < three years deployment

Time series geodesy data (Mt Etna)

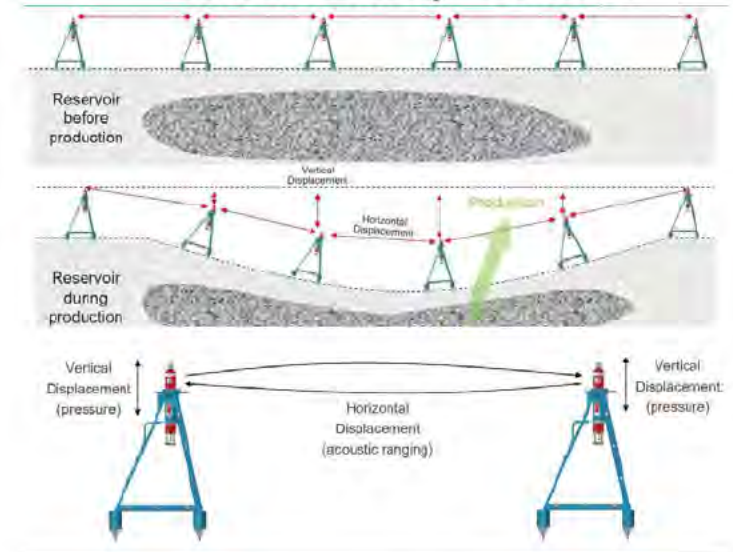


Volcano 4cm slip  
May 2017

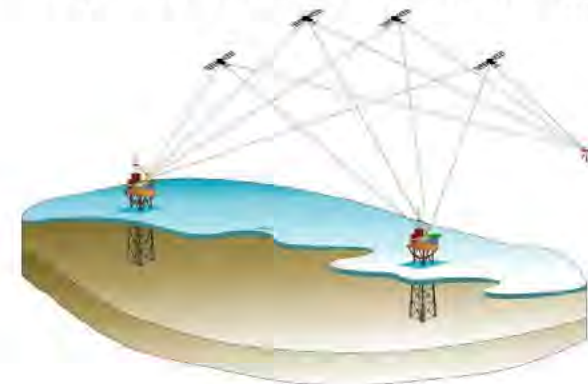
Reference 53

- Continuous satellite GPS on fixed platforms detect mm scale changes
  - Onshore: Humbly Grove (Reference 54)
  - Onshore InSAR (Interferometric Synthetic Aperture Radar) measures ground deformation / In Salah CO<sub>2</sub> sequestration demonstration (Reference 55)
  - Offshore InSAR provide low-resolution seabed topography data (Reference 56)
    - Probably insufficient definition for CCS monitoring

Marine Geodesy Reference 52



Repeated Satellite GPS Positioning



# Seafloor Gravity Monitoring

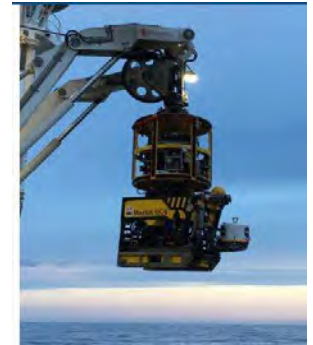
- Periodic measurements of strength of the earth's gravitational field
  - Gravimeter deployment on concrete plinth to ensure repeatability.
    - May not be practical for very long term stability/ mobile seabed
  - Gross changes may be detectable/ subject to modelling
- Ormen Lange undertaken 7<sup>th</sup> G-watch survey
  - Claim 1/10 of the price of a 4D seismic survey and 1/3 of the delivery time.



North Sea Transition Authority  
Seabed Gravimetry



OCTIO Gravitude  
Reference 57-59



ROV holding gravity meter  
ready for deployment

# Electromagnetic / CSEM

Electromagnetic measurements are routinely used in wellbore data acquisitions to determine the electrical resistance (resistivity) of the rock/fluid mixture.

- Function of gas saturation, amongst other parameters.
- Rock physics models predict resistivity changes by several orders of magnitude with changing CO<sub>2</sub> saturation.

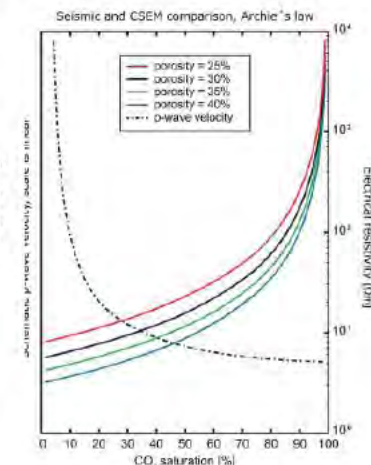
Controlled Source Electromagnetics (CSEM) used to measure large resistivity variations below the seabed

- Used on the onshore Ketzin CO<sub>2</sub> storage site
- Very limited testing use offshore CCS (Sleipner)
- Tested on pockmark for shallow gas detection **Reference 62**

**Usually employed as complementary technique to seismic**

**CSEM still requires towing significant source may be an operational problem in a constrained environment.**

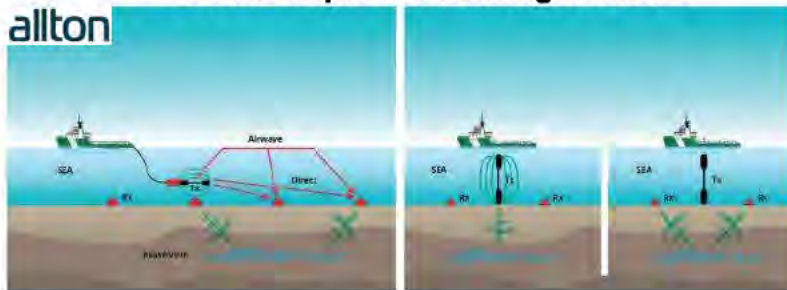
## Impact of changing CO<sub>2</sub> saturation on seismic and EM properties



**High CO<sub>2</sub> gives High resistivity in good quality (high porosity) reservoirs**

**Reference 61**

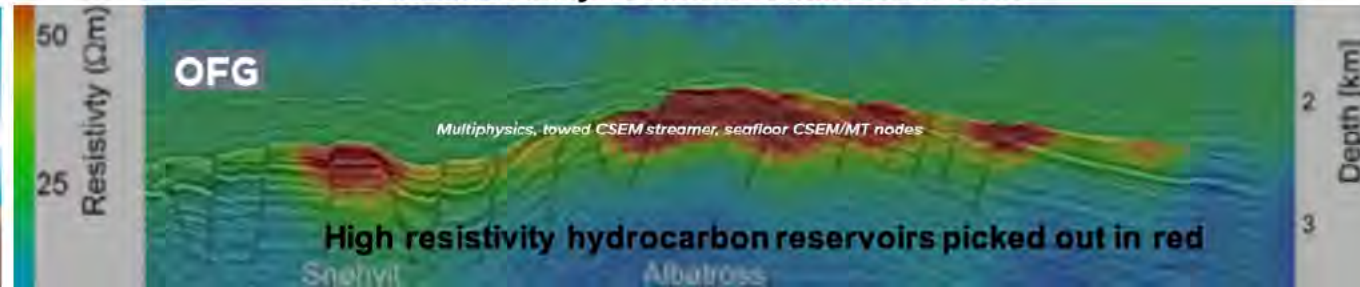
### CSEM acquisition configurations



**Figure 2** Controlled source electromagnetic signal propagation through subsurface with towed (left) or stationary source (right)

**Reference 63**

### CSEM Resistivity results overlain on seismic



**Reference 64**



# 9. Conclusions and Next Steps



# Conclusions & Recommendations



## Each **carbon storage** project has a different risk priority/ranking

- Carbon Storage Project Monitoring objectives will have a slightly different emphasis depending on subsurface and surface factors, and their relative risk.
- A consolidated list of monitoring objectives is recommended, cross-referenced to
  - subsurface risks and other project risks
  - monitoring technologies/techniques/tools and
  - their technology readiness levels (including availability and cost).
- Monitoring strategies will evolve over a project's lifetime
  - More frequent seismic monitoring will likely be required during early storage development, with learning and adaptation through the operational phase.



## **NSTAT/TCE/CES to establish and publish 'Greater Working Areas'** for Carbon Storage sites and complexes to

- Demarcate areas where surveying activities (especially using seismic streamers) can be expected.
- Areas should be established on a site by site basis in collaboration with the licence/lease holder.



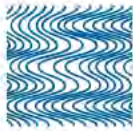
Expansion of Project Vulcan co-location **risk assessments to include more operational disciplines** (e.g. operations geophysicists, marine & aviation experts, drillers, rig tow masters, hydrographic surveyors, fishing bodies, Nature Conservation bodies, etc).

# Ongoing & Next Steps



## Current 2022 studies

- Ocean bottom seismic, technology assessment for the use for CO<sub>2</sub> storage monitoring
  - Operability, costs and ability to mitigate colocation issues with windfarms
- Rock Physics Fluid Substitution study,
  - Ability of seismic to detect CO<sub>2</sub> plume migration within CCS target intervals of interest
  - Across range of potential storage sites
- Review of literature and on the effect of windfarm noise on seismic acquisition



## 2023+ Potential studies

- Deploy *Field Trial* measuring equipment to measure *windfarm noise signature*.
  - Test a range of scenarios to assess impacts and potential uses for seismic acquisition
- Carry out a *4D Seismic Repeatability Field Trial* (HR 3D vs 2.5D) to evaluate if data acquisition approaches/methods can be scaled back to greater enable wind turbine placement.



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# 11. Appendix



# Acronyms Used in this Report



North Sea Transition Authority

AA- Appropriate Assessment  
AVO – Amplitude Versus Offset, AI – Acoustic Impedance  
AUV- Autonomous Underwater Vehicle  
BEIS – Department for Business, Energy and Industrial Strategy  
CCS – Carbon Capture and Storage  
CSEM - Controlled Source Electro-Magnetic  
CES – Crown Estate Scotland  
CO<sub>2</sub> – Carbon Dioxide  
CCUS – Carbon Capture Usage and Storage  
CSEM - Controlled source Electromagnetics  
DAS – Distributed Acoustic Sensing  
DTS/ DSS – Distributed Temperature/ Strain Sensing  
EM – Electro Magnetic  
EU - European Union  
FOAK – First of a kind  
GPS - Global Positioning system  
HR – High Resolution  
Hz – Hertz measure of frequency  
InSar - Interferometric Synthetic Aperture Radar  
JNCC – Joint Nature Conservation Committee  
MBES - Multi Beam Echo Sounder  
MMV – Measurement, Monitoring and Verification  
NM - Nautical Mile  
NSTA – North Sea Transition Authority  
OBC - Ocean Bottom Cable,  
OBN – Ocean Bottom Node  
O&G - Oil and Gas  
OGA - Oil and Gas Authority – now known as the NSTA  
OPRED - Offshore Petroleum Regulator for Environment & Decommissioning  
OGTC/NZTC- Oil and Gas/ Net Zero Technology Centre

OREC – Offshore Renewable Energy Catapult  
PRM- Permanent Reservoir Monitoring  
ROV – Remotely Operated Vehicle  
RST – Repeat Saturation tool  
SAC - Special Area of Conservation  
SIMOPS – Simultaneous Operations  
SNS – Southern North Sea  
SSS – Side Scan Sonar  
SUV Surface Unmanned Vessel  
TCE – The Crown Estate  
UKCS – United Kingdom Continental Shelf  
VSP – Vertical Seismic Profile  
2D/3D/4D – 2/3/4 Dimensional (aka time lapse 3D) Seismic  
2.5D – 2.5 Dimensional Seismic  
3C – 3 Components  
4C - 4 Components (3 geophones + hydrophone)

**202\* No. 0000**

**INFRASTRUCTURE PLANNING**

**The Hornsea Four Offshore Wind Farm Order**

*Made* - - - - [ ]

*Coming into force* - - [ ]

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  - PART 7 — FOR THE PROTECTION OF DOGGERBANK OFFSHORE WIND FARM PROJECT 1 PROJCO LIMITED AND DOGGERBANK OFFSHORE WIND FARM PROJECT 2 PROJCO LIMITED
  - PART 8 — FOR THE PROTECTION OF CARBON STORAGE LICENSEE
  - PART 9 — FOR THE PROTECTION OF NEO ENERGY (SNS) LIMITED
  - PART 10 — FOR THE PROTECTION OF PERENCO UK LIMITED
  - PART 11 — FOR THE PROTECTION OF NORTHERN POWERGRID (YORKSHIRE) PLC
  - PART 12 — FOR THE PROTECTION OF BRIDGE PETROLEUM 2 LIMITED
  - PART 13 — FOR THE PROTECTION OF HARBOUR ENERGY LIMITED, PERENCO UK LIMITED, PREMIER OIL E&P UK EU LIMITED, DANA PETROLEUM (E&P) LIMITED AND DANA PETROLEUM LIMITED

- SCHEDULE 10 — HEDGEROWS
  - PART 1 — REMOVAL OF HEDGEROWS
  - PART 2 — REMOVAL OF IMPORTANT HEDGEROWS
- SCHEDULE 11 — DEEMED MARINE LICENCE UNDER THE 2009 ACT—  
GENERATION ASSETS
  - PART 1 — LICENSED MARINE ACTIVITIES
  - PART 2 — CONDITIONS
- SCHEDULE 12 — DEEMED MARINE LICENCE UNDER THE 2009 ACT –  
TRANSMISSION ASSETS
  - PART 1 — LICENSED MARINE ACTIVITIES
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- SCHEDULE 13 — MODIFICATIONS TO AND AMENDMENTS OF THE  
DOGGER BANK CREYKE BECK OFFSHORE WIND FARM  
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- SCHEDULE 14 — ARBITRATION RULES
- SCHEDULE 15 — DOCUMENTS TO BE CERTIFIED
  - PART 1 — DOCUMENTS FORMING THE ENVIRONMENTAL  
STATEMENT TO BE CERTIFIED
  - PART 2 — EXAMINATION DOCUMENTS FORMING PART OF THE  
ENVIRONMENTAL STATEMENT TO BE CERTIFIED
  - PART 3 — OTHER DOCUMENTS TO BE CERTIFIED
- SCHEDULE 16 — COMPENSATION TO PROTECT THE COHERENCE OF  
THE NATIONAL SITE NETWORK
  - PART 1 — KITTIWAKE COMPENSATION
  - PART 2 — FISH HABITAT ENHANCEMENT
  - PART 3 — CONTRIBUTION TO MARINE RECOVERY FUND

An application has been made to the Secretary of State under section 37 of the Planning Act 2008 (“the 2008 Act”)(a) for an order granting development consent.

The application was examined by the Examining Authority, appointed by the Secretary of State pursuant to section 61(b) and section 65(c) of Part 6 of the 2008 Act and carried out in accordance with Chapter 4 of that Act and with the Infrastructure Planning (Examination) Procedure Rules 2010(d). The Examining Authority has submitted a report to the Secretary of State under section 74(2)(e) of the 2008 Act.

The Secretary of State has considered the report and recommendation of the Examining Authority, has taken into account the environmental information in accordance with regulation 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(f) and, as a national policy statement has effect in relation to the proposed development, has had regard to the documents and matters referred to in section 104(2)(g) of the 2008 Act.

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(a) 2008 c.29. Parts 1 to 7 were amended by Chapter 6 of Part 6 of the Localism Act 2011 (c.20).  
 (b) Section 61 was amended by section 128(2) and Schedule 13, paragraph 18 to the Localism Act 2011 and by section 26 of the Infrastructure Act 2015 (c.7).  
 (c) Section 65 was amended by Schedule 13 paragraph 22(2) and Schedule 25, paragraph 1 to the Localism Act 2011 and by section 27(1) of the Infrastructure Act 2015.  
 (d) S.I. 2010/103. This instrument was amended by S.I. 2012/635.  
 (e) Section 74 was amended by sections 128(2) and 237 and by Schedule 13, paragraph 29 and Schedule 25, paragraph 1, to the Localism Act 2011.  
 (f) S.I. 2017/572.  
 (g) Section 104 was amended by section 58(5) of the Marine and Coastal Access Act 2009 (c.23) and by section 128(2) of the and Schedule 13, paragraphs 1 and 49(1) to (6) of the Localism Act 2011.

The Secretary of State, having decided the application, has determined to make an Order giving effect to the proposals comprised in the application on terms that in the opinion of the Secretary of State are not materially different from those proposed in the application.

The Secretary of State is satisfied that open space within the Order land, when burdened with any new rights authorised for compulsory acquisition under the terms of this Order, will be no less advantageous than it was before such acquisition, to the persons whom it is vested, other persons, if any, entitled to rights of common or other rights, and the public, and that, accordingly, section 132(3)(a) of the 2008 Act applies.

The Secretary of State, in exercise of the powers conferred by sections 114, 115, 120(b), 122, 123 and 149A of the 2008 Act, makes the following Order—

## PART 1

### PRELIMINARY

#### **Citation and commencement**

1. This Order may be cited as the Hornsea Four Offshore Wind Farm Order 20[ ] and comes into force on [ ] 202[ ].

#### **Interpretation**

2.—(1) In this Order—

“the 1961 Act” means the Land Compensation Act 1961(c);

“the 1965 Act” means the Compulsory Purchase Act 1965(d);

“the 1980 Act” means the Highways Act 1980(e);

“the 1981 Act” means the Compulsory Purchase (Vesting Declarations) Act 1981(f);

“the 1989 Act” means the Electricity Act 1989(g);

“the 1990 Act” means the Town and Country Planning Act 1990(h);

“the 1991 Act” means the New Roads and Street Works Act 1991(i);

“the 2000 Act” means the Countryside and Rights of Way Act 2000(j);

“the 2003 Act” means the Communications Act 2003(k);

“the 2004 Act” means the Energy Act 2004(l);

“the 2008 Act” means the Planning Act 2008;

“the 2009 Act” means the Marine and Coastal Access Act 2009(m);

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(a) Section 132 was amended by section 24(3) of the Growth and Infrastructure Act 2013 (c.27).

(b) Sections 114,115 and 120 were amended by sections 128(2) and 140 and Schedule 13, paragraphs 1, 55(1), (2) and 60(1) and (3) of the Localism Act 2011. Relevant amendments were made to section 115 by section 160(1) to (6) of the Housing and Planning Act 2016 (c.22).

(c) 1961 c.33.

(d) 1965 c.56.

(e) 1980 c.66.

(f) 1981 c.66.

(g) 1989 c.29.

(h) 1990 c.8.

(i) 1991 c.22. Section 48(3A) was inserted by section 124 of the Local Transport Act 2008 (c.26). Sections 79(4), 80(4), and 83(4) were amended by section 40 of, and Schedule 1 to, the Traffic Management Act 2004 (c.18).

(j) 2000 c.37.

(k) 2003 c.21.

(l) 2004 c.20.

(m) 2009 c.23.

“access land” has the same meaning as in section 1(1) (principal definitions for Part I) of the 2000 Act;

“access to works plan” means the plan or plans certified as the access to works plan or plans by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“ancillary works” means the ancillary works described in Part 2 of Schedule 1 (ancillary works) and any other works authorised by this Order and which are not development within the meaning of section 32 of the 2008 Act;

“authorised development” means the development and associated development described in Part 1 of Schedule 1 (authorised development) and any other development authorised by this Order that is development within the meaning of section 32 of the 2008 Act;

“authorised project” means the authorised development and the ancillary works authorised by this Order;

“the book of reference” means the document certified by the Secretary of State as the book of reference for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“box-type gravity base structures” means a structure principally of steel, concrete, or steel and concrete with a square base which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“bridge link” means a steel truss structure with provision for overhead clearance for personnel, lighting fixtures and ancillary cabling, which can be used as a link for interconnection between any combination of permanent offshore electrical installations and/or offshore accommodation platform;

“buoy” means any floating device used for navigational purposes or measurement purposes, including LIDAR and wave buoys;

“cables” means cables for the transmission of electricity, including one or more cable crossings;

“cable circuits” means a number of electrical conductors necessary to transmit electricity between two points within the authorised development; this may comprise, depending on transmission technology, one or more conductors which may be bundled as one cable or take the form of separate cables, and the circuit may include one or more auxiliary cables (normally fibre optic cables) for the purpose of control, monitoring, protection or general communications;

“cable crossings” means a crossing of existing sub-sea cables or pipelines or other existing infrastructure by a cable or, where cables run together in parallel, a set of cables, authorised by this Order together with cable protection;

“cable protection” means physical measures for the protection of cables including but not limited to concrete mattresses, split pipe system, and/or rock placement (including material used for cable crossings);

“carriageway” has the same meaning as in section 329 of the 1980 Act;

“commence”, means—

- (a) in relation to works seaward of MHWS, the first carrying out of any licensed marine activities authorised by the deemed marine licences, save for operations consisting of pre-construction surveys and monitoring approved under the deemed marine licences; and
- (b) in respect of any other works comprised in the authorised project, the first carrying out of any material operation (as defined in section 155 of the 2008 Act) forming part of the authorised project other than onshore site preparation works,

and the words “commencement” and “commenced” must be construed accordingly;

“commissioning” means the process of assuring that all systems and components of the authorised development are tested to verify that they function and are operable in accordance with the design objectives, specifications and operational requirements of the undertaker;

“commitments register” means the document certified as the commitments register by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“connection works” means Work Nos. 6 to 10 and any related further associated development in connection with those works;

“deemed marine licences” means the marine licences set out in Schedules 11 and 12;

“the Driffield Navigation Trust” means the Driffield Navigation Trust of 5 New Walk Close, Driffield, East Yorkshire, England, YO25 5LG (Company No. 01468822);

“energy balancing infrastructure” means infrastructure used for the balancing of the output of electrical energy to the national grid;

“environmental statement” means the document certified as the environmental statement by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“gravity base structure” means a structure principally of steel, concrete, or steel and concrete with a base which tapers as it rises which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“HAT” means highest astronomical tide;

“highway” and “highway authority” have the same meaning as in the 1980 Act<sup>(a)</sup>

“Historic England” means the Historic Buildings and Monuments Commission for England;

“horizontal directional drilling” refers to a trenchless boring technique for installing cables, cable ducts and other associated apparatus involving drilling in an arc between two points;

“HVAC” means high voltage alternating current;

“HVDC” means high voltage direct current;

“interconnector cable” means a network of cables between the offshore substations;

“intrusive environmental surveys” means an environmental survey that requires or is facilitated by breaking the surface of the ground or seabed;

“jacket foundation” means a lattice type structure constructed of steel and additional equipment such as, J-tubes, corrosion protection systems and access platforms attached to the sea bed by means of either a suction bucket or piles;

“joint bay” means an excavation located at regular intervals along the cable route consisting of a concrete flat base slab constructed beneath the ground to facilitate the jointing together of the cables;

“land plan” means the plan or plans certified as the land plan or plans by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“large offshore HVDC converter substation” means the large version of the offshore converter substations assessed in the environment statement;

“large offshore transformer substation” means the large version of the offshore transformer substations assessed in the environment statement;

“LAT” means lowest astronomical tide;

“lead local flood authority” has the meaning in section 6(7) of the Flood and Water Management Act 2010<sup>(a)</sup>;

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(a) “highway” is defined in section 328(1) for “highway authority” see section 1. Relevant amendments are as follows: section 1 was amended by sections 8 and 102 and Schedules 4, paragraph 1 and Schedule 17 of the Local Government Act 1985 (c.51), by section 21 of the 1991 Act and by section 1(6) and Schedule 1, paragraphs 1 to 4 of the Infrastructure Act 2015 (c.7).



“link box” means the underground metal box placed within a plastic or concrete pit where the metal sheaths between adjacent export cable sections are connected and earthed installed within a ground level manhole or inspection chamber to allow access to the link box for regular maintenance or fault-finding purposes;

“logistics compound” means a construction site associated with the connection works including portable offices, welfare facilities, parking and storage for construction of the authorised project;

“maintain” includes inspect, upkeep, repair, adjust, and alter and further includes remove, reconstruct and replace (including replenishment of cable protection) but does not include the removal, reconstruction or replacement of foundations associated with the offshore works, to the extent assessed in the environmental statement and any derivative of maintain must be construed accordingly;

“Marine Management Organisation” or “MMO” means the Marine Management Organisation, Lancaster House, Hampshire Court, Newcastle upon Tyne, NE4 7YH who is the body created under the 2009 Act and who is responsible for the monitoring and enforcement of the deemed marine licences;

“mean high water springs” or “MHWS” means the highest level which spring tides reach on average over a period of time;

“mean low water springs” or “MLWS” means the lowest level which spring tides reach on average over a period of time;

“monopile foundation” means a steel pile, driven and/or drilled into the seabed and associated equipment including J-tubes, corrosion protection systems and access platforms and equipment;

“mono suction bucket foundation” means a steel cylindrical structure which partially or fully penetrates the seabed and remains in place using its own weight and hydrostatic pressure differential, and may include additional equipment such as J-tubes, corrosion protection systems and access platforms;

“offshore accommodation platform” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing housing accommodation, storage, workshop, auxiliary equipment, and facilities for operating, maintaining and controlling the wind turbine generators and offshore electrical installations;

“offshore electrical installations” means the small offshore transformer substations, the large offshore transformer substations, the offshore HVAC booster stations, the small offshore HVDC converter substations and the large offshore HVDC converter substations forming part of the authorised development;

“offshore HVAC booster station” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing—

- (a) electrical equipment required to provide reactive power compensation; and
- (b) housing accommodation, storage, workshop, auxiliary equipment, radar and facilities for operating, maintaining and controlling the substation;

“offshore HVDC converter station” means a structure above LAT and attached to the seabed by means of a foundation, with equipment to convert the three-phase HVAC power generated at the wind turbine generators into HVDC power;

“the offshore Order limits and grid coordinates plan” means the plan or plans certified by the Secretary of State as the offshore Order limits and grid coordinates plan for the purposes of this Order under article 38 (certification of plans and documents, etc.);

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(a) 2010 c.29.

“offshore transformer substation” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing—

- (a) electrical equipment required to switch, transform, convert electricity generated at the wind turbine generators to a higher voltage and provide reactive power compensation; and
- (b) housing accommodation, storage, workshop auxiliary equipment, radar and facilities for operating, maintaining and controlling the substation or wind turbine generators;

“offshore works” means Work Nos. 1, 2, 3, 4 and 5 and any related further associated development in connection with those works;

“offshore works plans” means the plan or plans certified as the offshore works plans by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“onshore construction works” means—

- (a) temporary haul roads;
- (b) vehicular accesses; and
- (c) logistics compound(s);

“onshore HVDC/HVAC substation” means a compound, comprising the onshore HVDC converter station or the onshore HVAC substation, including any energy balancing infrastructure and electrical equipment required to switch, transform, convert electricity and provide reactive power compensation, with external landscaping and means of access;

“onshore Order limits plan” means the plans certified by the Secretary of State as the onshore Order limits plan for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“onshore site preparation works” means operations consisting of site clearance, pre-planting of landscaping works, ecological mitigation works, archaeological investigations, intrusive environmental surveys, investigations for the purpose of assessing ground conditions, remedial work in respect of any contamination or other adverse ground conditions, diversion and laying of services, erection of any temporary means of enclosure, creation of site accesses and the temporary display of site notices or advertisements;

“onshore works plans” means the plan or plans certified as the onshore works plans by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“operation” means the undertaking of activities authorised by this Order which are not part of the construction, commissioning or decommissioning of the authorised development;

“the Order land” means the land shown on the land plans which is within the limits of land to be acquired or used and described in the book of reference;

“the Order limits” means the limits shown on the offshore Order limits and grid coordinates plan and the onshore Order limits plan within which the authorised project may be carried out, whose grid coordinates seaward of MHWS are set out in paragraph 2 of Part 1 of Schedule 1 (authorised development) to this Order;

“outline cable specification and installation plan” means the document certified as the outline cable specification and installation plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline code of construction practice” means the document certified as the outline code of construction practice by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline construction traffic management plan” means Appendix F of the document certified as the outline code of construction practice plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline design plan” means the document certified as the outline design plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline ecological management plan” means the document certified as the outline ecological management plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline employment and skills plan” means the document certified as the outline employment and skills plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline energy balancing infrastructure HazID report” means the document certified as the outline energy balancing infrastructure HazID report by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline enhancement strategy” means the document certified as the outline enhancement strategy by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline landscape management plan” means the document certified as the outline landscape management plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline marine mammal mitigation protocol” means the document certified as the outline marine mammal mitigation protocol by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline marine monitoring plan” means the document certified as the outline marine monitoring plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline marine written scheme of investigation” means the document certified as the outline marine written scheme of investigation by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline net gain strategy” means the document certified as the outline net gain strategy by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline onshore infrastructure drainage strategy” means the document certified as the outline onshore infrastructure drainage strategy by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline southern north sea special area of conservation site integrity plan” means the document certified as the outline southern north sea special area of conservation site integrity plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline written scheme of investigation for onshore archaeology” means the document certified as the outline written scheme of investigation for onshore archaeology by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“pin piles” means steel cylindrical piles driven and/or drilled into the seabed to secure jacket foundations;

“pontoon gravity base type 1 structure” means a structure principally of steel, concrete, or steel and concrete with a base made up of up to two rectangular pontoons which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“pontoon gravity base type 2 structure” means a structure principally of steel, concrete, or steel and concrete with a base made up of a pontoon arranged in a rectangle around an open centre which rests on the seabed due to its own weight with or without added ballast or

additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“pro-rata annex” means the document certified as the pro-rata annex by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“public rights of way plan” means the plan or plans certified as the public rights of way plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“relevant highway authority” means East Riding of Yorkshire Council, or any successor to it as highway authority for the land in question;

“relevant highway authorities” means East Riding of Yorkshire Council and Hull City Council, or any successor to them as highway authorities for the land in question;

“relevant planning authority” means East Riding of Yorkshire Council, or any successor to it as planning authority for the land in question;

“requirements” means, or a reference to a numbered requirement is a reference to, those matters set out in Part 3 of Schedule 1 (requirements) to this Order;

“scour protection” means measures to prevent loss of seabed sediment around any structure placed in or on the seabed by use of protective aprons, mattresses, or rock and gravel placement;

“section 106 agreements” means the three agreements made under section 106 of the 1990 Act as follows—

- (a) dated 15 November 1990 between (1) The Council of the East Yorkshire Borough of Beverley; (2) Clive Kingston Soames, Margaret Eileen Soames and Andrew Mark Soames and (3) Barclays Bank PLC;
- (b) dated 13 July 2007, between (1) Lissett Airfield Wind Farm Limited; (2) James Herbert Tennant; and (3) East Riding of Yorkshire Council; and
- (c) dated 7 October 2015, between (1) East Riding of Yorkshire Council; (2) Christopher Branston Foster; (3) Susan Verena Foster; (4) Richard Edward Foster; and (5) National Westminster Bank PLC;

“small offshore HVDC converter substation” means the small version of the offshore transformer substations assessed in the environment statement;

“small offshore transformer substation” means the small version of the offshore transformer substations assessed in the environment statement;

“SNCB” means statutory nature conservation body, being the appropriate nature conservation body as refined in Regulation 5 of the Conservation of Habitats and Species Regulations 2017 or its equivalent in the Conservation of Offshore Marine Habitats and Species Regulations 2017;

“special category land” means the land comprising plots 1, 2, 2A, 3, 3A, 4, 4A, 5, 6 and 6A shown on the land plans and described in the book of reference;

“statutory undertaker” means any person falling within section 127(8) of the 2008 Act and a public communications provider as defined in section 151 of the 2003 Act;

“street” means a street within the meaning of section 48 of the 1991 Act(a), together with land on the verge of a street or between two carriageways, and includes any footpath and any part of a street;

“street authority”, in relation to a street, has the same meaning as in Part 3 of the 1991 Act(b);

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(a) Section 48 was amended by section 124(2) of the Local Transport Act 2008 (c.26).

(b) “street authority” is defined in section 49, which was amended by paragraph 117 of Schedule 1 to the Infrastructure Act (c.7).

“streets plan” means the plan or plans certified as the streets plan or plans by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“suction bucket” means a steel cylindrical structure attached to the legs of a jacket foundation which partially or fully penetrates the seabed and remains in place using its own weight and hydrostatic pressure differential;

“transition joint bay” means the underground concrete bays in Work No. 6 where the offshore export cable circuits comprised in Work No. 6 are jointed to the onshore export cable circuits;

“transition piece” means the metal structure attached to the top of the foundation where the base of the wind turbine generator is connected and may include additional equipment such as J-tubes, corrosion protection systems, boat access systems, access platforms, craneage, radar, electrical transmission equipment and associated equipment;

“tree preservation order and hedgerow plan” means the plan or plans certified as the tree preservation order and hedgerow plan or plans by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“undertaker” means, subject to article 5(2) (benefit of the Order), Orsted Hornsea Project Four Limited (company number 08584182);

“vessel” means every description of vessel, however propelled or moved, and includes a non-displacement craft, a personal watercraft, a seaplane on the surface of the water, a hydrofoil vessel, a hovercraft or any other amphibious vehicle and any other thing constructed or adapted for movement through, in, on or over water and which is at the time in, on or over water;

“water attenuation feature” means an area within which sustainable drainage systems measures are to be adopted to facilitate attenuation and/or storage of surface water drainage;

“wind turbine generator” means a structure comprising a tower, rotor with three blades connected at the hub, nacelle and ancillary electrical and other equipment which may include J-tube(s), transition piece, access and rest platforms, access ladders, boat access systems, corrosion protection systems, fenders and maintenance equipment, helicopter landing facilities and other associated equipment, fixed to a foundation or transition piece; and

“working day” means a day which is not a weekend, bank holiday or public holiday in England.

(2) References in this Order to rights over land include references to rights to do or restrain or to place and maintain, anything in, on or under land or in the air-space above its surface and to any trusts or incidents (including restrictive covenants) to which the land is subject and references in this Order to the imposition of restrictive covenants are references to the creation of rights over the land which interfere with the interests or rights of another and are for the benefit of land which is acquired under this Order or which is an interest otherwise comprised in the Order land.

(3) All distances, directions, capacities, volumes and lengths referred to in this Order are approximate save in respect of the parameters referred to in—

- (a) requirements 2 to 5 in Part 3 of Schedule 1 (requirements);
- (b) conditions 1 to 3 in Part 2 of Schedule 11 (conditions); and
- (c) conditions 1 to 3 in Part 2 of Schedule 12 (conditions).

(4) Any reference in this Order to a work identified by the number of the work is to be construed as a reference to the work of that number authorised by this Order.

(5) The expression “includes” is to be construed without limitation unless the contrary intention appears.

(6) A reference to any statute, order, regulation or similar instrument is construed as a reference to a statute, order, regulation or instrument as amended by any subsequent statute, order, regulation or instrument or as contained in any subsequent re-enactment.

(7) Any reference in this Order or the documents certified by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.) to a dimension

measured from LAT may be converted to a measurement from HAT by subtracting 4.71m from the measurement from LAT.

## PART 2 PRINCIPAL POWERS

### **Development consent etc. granted by this Order**

**3.**—(1) Subject to the provisions of this Order and to the requirements, the undertaker is granted—

- (a) development consent for the authorised development; and
- (b) consent for the ancillary works,

to be carried out within the Order limits.

(2) Work Nos. 1 to 5 (save for those elements of Work No. 5(a) located landward of MHWS in order to connect to Work No. 6) must be constructed within the Order limits seaward of MHWS and Work Nos. 6 to 10 (save for those elements of Work Nos. 9(a) and 9(d) located seaward of MHWS for foreshore access) must be constructed within the Order limits landward of MHWS.

### **Power to maintain the authorised project**

**4.**—(1) The undertaker may at any time maintain the authorised project, except to the extent that this Order or an agreement made under this Order provides otherwise.

(2) The power to maintain conferred under paragraph (1) does not relieve the undertaker of any requirement to obtain any further licence under Part 4 of the 2009 Act (marine licensing) for offshore works not covered by the deemed marine licences.

### **Benefit of the Order**

**5.**—(1) The undertaker may with the written consent of the Secretary of State—

- (a) transfer to another person (“the transferee”) any or all of the benefit of the provisions of this Order (including the deemed marine licences, in whole or in part) and such related statutory rights as may be agreed between the undertaker and the transferee; and
- (b) grant to another person (“the lessee”) for a period agreed between the undertaker and the lessee any or all of the benefit of the provisions of this Order (including the deemed marine licences, in whole or in part) and such related statutory rights as may be so agreed.

except where paragraph (6) applies, in which case the consent of the Secretary of State is not required.

(2) Where an agreement has been made in accordance with paragraph (1) references in this Order to the undertaker, except in paragraphs (5), (7), (10) and the first reference in paragraph (11) include references to the transferee or lessee.

(3) The undertaker must consult the Secretary of State before making an application for consent under this article by giving notice in writing of the proposed application and the Secretary of State must provide a response within four weeks of receipt of the notice.

(4) The Secretary of State must consult the MMO before giving consent to the transfer or grant to another person of the whole or part of the benefit of the provisions of the deemed marine licences.

(5) Where the undertaker has transferred any benefit, or for the duration of any period during which the undertaker has granted any benefit, under paragraph (1)—

- (a) the benefit transferred or granted (“the transferred benefit”) includes any rights that are conferred, and any obligations that are imposed, by virtue of the provisions to which the benefit relates;

- (b) the transferred benefit resides exclusively with the transferee or, as the case may be, the lessee and the transferred benefit is not enforceable against the undertaker; and
- (c) the exercise by a person of any benefits or rights conferred in accordance with any transfer or grant under paragraph (1) is subject to the same restrictions, liabilities and obligations as would apply under this Order if those benefits or rights were exercised by the undertaker.

(6) This paragraph applies to any provisions of this Order and its related statutory rights where—

- (a) the transferee or lessee is the holder of a licence under section 6 (licences authorising supply, etc) of the 1989 Act; or
- (b) the time limits for claims for compensation in respect of the acquisition of land or effects upon land under this Order have elapsed and—
  - (i) no such claims have been made,
  - (ii) any such claim has been made and has been compromised or withdrawn,
  - (iii) compensation has been paid in final settlement of any such claim,
  - (iv) payment of compensation into court has taken place in lieu of settlement of any such claim, or
  - (v) it has been determined by a tribunal or court of competent jurisdiction in respect of any such claim that no compensation shall be payable.

(7) Prior to any transfer or grant under this article taking effect the undertaker must give notice in writing to the Secretary of State, and if such transfer or grant relates to the exercise of powers in their area, to the MMO and the relevant planning authority.

(8) The notice required under paragraphs (3) and (7) must—

- (a) state—
  - (i) the name and contact details of the person to whom the benefit of the provisions will be transferred or granted;
  - (ii) subject to paragraph (9), the date on which the transfer will take effect;
  - (iii) the provisions to be transferred or granted; and
  - (iv) the restrictions, liabilities and obligations that, in accordance with paragraph (5)(c), will apply to the person exercising the powers transferred or granted; and
  - (v) where paragraph (6) does not apply, confirmation of the availability and adequacy of funds for compensation associated with the compulsory acquisition of the Order land.
- (b) be accompanied by—
  - (i) where relevant, a plan showing the works or areas to which the transfer or grant relates; and
  - (ii) a copy of the document effecting the transfer or grant signed by the undertaker and the person to whom the benefit of the powers will be transferred or granted.

(9) The date specified under paragraph (8)(a)(ii) in respect of a notice served in respect of paragraph (7) must not be earlier than the expiry of fourteen days from the date of the receipt of the notice.

(10) The notice given under paragraph (7) must be signed by the undertaker and the person to whom the benefit of the powers will be transferred or granted as specified in that notice.

(11) Sections 72(7) and (8) of the 2009 Act (variation, suspension, revocation and transfer) do not apply to a transfer or grant of the whole or part of the benefit of the provisions of the deemed marine licences to another person by the undertaker pursuant to an agreement under paragraph (1) save that the MMO may amend any deemed marine licence granted under Schedule 11 or Schedule 12 of the Order to correct the name of the undertaker to the name of a transferee or lessee under this article 5 (benefit of the Order).

## Application and modification of legislative provisions

6.—(1) The following provisions are modified to the extent specified, or do not apply, in relation to the construction or works carried out for the purpose of, or in connection with, the construction or maintenance of the authorised project—

- (a) Regulation 6 of the Hedgerows Regulations 1997<sup>(a)</sup> is modified so as to read for the purposes of this Order only as if there were inserted after paragraph (1)(j) the following—  
“or (k) for carrying out development which has been authorised by an order granting development consent pursuant to the Planning Act 2008.”
- (b) the provisions of the Neighbourhood Planning Act 2017<sup>(b)</sup> insofar as they relate to temporary possession of land under articles 28 (temporary use of land for carrying out the authorised project) and 29 (temporary use of land for maintaining the authorised project) of this Order.
- (c) the Environmental Permitting (England and Wales) Regulations 2016, to the extent that they require a permit for anything that would have required consent made under section 109 of the Water Resources Act 1991 immediately before the repeal of that section or for any activities defined under the Environmental Permitting (England and Wales) Regulations 2016 as flood risk activities;
- (d) the provisions of any byelaws made under, or having effect as if made under, paragraphs 5, 6 or 6A of Schedule 25 of the Water Resources Act 1991 that require consent or approval for the carrying out of works;
- (e) section 23 of the Land Drainage Act 1991 (prohibition of obstructions etc. in watercourses);
- (f) the provisions of any byelaws made under section 66 of the Land Drainage Act 1991 (powers to make byelaws) that require consent or approval for the carrying out of works; and
- (g) section 28E (duties in relation to sites of scientific interest) of the Wildlife and Countryside Act 1981<sup>(c)</sup>.

(2) Nothing in this article overrides the requirement for an environmental permit under Regulation 12(1)(b) (requirement for environmental permit) of the Environmental Permitting (England and Wales) Regulations 2016.

## Defence to proceedings in respect of statutory nuisance

7.—(1) Where proceedings are brought under section 82(1) of the Environmental Protection Act 1990<sup>(d)</sup> (summary proceedings by persons aggrieved by statutory nuisances) in relation to a nuisance falling within paragraph (g) of section 79(1) of that Act (noise emitted from premises so as to be prejudicial to health or a nuisance) no order is to be made, and no fine is to be imposed, under section 82(2) of that Act if—

- (a) the defendant shows that the nuisance—
  - (i) relates to premises used by the undertaker for the purposes of or in connection with the construction, maintenance or decommissioning of the authorised project and that the nuisance is attributable to the carrying out of the authorised project in accordance with a notice served under section 60 (control of noise on construction sites), or a

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(a) S.I. 1997/1160. Relevant amendments to this instrument have been made by section 73(2) of the Countryside and Rights of Way Act 2000 (c.37) and by S.I. 2003/2155, S.I. 2006/1177, S.I. 2009/1307 and S.I. 2105/377.

(b) 2017 c.20.

(c) 1981 c.69. Section 28E was inserted by section 75(1) of, and paragraph 1 of Schedule 9 to, the Countryside and Rights of Way Act 2000 (c.37). It was amended by section 105(1) of, and paragraph 79 of Schedule 11 to, the Natural Environment and Rural Communities Act 2006 (c.16). There are other amendments which are not relevant to this Order.

(d) 1990 c.43. Relevant amendments to this are as follows: section 82 was amended by section 107 and Schedule 17 paragraph 6 of the Environment Act 1995 (c.25) and section 5(2) of the Noise and Statutory Nuisance Act 1993 (c.40), and section 79 was amended by sections 101 and 102 of the Clean Neighbourhoods and Environment Act 2005 (c.16), by section 2 of the Noise and Statutory Nuisance Act 1993 and by section 120 and Schedule 22 paragraph 89 of the Environment Act 2005.



consent given under section 61 (prior consent for work on construction sites) of the Control of Pollution Act 1974; or

(ii) is a consequence of the construction, maintenance or decommissioning of the authorised project and that it cannot reasonably be avoided; or

(b) the defendant shows that the nuisance—

(i) relates to premises used by the undertaker for the purposes of or in connection with the use of the authorised project and that the nuisance is attributable to the use of the authorised project which is being used in compliance with requirement 22 (control of noise during the operational phase); or

(ii) is a consequence of the use of the authorised project and that it cannot reasonably be avoided.

(2) Section 61(9) (consent for work on construction site to include statement that it does not of itself constitute a defence to proceedings under section 82 of the Environmental Protection Act 1990) of the control of Pollution Act 1974 does not apply where the consent relates to the use of premises by the undertaker for purposes of or in connection with the construction, maintenance or decommissioning of the authorised project.

## PART 3 STREETS

### Street works

**8.**—(1) The undertaker may, for the purposes of the authorised project, enter on so much of any of the streets specified in Schedule 2 (streets subject to street works) as is within the Order limits and may—

(a) break up or open the street, or any sewer, drain or tunnel within or under it;

(b) tunnel or bore under the street;

(c) place and keep apparatus in the street;

(d) maintain apparatus in the street or change its position; and

(e) execute any works required for or incidental to any works referred to in sub-paragraphs (a) to (d).

(2) The authority given by paragraph (1) is a statutory right for the purposes of sections 48(3) (streets, street works and undertakers) and 51(1) (prohibition of unauthorised street works) of the 1991 Act.

(3) In this article “apparatus” has the same meaning as in Part 3 (street works in England and Wales) of the 1991 Act.

### Application of the 1991 Act

**9.**—(1) The provisions of the 1991 Act mentioned in paragraph (2) that apply in relation to the carrying out of street works under that Act and any regulations made or code of practice issued or approved under those provisions apply (with all necessary modifications) in relation to—

(a) the carrying out of works under article 8 (street works); and

(b) the temporary stopping up, temporary alteration or temporary diversion of a street by the undertaker under article 10 (temporary stopping up of streets and public rights of way),

whether or not the carrying out of the works or the stopping up, alteration or diversion constitutes street works within the meaning of that Act.

(2) The provisions of the 1991 Act<sup>(a)</sup> are—

- (a) subject to paragraph (3), section 55 (notice of starting date of works);
- (b) section 57 (notice of emergency works);
- (c) section 60 (general duty of undertakers to co-operate);
- (d) section 68 (facilities to be afforded to street authority);
- (e) section 69 (works likely to affect other apparatus in the street);
- (f) section 76 (liability for cost of temporary traffic regulation);
- (g) section 77 (liability for cost of use of alternative route); and
- (h) all provisions of that Act that apply for the purposes of the provisions referred to in subparagraphs (a) to (g).

(3) Section 55 of the 1991 Act as applied by paragraph (2) has effect as if references in section 57 of that Act to emergency works included a reference to a stopping up, alteration or diversion (as the case may be) required in a case of emergency.

### **Temporary stopping up of streets and public rights of way**

**10.**—(1) The undertaker, during and for the purposes of carrying out the authorised project, may temporarily stop up, alter or divert any street or public right of way and may for any reasonable time—

- (a) divert the traffic or a class of traffic from the street or public right of way; and
- (b) subject to paragraph (3), prevent all persons from passing along the street or public right of way.

(2) Without limiting paragraph (1), the undertaker may use any street or public right of way temporarily stopped up under the powers conferred by this article and within the Order limits as a temporary working site.

(3) The undertaker must provide reasonable access for pedestrians going to or from premises abutting a street or public right of way affected by the temporary stopping up, alteration or diversion of a street or public right of way under this article if there would otherwise be no such access.

(4) Without limiting paragraph (1), the undertaker may temporarily stop up, alter or divert the streets set out in column (1) of Schedule 3 (streets to be temporarily stopped up) to the extent specified, by reference to the letters and numbers shown on the streets plans, in column (2) of that Schedule.

(5) The undertaker must not temporarily stop up, alter, divert or use as a temporary working site—

- (a) any street referred to in paragraph (4) without first consulting the street authority; and
- (b) any other street or public right of way without the consent of the street authority, which may attach reasonable conditions to the consent.

(6) Any person who suffers loss by the suspension of any private right of way under this article is entitled to compensation to be determined, in case of dispute, under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(7) If a street authority fails to notify the undertaker of its decision within 56 days of receiving an application for consent under paragraph (5)(b) that street authority is deemed to have granted consent.

### **Stopping up and diversion of public rights of way and access land**

**11.**—(1) The undertaker may, in connection with the carrying out of the authorised project—

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(a) Sections 55, 57, 60, 68 and 69 were amended by the Traffic Management Act 2004 (c.18).

- (a) temporarily stop up each of the public rights of way specified in column (1) of Part 1 of Schedule 4 (public rights of way to be stopped up or diverted and access land) to the extent specified in column (2), by reference to the numbers and letters shown on the public rights of way plan;
- (b) permanently divert each of the public rights of way specified in column (1) of Part 2 Schedule 4 (public rights of way to be stopped up or diverted and access land) to the extent specified, in column (2) of that Schedule;
- (c) provide the substitute public rights of way to those diverted as described in column (3) of Part 2 of Schedule 4 (public rights of way to be stopped up or diverted and access land) between the specified terminus points;
- (d) temporarily divert each of the public rights of way specified in column (1) of Part 3 Schedule 4 (public rights of way to be stopped up or diverted and access land) to the extent specified, in column (2) of that Schedule;
- (e) provide the substitute public rights of way to those temporarily diverted for the duration of that diversion as described in column (3) of Part 3 of Schedule 4 (public rights of way to be stopped up or diverted and access land) between the specified terminus points; and
- (f) temporarily stop up, prohibit the use of or restrict the use of the access land specified in column (1) of Part 4 of Schedule 4 (public rights of way to be stopped up or diverted and access land) to the extent specified in column (2), by reference to the area shown on the public rights of way plan.

(2) The rights of access conferred by section 2 of the 2000 Act (rights of the public in relation to access land) are suspended in relation to any access land specified in column (1) of Part 4 of Schedule 4 (public rights of way to be stopped up or diverted and access land) to the extent specified in column (2), by reference to the area shown on the public rights of way plan.

(3) The period of suspension under paragraph (2) lasts for the period of the temporary stopping up.

### **Access to works**

**12.—**(1) The undertaker may, for the purposes of the authorised project—

- (a) form, lay out and maintain a means of access, or improve or maintain an existing means of access, in the locations specified in columns (1) and (2) of Schedule 5 (access to works); and
- (b) with the approval of the relevant planning authority after consultation with the highway authority in accordance with requirement 11 (highway accesses), form and lay out such other means of access or improve existing means of access, at such locations within the Order limits as the undertaker reasonably requires for the purposes of the authorised project.

(2) If the relevant planning authority fails to notify the undertaker of its decision within 56 days of receiving an application for approval under paragraph (1)(b) that relevant planning authority is deemed to have granted approval.

### **Agreements with street authorities**

**13.—**(1) A street authority and the undertaker may enter into agreements with respect to—

- (a) any temporary stopping up, alteration or diversion of a street authorised by this Order; or
- (b) the carrying out in the street of any of the works referred to in article 8(1) (street works).

(2) Such agreement may, without prejudice to the generality of paragraph (1)—

- (a) make provision for the street authority to carry out any function under this Order which relates to the street in question;
- (b) include an agreement between the undertaker and street authority specifying a reasonable time for the completion of the works; and

- (c) contain such terms as to payment and otherwise as the parties consider appropriate.

#### **Power to alter layout etc. of streets**

**14.**—(1) Subject to paragraphs (2) and (3), the undertaker may, in so far as may be expedient or necessary for the purposes of or in connection with constructing, operating and maintaining the authorised development alter the layout of any street and, without limitation on the scope of this paragraph, the undertaker may—

- (a) alter the level or increase the width of the street including any kerb, footway, cycle track or verge; and
- (b) make and maintain passing place(s).

(2) The undertaker must restore any street that has been temporarily altered under this article to the reasonable satisfaction of the street authority.

(3) The powers conferred by paragraph (1) must not be exercised without the consent of the street authority.

(4) Paragraphs (2) and (3) do not apply where the undertaker is the street authority for a street in which the works are being carried out.

## **PART 4**

### **SUPPLEMENTAL POWERS**

#### **Discharge of water**

**15.**—(1) Subject to paragraphs (3) and (4) below, the undertaker may use any watercourse or any public sewer, drain or other suitable land for the drainage of water in connection with the carrying out or maintenance of the authorised project and for that purpose may inspect, lay down, take up and alter pipes and may, on any land within the Order limits, make openings into, and connections with, the watercourse, public sewer or drain.

(2) Any dispute arising from the making of connections to or the use of a public sewer or drain by the undertaker pursuant to paragraph (1) is determined as if it were a dispute under section 106 of the Water Industry Act 1991(a) (right to communicate with public sewers).

(3) The undertaker must not discharge any water into any watercourse, public sewer or drain except with the consent of the person to whom it belongs; and such consent may be given subject to such terms and conditions as that person may reasonably impose, but must not be unreasonably withheld.

(4) The undertaker must not carry out any works to any public sewer or drain pursuant to article 15(1) except—

- (a) in accordance with plans approved by the person to whom the sewer or drain belongs, but such approval must not be unreasonably withheld; and
- (b) where that person has been given the opportunity to supervise the making of the opening.

(5) The undertaker must not, in carrying out or maintaining works pursuant to this article damage or interfere with the bed or banks of any watercourse forming part of a main river as defined under section 113(1) of the Water Resources Act 1991(b).

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(a) 1991 c.56. Section 106 was amended by section by sections 43(2) and 35(8)(a) of and paragraph 1 of Schedule 2 to the Competition and Service (Utilities) Act 1992 (c.43) and sections 99(2), (4), (5)(a), (5)(b), (5)(c) and 36(2) and 99 of the Water Act 2003 (c.37). There are other amendments to this section which are not relevant to this Order. and section 32, Schedule 3, paragraph 16(1) of the Flood and Water Management Act 2010 c.29.

(b) 1991 c.57.

(6) The undertaker must take such steps as are reasonably practicable to secure that any water discharged into a watercourse or public sewer or drain pursuant to this article is as free as may be practicable from gravel, soil or other solid substance, oil or matter in suspension.

(7) This article does not authorise any water discharge or groundwater activity for which an environmental permit is required by regulation 12 (requirement for an environmental permit) of the Environmental Permitting (England and Wales) Regulations 2016(a).

(8) In this article—

- (a) “public sewer or drain” means a sewer or drain which either belongs to a sewerage undertaker, the Environment Agency, an internal drainage board or a local authority or one which such body has permissive rights over; and
- (b) other expressions, excluding watercourse, used both in this article and in the Environmental Permitting (England and Wales) Regulations 2016 have the same meaning as in those Regulations.

(9) If a person who receives an application for consent or approval fails to notify the undertaker of a decision within 56 days of receiving an application for consent under paragraph (3) or approval under paragraph (4)(a) that person is deemed to have granted consent or given approval, as the case may be.

### **Protective work to buildings**

**16.—**(1) Subject to the following provisions of this article, the undertaker may at its own expense carry out such protective works to any building lying within the Order limits as the undertaker considers necessary or expedient.

(2) Protective works may be carried out—

- (a) at any time before or during the carrying out in the vicinity of the building of any part of the authorised project; or
- (b) after the completion of that part of the authorised project in the vicinity of the building at any time up to the end of the period of five years beginning with the day on which that part of the authorised project is commissioned.

(3) For the purpose of determining how the powers under this article are to be exercised, the undertaker may enter and survey any building falling within paragraph (1) and any land within its curtilage.

(4) For the purpose of carrying out protective works under this article to a building, the undertaker may (subject to paragraphs (5) and (6))—

- (a) enter the building and any land within its curtilage; and
- (b) where the works cannot be carried out reasonably conveniently without entering land that is adjacent to the building but outside its curtilage, enter the adjacent land (but not any building erected on it).

(5) Before exercising—

- (a) a power under paragraph (1) to carry out protective works to a building;
- (b) a power under paragraph (3) to enter a building and land within its curtilage;
- (c) a power under paragraph (4)(a) to enter a building and land within its curtilage; or
- (d) a power under paragraph (4)(b) to enter land,

the undertaker must, except in the case of emergency, serve on the owners and occupiers of the building or land not less than 14 days’ notice of its intention to exercise the power and, in a case falling within sub-paragraph (a) or (c), specifying the protective works proposed to be carried out.

(6) Where a notice is served under paragraph (5)(a), (c) or (d), the owner or occupier of the building or land concerned may, by serving a counter-notice within the period of 10 days

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(a) S.I. 2016/1154.

beginning with the day on which the notice was served, require the question of whether it is necessary or expedient to carry out the protective works or to enter the building or land to be referred to arbitration under article 39 (arbitration).

(7) The undertaker must compensate the owners and occupiers of any building or land in relation to which powers under this article have been exercised for any loss or damage arising to them by reason of the exercise of the powers.

(8) Where—

- (a) protective works are carried out under this article to a building; and
- (b) within the period of five years beginning with the day on which the part of the authorised project carried out in the vicinity of the building is commissioned it appears that the protective works are inadequate to protect the building against damage caused by the carrying out or use of that part of the authorised project,

the undertaker must compensate the owners and occupiers of the building for any loss or damage sustained by them.

(9) Nothing in this article relieves the undertaker from any liability to pay compensation under section 152 of the 2008 Act (compensation in case where no right to claim in nuisance).

(10) Any compensation payable under paragraph (7) or (8) must be determined, in case of dispute, under Part 1 of the 1961 Act (determination of questions of disputed compensation).

(11) Section 13 (refusal to give possession to acquiring authority) of the 1965 Act applies to the entry onto, or possession of land under this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 (application of compulsory acquisition provisions) of the 2008 Act.

(12) In this article “protective works”, in relation to a building, means—

- (a) underpinning, strengthening and any other works the purpose of which is to prevent damage that may be caused to the building by the carrying out, maintenance or use of the authorised project; and
- (b) any works the purpose of which is to remedy any damage that has been caused to the building by the carrying out, maintenance or use of the authorised project.

### **Authority to survey and investigate the land onshore**

**17.—**(1) The undertaker may for the purposes of this Order enter on any land shown within the Order limits or any land which may be affected by the authorised project and—

- (a) survey or investigate the land;
- (b) without prejudice to the generality of sub-paragraph (a), make trial holes or bore holes in such positions on the land as the undertaker thinks fit to investigate the nature of the surface layer, subsoil and groundwater and remove soil and groundwater samples;
- (c) without prejudice to the generality of sub-paragraph (a), carry out ecological or archaeological investigations on such land, including the digging of trenches; and
- (d) place on, leave on and remove from the land apparatus for use in connection with the survey and investigation of land and making of trial holes, bore holes or trenches.

(2) No land may be entered or equipment placed or left on or removed from the land under paragraph (1) unless at least 14 days’ notice has been served on every owner and occupier of the land.

(3) Any person entering land under this article on behalf of the undertaker—

- (a) must, if so required on entering the land, produce written evidence of their authority to do so; and
- (b) may take with them such vehicles and equipment as are necessary to carry out the survey or investigation or to make the trial holes, bore holes or trenches.

(4) No trial holes, bore holes or trenches may be made under this article—

- (a) in land forming a railway without the consent of Network Rail<sup>(a)</sup>;
- (b) in land held by or in right of the Crown without the consent of the Crown;
- (c) in land located within the highway boundary without the consent of the highway authority; or
- (d) in a private street without the consent of the street authority,

but such consent must not be unreasonably withheld or delayed.

(5) The undertaker must compensate the owners and occupiers of the land for any loss or damage arising by reason of the exercise of the authority conferred by this article, such compensation to be determined, in case of dispute, under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(6) If either a highway authority or a street authority which receives an application for consent fails to notify the undertaker of its decision within 56 days of receiving the application for consent—

- (a) under paragraph (4)(c) in the case of a highway authority; or
- (b) under paragraph (4)(d) in the case of a street authority;

that authority is deemed to have granted consent.

(7) Section 13 (refusal to give possession to acquiring authority) of the 1965 Act applies to the entry onto, or possession of land under this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 (application of compulsory acquisition provisions) of the 2008 Act.

## PART 5

### POWERS OF ACQUISITION

#### **Compulsory acquisition of land**

**18.**—(1) The undertaker may acquire compulsorily so much of the Order land as is required for the authorised project, or to facilitate it, or as is incidental to it.

(2) This article is subject to paragraph (2) of article 21 (compulsory acquisition of rights etc.) and article 28 (temporary use of land for carrying out the authorised project).

#### **Compulsory acquisition of land: minerals**

**19.** Parts 2 and 3 of Schedule 2 (minerals) to the Acquisition of Land Act 1981 are incorporated in this Order, subject to the following modifications—

- (a) for “acquiring authority” substitute “undertaker”; and
- (b) for “undertaking” substitute “authorised project”.

#### **Time limit for exercise of authority to acquire land compulsorily**

**20.**—(1) After the end of the period of seven years beginning on the day on which this Order is made—

- (a) no notice to treat is to be served under Part 1 (determination of questions of disputed compensation) of the 1965 Act; and
- (b) no declaration is to be executed under section 4 (execution of declaration) of the 1981 Act as applied by article 23 (application of the Compulsory Purchase (Vesting Declarations) Act 1981).

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(a) As defined in Part 5 of Schedule 9 (Protection for Network Rail Infrastructure Limited).

(2) The authority conferred by article 28 (temporary use of land for carrying out the authorised project) ceases at the end of the period referred to in paragraph (1), except that nothing in this paragraph prevents the undertaker remaining in possession of land after the end of that period, if the land was entered and possession was taken before the end of that period.

### **Compulsory acquisition of rights etc.**

**21.**—(1) Subject to paragraph (2), the undertaker may acquire compulsorily such rights over the Order land or impose such restrictive covenants affecting the Order land as may be required for any purpose for which that land may be acquired under article 18 (compulsory acquisition of land), by creating them as well as by acquiring rights already in existence.

(2) Subject to the provisions of this paragraph, article 22 (private rights) and article 30 (statutory undertakers), in the case of the Order land specified in column (1) of Schedule 6 (land in which only new rights etc. may be acquired) the undertaker's powers of compulsory acquisition are limited to the acquisition of existing rights over land and the creation and acquisition of the new rights and the imposition of restrictive covenants for the purpose specified in relation to that land in column (2) of that Schedule.

(3) Subject to section 8 (other provisions as to divided land) of the 1965 Act, and Schedule 2A (counter-notice requiring purchase of land not in notice to treat) as substituted by paragraph 10 of Schedule 7 (modification of compensation and compulsory purchase enactments for creation of new rights), where the undertaker creates a new interest or acquires an existing right over land or imposes a restrictive covenant under paragraph (1) or (2), the undertaker is not required to acquire a greater interest in that land.

(4) Schedule 7 (modification of compensation and compulsory purchase enactments for creation of new rights) has effect for the purpose of modifying the enactments relating to compensation and the provisions of the 1965 Act in their application in relation to the compulsory acquisition under this article of a right over land by the creation of a new right or the imposition of a restrictive covenant.

(5) In any case where the acquisition of new rights or imposition of a restriction under paragraph (1) or (2) is required for the purpose of diverting, replacing or protecting apparatus of a statutory undertaker, the undertaker may, with the consent of the Secretary of State, transfer the power to acquire such rights and impose such restrictions to the statutory undertaker in question.

(6) The exercise by a statutory undertaker of any power in accordance with a transfer under paragraph (5) is subject to the same restrictions, liabilities and obligations as would apply under this Order if that power were exercised by the undertaker.

(7) Subject to the modifications set out in Schedule 7 the enactments for the time being in force with respect to compensation for the compulsory purchase of land are to apply in the case of a compulsory acquisition under this Order in respect of a right by the creation of a new right or imposition of a restriction as they apply to the compulsory purchase of land and interests in land.

(8) So much of the special category land as is required for the purposes of exercising the powers acquired by the undertaker pursuant to this article is discharged from all rights, trusts and incidents to which it was previously subject, so far as their continuance would be inconsistent with the exercise of those rights.

### **Private Rights**

**22.**—(1) Subject to the provisions of this article, all private rights and restrictions over land subject to compulsory acquisition under this Order are extinguished—

- (a) as from the date of acquisition of the land, or of the right, or of the benefit of the restriction by the undertaker, whether compulsorily, by agreement or through the grant of a lease of the land by agreement; or
- (b) on the date of entry on the land by the undertaker under section 11(1) of the 1965 Act (power of entry),

whichever is the earliest.



(2) Subject to the provisions of this article, all private rights and restrictions over land subject to the compulsory acquisition of rights or the imposition of restrictions under this Order are suspended and unenforceable or, where so notified by the undertaker, extinguished in so far as their continuance would be inconsistent with the exercise of the right or compliance with the restriction—

- (a) as from the date of the acquisition of the right or the imposition of the restriction by the undertaker (whether the right is acquired compulsorily, by agreement or through the grant of a lease of the land by agreement); or
- (b) on the date of entry on the land by the undertaker under section 11(1) of the 1965 Act (powers of entry) in pursuance of the right,

whichever is the earliest.

(3) Subject to the provisions of this article, all private rights or restrictions over land of which the undertaker takes temporary possession under this Order are suspended and unenforceable, in so far as their continuance would be inconsistent with the purpose for which temporary possession is taken, for as long as the undertaker remains in lawful possession of the land.

(4) Subject to the provisions of this article, all private rights over any part of the Order land that is owned by, vested in or acquired by the undertaker are extinguished on commencement of any activity authorised by this Order which interferes with or breaches those rights and where the undertaker gives notice of such extinguishment.

(5) Any person who suffers loss by the extinguishment or suspension of any private right or restriction under this article is entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act (determination of questions of disputed compensation).

(6) This article does not apply in relation to any right to which section 138 of the 2008 Act (extinguishment of rights, and removal of apparatus, of statutory undertakers etc.) or article 30 (statutory undertakers) applies.

(7) Paragraphs (1) to (3) have effect subject to—

- (a) any notice given by the undertaker before—
  - (i) the completion of the acquisition of the land or the acquisition of rights or the imposition of restrictions over or affecting the land;
  - (ii) the undertaker's appropriation of the land;
  - (iii) the undertaker's entry onto the land; or
  - (iv) the undertaker's taking temporary possession of the land,that any or all of those paragraphs do not apply to any right or restriction specified in the notice; or
- (b) any agreement made at any time between the undertaker and the person in or to whom the right or restriction in question is vested, belongs or benefits.

(8) If an agreement referred to in paragraph (7)(b)—

- (a) is made with a person in or to whom the right or restriction is vested, belongs or benefits; and
- (b) is expressed to have effect also for the benefit of those deriving title from or under that person,

the agreement is effective in respect of the persons so deriving title, whether the title was derived before or after the making of the agreement.

(9) Reference in this article to private rights over land includes any right of way, trust, incident, easement, liberty, privilege, right or advantage annexed to land and adversely affecting other land, including any natural right to support and include restrictions as to the user of land arising by virtue of a contract, agreement or undertaking having that effect.

### **Application of the Compulsory Purchase (Vesting Declarations) Act 1981**

**23.—**(1) The 1981 Act applies as if this Order were a compulsory purchase order.

- (2) The 1981 Act, as applied by paragraph (1), has effect with the following modifications.
- (3) In section 1 (application of act), for subsection 2 substitute—
- “(2) This section applies to any Minister, any local or other public authority or any other body or person authorised to acquire land by means of a compulsory purchase order.”.
- (4) In Section 5(2) (earliest date for execution of declaration) omit the words from “and this subsection” to the end.
- (5) Section 5A (time limit for general vesting declaration) is omitted(a).
- (6) In section 5B (extension of time limit during challenge)(b) for “section 23 of the Acquisition of Land Act 1981 (application to High Court in respect of compulsory purchase order” substitute “section 118 of the 2008 Act (legal challenges relating to applications for orders granting development consent) the seven year period mentioned in article 20 (time limit for exercise of authority to acquire land compulsorily) of the Hornsea Four Offshore Wind Farm Order 202[ ]”.
- (7) In section 6 (notices after execution of declaration), in subsection (1)(b) for “section 15 of, or paragraph 6 of Schedule 1 to, the Acquisition of Land Act 1981” substitute “section 134 (notice of authorisation of compulsory acquisition) of the Planning Act 2008”.
- (8) In section 7 (constructive notice to treat), in subsection (1)(a), omit the words “(as modified by section 4 of the Acquisition of Land Act 1981)”.
- (9) In Schedule A1 (counter-notice requiring purchase of land not in general vesting declaration)(c), for paragraph 1(2) substitute—
- “(2) But see article 25(1) (acquisition of subsoil only) of the Hornsea Four Offshore Wind Farm Order 202[ ], which excludes the acquisition of subsoil only from this Schedule.”.
- (10) References to the 1965 Act in the 1981 Act must be construed as references to the 1965 Act as applied by section 125 (application of compulsory acquisition provisions) of the 2008 Act (and as modified by article 26 (modification of Part 1 of the Compulsory Purchase Act 1965) to the compulsory acquisition of land under this Order.

### **Statutory authority to override easements and other rights**

**24.**—(1) The carrying out or use of the authorised development and the doing of anything else authorised by this Order is authorised for the purpose specified in section 158(2) of the 2008 Act (nuisance: statutory authority), notwithstanding that it involves—

- (a) an interference with an interest or right to which this article applies; or
- (b) a breach of a restriction as to use of land arising by virtue of contract.

(2) The undertaker must pay compensation to any person whose land is injuriously affected by—

- (a) an interference with an interest or right to which this article applies; or
- (b) a breach of a restriction as to use of land arising by virtue of contract,

authorised by virtue of this Order and the operation of section 158 (nuisance: statutory authority) of the 2008 Act.

(3) The interests and rights to which this article applies are any easement, liberty, privilege, right or advantage annexed to land and adversely affecting other land, including any natural right to support and any restrictions as to the use of land arising by virtue of a contract.

(4) Subsection (2) of section 10 (further provision as to compensation for injurious affection) of the 1965 Act applies to paragraph (2) by virtue of section 152(5) of the 2008 Act (compensation in case where no right to claim in nuisance).

(5) Any rule or principle applied to the construction of section 10 of the 1965 Act must be applied to the construction of paragraph (2) (with any necessary modifications).

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(a) Section 5A to the 1981 Act was inserted by section 182(2) of the Housing and Planning Act 2016 (c.22).

(b) Inserted by section 202(2) of the Housing and Planning Act 2016 (c.22).

(c) Inserted by paragraph 6 of Schedule 18 to the Housing and Planning Act 2016 (c.22).

### **Acquisition of subsoil only**

**25.**—(1) The undertaker may acquire compulsorily so much of, or such rights in, the subsoil of the land referred to in paragraph (1) of article 18 (compulsory acquisition of land etc.) or article 21 (compulsory acquisition of rights) as may be required for any purpose for which that land may be acquired under that provision instead of acquiring the whole of the land.

(2) Where the undertaker acquires any part of, or rights in, the subsoil of land under paragraph (1), the undertaker is not required to acquire an interest in any other part of the land.

(3) The following do not apply in connection with the exercise of the power under paragraph (1) in relation to subsoil only—

- (a) Schedule 2A (counter-notice requiring purchase of land not in notice to treat) to the 1965 Act;
- (b) Schedule A1 (counter-notice requiring purchase of land not in general vesting declaration) to the 1981 Act; and
- (c) Section 153(4A) (blighted land: proposed acquisition of part interest; material detriment test) of the Town and Country Planning Act 1990.

(4) Paragraphs (2) and (3) are to be disregarded where the undertaker acquires a cellar, vault, arch or other construction forming part of a house, building or manufactory.

### **Modification of Part 1 of the Compulsory Purchase Act 1965**

**26.**—(1) Part 1 (compulsory purchase under Acquisition of Land Act of 1946) of the 1965 Act, as applied to this Order by section 125 (application of compulsory acquisition provisions) of the 2008 Act, is modified as follows.

(2) In section 4A(1) (extension of time limit during challenge)(a)—

- (a) for “section 23 of the Acquisition of Land Act 1981 (application to High Court in respect of compulsory purchase order), the three year period mentioned in section 4” substitute “section 118 of the 2008 Act (legal challenges relating to applications for orders granting development consent)”; and
- (b) for “the three year period specified in section 4” substitute “the seven year period mentioned in article 20 (time limit for exercise of authority to acquire land compulsorily) of the Hornsea Four Offshore Wind Farm Order 202[ ]”.

(3) In section 11A (powers of entry: further notices of entry)(b)—

- (a) in subsection (1)(a), after “land” insert “under that provision”; and
- (b) in subsection (2), after “land” insert “under that provision”.

(4) In section 22(2) (expiry of time limit for exercise of compulsory purchase power not to affect acquisition of interests omitted from purchase), for “section 4 of this Act” substitute “article 20 (time limit for exercise of authority to acquire land compulsorily) of the Hornsea Four Offshore Wind Farm Order 202[ ]”.

(5) In Schedule 2A (counter-notice requiring purchase of land not in notice to treat)(c)—

- (a) for paragraphs 1(2) and 14(2) substitute—

“(2) But see article 25(3) (acquisition of subsoil only) of the Hornsea Four Offshore Wind Farm Order 202[ ], which excludes the acquisition of subsoil only from this Schedule.”; and
- (b) at the end insert—

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(a) Inserted by section 202(1) of the Housing and Planning Act 2016 (c.22).

(b) Inserted by section 186(3) of the Housing and Planning Act 2016 (c.22).

(c) Inserted by schedule 17(1) paragraph 3 to the Housing and Planning Act 2016 (c.22).

## “PART 4

### INTERPRETATION

**30.** In this Schedule, references to entering on and taking possession of land do not include doing so under article 16 (protective work to buildings), article 28 (temporary use of land for carrying out the authorised project) or article 29 (temporary use of land for maintaining the authorised project) of the Hornsea Four Offshore Wind Farm Order 202[ ].”

#### **Rights under or over streets**

**27.**—(1) The undertaker may enter on and appropriate so much of the subsoil of or air-space over any street within the Order limits as may be required for the purposes of the authorised project and may use the subsoil or air-space for those purposes or any other purpose ancillary to the authorised project.

(2) Subject to paragraph (3), the undertaker may exercise any power conferred by paragraph (1) in relation to a street without being required to acquire any part of the street or any easement or right in the street.

(3) Paragraph (2) does not apply in relation to—

- (a) any subway or underground building; or
- (b) any cellar, vault, arch or other construction in, on or under a street which forms part of a building fronting onto the street.

(4) Subject to paragraph (5), any person who is an owner or occupier of land appropriated under paragraph (1) without the undertaker acquiring any part of that person’s interest in the land, and who suffers loss as a result, is entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

(5) Compensation is not payable under paragraph (4) to any person who is an undertaker to whom section 85 of the 1991 Act (sharing cost of necessary measures) applies in respect of measures of which the allowable costs are to be borne in accordance with that section.

#### **Temporary use of land for carrying out the authorised project**

**28.**—(1) The undertaker may, in connection with the carrying out of the authorised project—

- (a) enter on and take temporary possession of—
  - (i) the land specified in columns (1) and (2) of Schedule 8 (land of which temporary possession may be taken) for the purpose specified in relation to that land in column (3) of that Schedule; and
  - (ii) any other Order land in respect of which no notice of entry has been served under section 11 of the 1965 Act (other than in connection with the acquisition of rights only) and no declaration has been made under section 4 of the 1981 Act;
- (b) remove any buildings, agricultural plant and apparatus, drainage, fences, debris and vegetation from that land;
- (c) construct temporary works (including the provision of means of access and footpaths), haul roads, security fencing, bridges, services, signage, structures and buildings on that land;
- (d) use the land for the purposes of a working site with access to the working site in connection with the authorised project;
- (e) construct any works, or use the land, as specified in relation to that land in column 3 of Schedule 8 (land of which temporary possession may be taken), or any mitigation works;
- (f) construct such works on that land as are mentioned in Part 1 of Schedule 1 (authorised development); and

(g) carry out mitigation works required pursuant to the requirements in Part 3 of Schedule 1 (authorised development).

(2) Not less than 14 days before entering on and taking temporary possession of land under this article the undertaker must serve notice of the intended entry on the owners and occupiers of the land.

(3) The undertaker must not remain in possession of any land under this article for longer than reasonably necessary and in any event must not, without the agreement of the owners of the land, remain in possession of any land under this article—

(a) in the case of land specified in paragraph (1)(a)(i) after the end of the period of one year beginning with the date of completion of the part of the authorised project specified in relation to that land in column (3) of Schedule 8 (land of which temporary possession may be taken); or

(b) in the case of land specified in paragraph (1)(a)(ii) after the end of the period of one year beginning with the date of completion of the part of the authorised project for which temporary possession of the land was taken unless the undertaker has, before the end of that period, served a notice of entry under section 11 of the 1965 Act or made a declaration under section 4 of the 1981 Act in relation to that land.

(4) Unless the undertaker has served notice of entry under section 11 of the 1965 Act or made a declaration under section 4 of the 1981 Act or otherwise acquired the land or rights over land subject to temporary possession or otherwise agreed with the owners of the land, the undertaker must before giving up possession of land of which temporary possession has been taken under this article, remove all temporary works and restore the land to the reasonable satisfaction of the owners of the land; but the undertaker is not required to—

(a) replace any building, structure, drain or electric line removed under this article;

(b) remove any drainage works installed by the undertaker under this article;

(c) remove any new road surface or other improvements carried out under this article to any street specified in Schedule 2 (streets subject to street works) or any new footpath surface or other enhancements carried out under this article to any footpath or any improvements carried out under this article to any bridge;

(d) remove any fencing or boundary treatments installed by the undertaker under this article to replace or enhance existing fencing or boundary treatments; or

(e) restore the land on which any works have been carried out under paragraph (1)(g) insofar as the works relate to mitigation works identified in the environmental statement or required pursuant to the requirements in Schedule 1.

(5) The undertaker must pay compensation to the owners and occupiers of land which temporary possession is taken under this article for any loss or damage arising from the exercise in relation to the land of the provisions of any power conferred by this article.

(6) Any dispute as to a person's entitlement to compensation under paragraph (5), or as to the amount of the compensation, must be determined under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(7) Nothing in this article affects any liability to pay compensation under section 152 of the 2008 Act (compensation in case where no right to claim in nuisance) or under any other enactment in respect of loss or damage arising from the carrying out of the authorised project, other than loss or damage for which compensation is payable under paragraph (5).

(8) The undertaker may not compulsorily acquire under this Order the land referred to in paragraph (1)(a)(i) except that the undertaker is not precluded from—

(a) acquiring new rights or imposing restrictive covenants over any part of that land under article 21 (compulsory acquisition of rights etc.) to the extent that such land is listed in column (1) of Schedule 6; or

(b) acquiring any part of the subsoil (or rights in the subsoil) of that land under article 25 (acquisition of subsoil only).

(9) Where the undertaker takes possession of land under this article, the undertaker is not required to acquire the land or any interest in it.

(10) Section 13 of the 1965 Act (refusal to give possession to acquiring authority) applies to the temporary use of land pursuant to this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 of the 2008 Act (application of compulsory acquisition provisions).

(11) Nothing in this article prevents the taking of temporary possession more than once in relation to any land specified in Schedule 8.

(12) So much of the special category land as is required for the purposes of exercising the powers pursuant to this article is temporarily discharged from all rights, trusts and incidents to which it was previously subject, so far as their continuance would be inconsistent with the exercise of those powers, and only for such time as any special category land is being used under this article.

(13) At any time where the undertaker has taken temporary possession of any part of the Driffield Navigation under this article, on the commencement date specified in the notice given under paragraph (15) and for the duration specified in notice given under paragraph (15), the public right of navigation over that part of the Driffield Navigation is suspended and unenforceable against the Driffield Navigation Trust.

(14) Any person who suffers loss as a result of the suspension of any private right of navigation over the Driffield Navigation under this article is entitled to be paid compensation for such loss by the undertaker, to be determined, in case of dispute, under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(15) Not later than 28 days prior to the proposed commencement of any suspension of the public right of navigation over the Driffield Navigation under this article, the undertaker must give written notice to The Driffield Navigation Trust except in the case of an emergency when the undertaker must give such notice as is reasonably practicable.

(16) A notice given under paragraph (15) must provide details of the proposed suspension including particulars of the—

- (a) commencement date;
- (b) duration; and
- (c) affected area.

(17) Following receipt of a notice given under paragraph (15), The Driffield Navigation Trust must issue a notice to mariners within 14 days, giving the commencement date and other particulars of the suspension to which the notice relates, and that suspension will take effect on the date specified and as otherwise described in the notice.

### **Temporary use of land for maintaining the authorised project**

**29.**—(1) Subject to paragraph (2), at any time during the maintenance period relating to any part of the authorised project, the undertaker may—

- (a) enter on and take temporary possession of any of the Order land if such possession is reasonably required for the purpose of maintaining the authorised project;
- (b) enter on any of the Order land for the purpose of gaining such access as is reasonably required for the purpose of maintaining the authorised development; and
- (c) construct such temporary works (including the provision of means of access) and buildings on the land as may be reasonably necessary for that purpose.

(2) Paragraph (1) does not authorise the undertaker to take temporary possession of—

- (a) any house or garden belonging to a house; or
- (b) any building (other than a house) if it is for the time being occupied.

(3) Not less than 28 days before entering on and taking temporary possession of land under this article the undertaker must serve notice of the intended entry on the owners and occupiers of the land.

(4) The undertaker may only remain in possession of land under this article for so long as may be reasonably necessary to carry out the maintenance of the part of the authorised project for which possession of the land was taken.

(5) Before giving up possession of land of which temporary possession has been taken under this article, the undertaker must remove all temporary works and restore the land to the reasonable satisfaction of the owners of the land.

(6) The undertaker must pay compensation to the owners and occupiers of land of which temporary possession is taken under this article for any loss or damage arising from the exercise in relation to the land of the provisions of this article.

(7) Any dispute as to a person's entitlement to compensation under paragraph (6), or as to the amount of the compensation, must be determined under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(8) Nothing in this article affects any liability to pay compensation under section 152 (compensation in case where no right to claim in nuisance) of the 2008 Act or under any other enactment in respect of loss or damage arising from the maintenance of the authorised project, other than loss or damage for which compensation is payable under paragraph (6).

(9) Where the undertaker takes possession of land under this article, the undertaker is not required to acquire the land or any interest in it.

(10) Section 13 of the 1965 Act (refusal to give possession to acquiring authority) applies to the temporary use of land pursuant to this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 of the 2008 Act (application of compulsory acquisition provisions).

(11) In this article "the maintenance period" means the period of 5 years beginning with the date on which the authorised project first exports electricity to the national electricity transmission network, unless a different maintenance period is stated in the landscape management plan approved under requirement 8 or in the code of construction practice approved under requirement 18.

(12) So much of the special category land as is required for the purposes of exercising the powers pursuant to this article is temporarily discharged from all rights, trusts and incidents to which it was previously subject, so far as their continuance would be inconsistent with the exercise of those powers, and only for such time as any special category land is being used under this article.

(13) At any time where the undertaker has taken temporary possession of any part of the Driffield Navigation under this article, on the commencement date specified in the notice given under paragraph (15) and for the duration specified in notice given under paragraph (15), the public right of navigation over that part of the Driffield Navigation is suspended and unenforceable against the Driffield Navigation Trust.

(14) Any person who suffers loss as a result of the suspension of any private right of navigation over the Driffield Navigation under this article is entitled to be paid compensation for such loss by the undertaker, to be determined, in case of dispute, under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(15) Not later than 28 days prior to the proposed commencement of any suspension of the public right of navigation over the Driffield Navigation under this article, the undertaker must give written notice to the Driffield Navigation Trust except in the case of an emergency when the undertaker must give such notice as is reasonably practicable.

(16) A notice given under paragraph (15) must provide details of the proposed suspension including particulars of the—

- (a) commencement date;
- (b) duration; and

(c) affected area.

(17) Following receipt of a notice given under paragraph (15), the Driffield Navigation Trust must issue a notice to mariners within 14 days, giving the commencement date and other particulars of the suspension to which the notice relates, and that suspension will take effect on the date specified and as otherwise described in the notice.

### **Statutory undertakers**

**30.** Subject to the provisions of Schedule 9 (protective provisions) the undertaker may—

- (a) acquire compulsorily, or acquire new rights or impose restrictive covenants over, the land belonging to statutory undertakers shown on the land plans within the Order land; and
- (b) extinguish or suspend the rights of, or restrictions for the benefit of, or remove, relocate or reposition the apparatus belonging to statutory undertakers over or within the Order land.

### **Recovery of costs of new connections**

**31.—**(1) Where any apparatus of a public utility undertaker or of a public communications provider is removed under article 30 (statutory undertakers) any person who is the owner or occupier of premises to which a supply was given from that apparatus is entitled to recover from the undertaker compensation in respect of expenditure reasonably incurred by that person, in consequence of the removal, for the purpose of effecting a connection between the premises and any other apparatus from which a supply is given.

(2) Paragraph (1) does not apply in the case of the removal of a public sewer but where such a sewer is removed under article 30 (statutory undertakers), any person who is—

- (a) the owner or occupier of premises the drains of which communicated with that sewer; or
- (b) the owner of a private sewer which communicated with that sewer,

is entitled to recover from the undertaker compensation in respect of expenditure reasonably incurred by that person, in consequence of the removal, for the purpose of making the drain or sewer belonging to that person communicate with any other public sewer or with a private sewerage disposal plant.

(3) This article does not have effect in relation to apparatus to which Part 3 (street works in England and Wales) of the 1991 Act applies.

(4) In this paragraph—

“public communications provider” has the same meaning as in section 151(1) of the 2003 Act; and

“public utility undertaker” has the same meaning as in the 1980 Act.

## **PART 6 OPERATIONS**

### **Operation of generating station**

**32.—**(1) The undertaker is authorised to operate the generating station comprised in the authorised project.

(2) This article does not relieve the undertaker of any requirement to obtain any permit or licence under any other legislation that may be required from time to time to authorise the operation of an electricity generating station.



### **Deemed marine licences under the 2009 Act**

33. The deemed marine licences set out in Schedules 11 (deemed marine licence under the 2009 Act — generation assets) and 12 (deemed marine licence under the 2009 Act — transmission assets) respectively, are deemed to be granted to the undertaker under Part 4 of the 2009 Act for the licensed marine activities set out in Part 1, and subject to the conditions set out in Part 2 of each of those Schedules.

## **PART 7**

### **MISCELLANEOUS AND GENERAL**

#### **Application of landlord and tenant law**

34.—(1) This article applies to—

- (a) any agreement for leasing to any person the whole or any part of the authorised project or the right to operate the same; and
- (b) any agreement entered into by the undertaker with any person for the construction, maintenance, use or operation of the authorised project, or any part of it,

so far as any such agreement relates to the terms on which any land which is the subject of a lease granted by or under that agreement is to be provided for that person's use.

(2) No enactment or rule of law regulating the rights and obligations of landlords and tenants prejudices the operation of any agreement to which this article applies.

(3) Accordingly, no such enactment or rule of law applies in relation to the rights and obligations of the parties to any lease granted by or under any such agreement so as to—

- (a) exclude or in any respect modify any of the rights and obligations of those parties under the terms of the lease, whether with respect to the termination of the tenancy or any other matter;
- (b) confer or impose on any such party any right or obligation arising out of or connected with anything done or omitted on or in relation to land which is the subject of the lease, in addition to any such right or obligation provided for by the terms of the lease; or
- (c) restrict the enforcement (whether by action for damages or otherwise) by any party to the lease of any obligation of any other party under the lease.

#### **Operational land for purposes of the 1990 Act**

35. Development consent granted by this Order is treated as specific planning permission for the purposes of section 264(3)(a) of the 1990 Act (cases in which land is to be treated as not being operational land).

#### **Felling or lopping of trees and removal of hedgerows**

36.—(1) Subject to article 37 (trees subject to tree preservation orders) the undertaker may fell or lop or cut back the roots of any tree or shrub within or overhanging land within the Order limits or near any part of the authorised project, or cut back its roots, if the undertaker reasonably believes it to be necessary to do so to prevent the tree or shrub from obstructing or interfering with onshore site preparation works, the construction, maintenance or operation of the authorised project or any apparatus used in connection with the authorised project.

(2) The undertaker may, for the purpose of the authorised project—

- (a) remove any hedgerows within the Order limits and specified in Schedule 10, Part 1 (removal of hedgerows) that may be required for the purposes of carrying out the authorised project; and

(b) remove the important hedgerows as are within the Order limits and specified in Schedule 10, Part 2 (removal of important hedgerows).

(3) In carrying out any activity authorised by paragraph (1), the undertaker must not do any unnecessary damage to any tree or shrub and must pay compensation to any person for any loss or damage arising from such activity.

(4) Any dispute as to a person's entitlement to compensation under paragraph (3), or as to the amount of compensation, must be determined under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

(5) In this article "hedgerow" and "important hedgerow" have the same meaning as in the Hedgerows Regulations 1997(a).

### **Trees subject to tree preservation orders**

**37.**—(1) The undertaker may fell or lop or cut back the roots of any tree within or overhanging land within the Order limits subject to a tree preservation order as specified on the tree preservation order and hedgerow plan, if it reasonably believes it to be necessary to do so in order to prevent the tree from obstructing or interfering with onshore site preparation works the construction, maintenance or operation of the authorised project or any apparatus used in connection with the authorised project.

(2) In carrying out any activity authorised by paragraph (1)—

(a) the undertaker must do no unnecessary damage to any tree and must pay compensation to any person for any loss or damage arising from such activity; and

(b) the duty contained in section 206(1) (replacement of trees) of the 1990 Act will not apply.

(3) The authority given by paragraph (1) will constitute a deemed consent under the relevant tree preservation order.

(4) Any dispute as to a person's entitlement to compensation under paragraph (2), or as to the amount of compensation, will be determined under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

### **Certification of plans and documents, etc.**

**38.**—(1) The undertaker must, as soon as practicable after the making of this Order, submit to the Secretary of State copies of the documents listed in Schedule 15 (documents to be certified) for certification that they are true copies of the documents referred to in this Order.

(2) A plan or document so certified is admissible in any proceedings as evidence of the contents of the document of which it is a copy.

(3) Where a plan or document certified under paragraph (1)—

(a) refers to a provision of this Order (including any specified requirement) when it was in draft form; and

(b) identifies that provision by number, or combination of numbers and letters, which is different from the number, or combination of numbers and letters by which the corresponding provision of this Order is identified in this Order as made;

the reference in the plan or document concerned must be construed for the purposes of this Order as referring to the provision (if any) corresponding to that provision in this Order as made.

### **Arbitration**

**39.**—(1) Subject to article 42 (saving provisions for Trinity House), any difference under any provision of this Order, unless otherwise provided for, must be referred to and settled in arbitration in accordance with the rules at Schedule 14 of this Order, by a single arbitrator to be agreed upon

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(a) S.I. 1997/1160.

by the parties, within 14 days of receipt of the notice of arbitration, or if the parties fail to agree within the time period stipulated, to be appointed on application of either party (after giving written notice to the other) by the Secretary of State.

(2) For the avoidance of doubt, any matter for which the consent or approval of the Secretary of State or the Marine Management Organisation is required under any provision of this Order will not be subject to arbitration.

### **Requirements, appeals, etc.**

**40.**—(1) Where an application is made to, or a request is made of, the relevant planning authority or any other relevant person for any agreement or approval required or contemplated by any of the provisions of this Order, such agreement or approval must, if given, be given in writing and must not be unreasonably withheld or delayed.

(2) Part 4 of Schedule 1 (procedure for discharge of requirements) has effect in relation to all agreements or approvals granted, refused or withheld in relation to requirements included in Part 3 of that Schedule.

### **Abatement of works abandoned or decayed**

**41.** Where any of Work Nos. 1, 2, 3 or 5 or all of them or any part of them, is abandoned or allowed to fall into decay the Secretary of State may, following consultation with the undertaker, issue a written notice requiring the undertaker at its own expense either to repair, make safe and restore one or any of those Works, or any relevant part of them, or to remove them or any relevant part and, without prejudice to any notice served under section 105(2) of the 2004 Act<sup>(a)</sup> restore the site to a safe and proper condition, to such an extent and within such limits as may be specified in the notice.

### **Saving provisions for Trinity House**

**42.** Nothing in this Order prejudices or derogates from any of the rights, duties or privileges of Trinity House.

### **Crown rights**

**43.**—(1) Nothing in this Order affects prejudicially any estate, right, power, privilege, authority or exemption of the Crown and in particular, nothing in this Order authorises the undertaker or any lessee or licensee to take, use, enter upon or in any manner interfere with any land or rights of any description (including any portion of the shore or bed of the sea or any river, channel, creek, bay or estuary)—

- (a) belonging to Her Majesty in right of the Crown and forming part of The Crown Estate without the consent in writing of the Crown Estate Commissioners;
- (b) belonging to Her Majesty in right of the Crown and not forming part of The Crown Estate without the consent in writing of the government department having the management of that land; or
- (c) belonging to a government department or held in trust for Her Majesty for the purposes of a government department without the consent in writing of that government department.

(2) Paragraph (1) does not apply to the exercise of any right under this Order for the compulsory acquisition of an interest in any Crown land (as defined in the 2008 Act) which is for the time being held otherwise than by or on behalf of the Crown.

(3) A consent under paragraph (1) may be given unconditionally or subject to terms and conditions; and is deemed to have been given in writing where it is sent electronically.

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(a) Section 105(2) was substituted by section 69(3) of the Energy Act 2008 (c.32).

## **Protective provisions**

44. Schedule 9 (protective provisions) has effect.

## **Funding**

45.—(1) The undertaker must not exercise the powers conferred by the provisions referred to in paragraph (2) in relation to any land unless it has first put in place either—

- (a) a guarantee and the amount of that guarantee approved by the Secretary of State in respect of the liabilities of the undertaker to pay compensation under this Order in respect of the exercise of the relevant power in relation to that land; or
- (b) an alternative form of security and the amount of that security for that purpose approved by the Secretary of State in respect of the liabilities of the undertaker to pay compensation under this Order in respect of the exercise of the relevant power in relation to that land.

(2) The provisions are—

- (a) article 18 (compulsory acquisition of land);
- (b) article 21 (compulsory acquisition of rights etc.);
- (c) article 22 (private rights);
- (d) article 25 (acquisition of subsoil only);
- (e) article 27 (rights under or over streets);
- (f) article 28 (temporary use of land for carrying out the authorised project);
- (g) article 29 (temporary use of land for maintaining the authorised project); and
- (h) article 30 (statutory undertakers).

(3) A guarantee or alternative form of security given in respect of any liability of the undertaker to pay compensation under this Order is to be treated as enforceable against the guarantor or person providing the alternative form of security by any person to whom such compensation is payable and must be in such a form as to be capable of enforcement by such a person.

(4) Nothing in this article requires a guarantee or alternative form of security to be in place for more than 15 years after the date on which the relevant power is exercised.

## **Amendment and modification of statutory provisions**

46. The Dogger Bank Creyke Beck Offshore Wind Farm Order 2015 is to be amended for the purposes of this Order only as set out in Schedule 13 (modifications to the Dogger Bank Creyke Beck Offshore Wind Farm Order 2015).

## **Service of notices**

47.—(1) A notice or other document required or authorised to be served for the purposes of this Order may be served—

- (a) by post;
- (b) by delivering it to the person on whom it is to be served or to whom it is to be given or supplied; or
- (c) with the consent of the recipient and subject to paragraphs (6) to (8), by electronic transmission.

(2) Where the person on whom a notice or other document to be served for the purposes of this Order is a body corporate, the notice or document is duly served if it is served on the secretary or clerk of that body.

(3) For the purposes of section 7 of the Interpretation Act 1978<sup>(a)</sup> (references to service by post) as it applies for the purposes of this article, the proper address of any person in relation to the service on that person of a notice or document under paragraph (1) is, if that person has given an address for service, that address and otherwise—

- (a) in the case of the secretary or clerk of that body corporate, the registered or principal office of that body; and
- (b) in any other case, the last known address of that person at that time of service.

(4) Where for the purposes of this Order a notice or other document is required or authorised to be served on a person as having an interest in, or as the occupier of, land and the name or address of that person cannot be ascertained after reasonable enquiry, the notice may be served by—

- (a) addressing it to that person by the description of “owner”, or as the case may be “occupier” of the land (describing it); and
- (b) either leaving it in the hands of the person who is or appears to be resident or employed on the land or leaving it conspicuously affixed to some building or object on or near the land.

(5) Where a notice or other document required to be served or sent for the purposes of this Order is served or sent by electronic transmission the requirement is to be taken to be fulfilled only where—

- (a) the recipient of the notice or other document to be transmitted has given consent to the use of electronic transmission in writing or by electronic transmission;
- (b) the notice or document is capable of being accessed by the recipient;
- (c) the notice or document is legible in all material respects; and
- (d) in a form sufficiently permanent to be used for subsequent reference.

(6) Where the recipient of a notice or other document served or sent by electronic transmission notifies the sender within seven days of receipt that the recipient requires a paper copy of all or any part of that notice or other document the sender must provide such a copy as soon as reasonably practicable.

(7) Any consent to the use of an electronic transmission by a person may be revoked by that person in accordance with paragraph (8).

(8) Where a person is no longer willing to accept the use of electronic transmission for any of the purposes of this Order—

- (a) that person must give notice in writing or by electronic transmission revoking any consent given by that person for that purpose; and
- (b) such revocation is final and takes effect on a date specified by the person in the notice but that date must not be less than seven days after the date on which the notice is given.

(9) This article does not exclude the employment of any method of service not expressly provided for by it.

(10) In this article “legible in all material respects” means that the information contained in the notice or document is available to that person to no lesser extent than it would be if served, given or supplied by means of a notice or document in printed form.

### **Modification of Section 106 agreements relating to land**

**48.** The undertaker will not be bound by any obligation which would fall on any owner or occupier of land which is bound by any of the section 106 agreements.

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(a) 1978 c.30. Section 7 was amended by paragraph 19 of Schedule 10 to the Road Traffic Regulation Act 1984 (c.27). There are other amendments not relevant to this Order.

**Compensation provisions**

49. Schedule 16 (compensation to protect the coherence of the national site network) has effect.

Signed by authority of the Secretary of State for Business, Energy and Industrial Strategy

*Name*

Address

Head of [ ]

Date

Department for Business, Energy and Industrial Strategy

# SCHEDULE 1

## AUTHORISED PROJECT

### PART 1

#### AUTHORISED DEVELOPMENT

1. A nationally significant infrastructure project as defined in sections 14 and 15 of the 2008 Act which is located in the North Sea 69 kilometres due east of Flamborough Head at its closest point, comprising—

*Work No. 1—*

- (a) an offshore wind turbine generating station with a gross electrical output of over 100 megawatts comprising up to 180 wind turbine generators, each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, gravity base structures or jacket foundations;
- (b) one offshore accommodation platform fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, gravity base structures, box-type gravity base structures or jacket foundations, and which offshore accommodation platform may be connected to one of the offshore substations within Work No. 2 by a bridge link; and
- (c) a network of cables between the wind turbine generators, and between the wind turbine generators and Work No. 2, including one or more cable crossings;

and associated development within the meaning of section 115(2) (development for which development consent may be granted) of the 2008 Act comprising—

*Work No. 2—*

- (a) up to six small offshore transformer substations each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, gravity base structures, box-type gravity base structures or jacket foundations, and which may be connected to each other or the offshore accommodation platform within Work No. 1(b) by a bridge link; or
- (b) up to three large offshore transformer substations each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, jacket foundations, box-type gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures, and which may be connected to each other or the offshore accommodation platform within Work No. 1(b) by a bridge link;
- (c) in the event that the mode of transmission is HVDC, either up to three large HVDC converter substations or up to six small HVDC converter substations fixed to the seabed by one of monopile foundations, mono suction bucket foundations, jacket foundations, gravity base structures, box-type gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures;
- (d) a network of interconnector cables;
- (e) up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No. 5 consisting of offshore export cables along routes within the Order limits seaward of MLWS including one or more cable crossings; and
- (f) up to eight temporary horizontal directional drilling exit pits and associated cofferdams;

*Work No. 3—* in the event that the mode of transmission is HVAC—

- (a) up to three offshore HVAC booster stations fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, jacket foundations, gravity base structures, pontoon gravity base type 1 structures or pontoon gravity base type 2 structures; and

- (b) up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No. 5 consisting of offshore export cables along routes within the Order limits seaward of MHWS including one or more cable crossings;

*Work No. 4*— a temporary work area associated with Work No. 2 and Work No. 3 for vessels to carry out anchoring and positioning alongside Work No. 2 or Work No. 3;

**Between HMWS and MLWS and in the East Riding of Yorkshire**

*Work No. 5*— works consisting of—

- (a) up to six cable circuits and associated electrical circuit ducts between Work No. 2 and Work No. 6; and
- (b) up to eight horizontal directional drilling exit pits, unless Work No. 2(f) is constructed.

**In the East Riding of Yorkshire**

*Work No. 6*— connection works consisting of—

- (a) up to eight horizontal directional drilling launch pits;
- (b) up to six underground cable circuits and associated electrical circuit ducts to Work No. 7;
- (c) up to eight transition joint bays;
- (d) onshore construction works;
- (e) up to 240 link boxes; and
- (f) up to 240 joint bays;

*Work No. 7*—works consisting of—

- (a) an onshore HVDC/HVAC substation;
- (b) an energy balancing infrastructure;
- (c) up to six cable circuits and electrical circuit ducts;
- (d) vehicular access tracks and footpaths;
- (e) a water attenuation feature;
- (f) landscaping; and
- (g) onshore construction works;

*Work No. 8*— connection works consisting of up to four underground cable circuits and electrical circuit ducts between Work No. 7 and the Creyke Beck National Grid substation, including a connection above ground and electrical engineering works within or around the National Grid substation buildings and compound, and onshore construction works.

*Work No. 9*— temporary works as follows—

- (a) temporary vehicular access tracks;
- (b) temporary works area to support the construction activities in Work No.7;
- (c) temporary logistics compounds to support the construction of Work Nos. 5, 6, 7, and 8; and
- (d) temporary construction ramp;

*Work No. 10*—

- (a) vehicular access tracks to serve Work No. 7, and footpaths; and
- (b) an extension to a layby.

In connection with such Work Nos. 1 to 5 and to the extent that they do not otherwise form part of any such work, further associated development comprising such other works as may be necessary or expedient for the purposes of or in connection with the relevant part of the authorised development and which fall within the scope of the work assessed by the environmental statement, including—

- (a) scour protection around the foundations of the offshore structures;



- (b) cable protection measures such as the placement of rock, split pipe system, and/or concrete mattresses;
- (c) cable crossings;
- (d) the removal of material from the seabed within the Order limits required for the construction of Work Nos. 1 to 5 and the disposal within Work No. 1 of up to 7,211,601 cubic metres (being a maximum, not an approximate upper figure) of inert material of natural origin and within Work Nos. 2, 3 and 4 up to 4,105,735 cubic metres (being a maximum, not an approximate upper figure) of inert material of natural origin produced during construction drilling, seabed preparation for foundation works, cable installation preparation works (such as sandwave clearance and boulder clearance) and excavation of horizontal directional drilling pits; and
- (e) removal of static fishing equipment;

and in connection with such Work Nos. 6 to 10 and to the extent that they do not otherwise form part of any such work, further associated development comprising such other works as may be necessary or expedient for the purposes of or in connection with the relevant part of the authorised development and which fall within the scope of the work assessed by the environmental statement, including—

- (a) ramps, bridges, means of access and footpaths and footpath enhancement;
- (b) bunds, embankments, swales, landscaping, signage, fencing and boundary treatments;
- (c) habitat creation and enhancement;
- (d) joint bays, link boxes, cable ducts, cable protection, joint protection, manholes, marker posts, underground cable marker, tiles and tape, and lighting and other works associated with cable laying;
- (e) works for the provision of apparatus including cabling, water and electricity supply works, foul drainage provision, surface water management systems and culverting;
- (f) works to alter the position of apparatus, including mains, sewers, drains and cables;
- (g) works to alter the course of, or otherwise interfere with, non-navigable rivers, streams or watercourses;
- (h) landscaping and related works;
- (i) other works to mitigate any adverse effects of the construction, maintenance or operation of the authorised project;
- (j) works for the benefit or protection of land affected by the authorised project;
- (k) working sites in connection with the construction of the authorised project, construction lay down areas and compounds, storage compounds and their restoration; and
- (l) enhancement.

2. The grid coordinates for that part of the authorised project which is seaward of MHWS are specified below—

<i>Point ID</i>	<i>Latitude (DMS)</i>	<i>Longitude (DMS)</i>	<i>Point ID</i>	<i>Latitude (DMS)</i>	<i>Longitude (DMS)</i>
1	54° 2' 7.166" N	0° 12' 58.381" W	68	53° 59' 17.868" N	1° 17' 11.556" E
2	54° 2' 7.022" N	0° 12' 48.680" W	69	53° 58' 55.615" N	1° 16' 14.402" E
3	54° 2' 28.905" N	0° 12' 23.610" W	70	53° 58' 54.680" N	1° 16' 10.907" E
4	54° 3' 4.330" N	0° 9' 20.564" W	71	53° 58' 54.305" N	1° 16' 7.041" E
5	54° 3' 2.961" N	0° 8' 57.136" W	72	53° 58' 48.150" N	1° 9' 3.489" E
6	54° 3' 46.646" N	0° 6' 22.355" W	73	53° 58' 49.099" N	1° 8' 56.253 E
7	54° 3' 55.011" N	0° 6' 0.668" W	74	53° 59' 33.340" N	1° 5' 22.618" E
8	54° 4' 5.592" N	0° 5' 7.239" W	75	53° 59' 16.728" N	1° 0' 29.597" E
9	54° 4' 7.120" N	0° 4' 56.079" W	76	53° 59' 10.802" N	0° 59' 53.488" E

10	54° 4' 7.947" N	0° 4' 12.149" W	77	53° 59' 0.241" N	0° 59' 7.651" E
11	54° 4' 7.646" N	0° 4' 2.450" W	78	53° 58' 58.446" N	0° 58' 57.385" E
12	54° 3' 39.131" N	0° 1' 17.603" E	79	53° 58' 53.673" N	0° 57' 53.130" E
13	54° 3' 36.602" N	0° 1' 19.983" E	80	53° 58' 53.613" N	0° 57' 45.865" E
14	54° 3' 36.653" N	0° 1' 27.388" E	81	53° 58' 54.420" N	0° 57' 26.213" E
15	54° 3' 37.742" N	0° 1' 33.117" E	82	53° 58' 58.248" N	0° 56' 45.174" E
16	54° 3' 31.432" N	0° 2' 43.501" E	83	53° 59' 56.956" N	0° 50' 1.171" E
17	54° 3' 21.791" N	0° 4' 54.431" E	84	54° 0' 12.504" N	0° 48' 1.381" E
18	54° 3' 20.107" N	0° 5' 29.470" E	85	54° 0' 12.515" N	0° 47' 27.367" E
19	54° 3' 20.504" N	0° 5' 36.188" E	86	54° 0' 13.296" N	0° 46' 40.673" E
20	54° 3' 29.852" N	0° 6' 6.995" E	87	54° 0' 12.634" N	0° 46' 30.459" E
21	54° 4' 17.513" N	0° 8' 11.780" E	88	54° 0' 11.415" N	0° 46' 24.233" E
22	54° 4' 19.804" N	0° 8' 20.650" E	89	53° 59' 39.945" N	0° 44' 55.026" E
23	54° 4' 29.084" N	0° 9' 5.618" E	90	53° 59' 33.773" N	0° 44' 35.130" E
24	54° 4' 30.902" N	0° 9' 18.035" E	91	53° 59' 28.402" N	0° 44' 15.020" E
25	54° 4' 31.360" N	0° 9' 29.006" E	92	53° 59' 26.858" N	0° 44' 5.508" E
26	54° 4' 30.770" N	0° 11' 14.823" E	93	53° 59' 23.738" N	0° 43' 35.842" E
27	54° 4' 41.436" N	0° 13' 46.313" E	94	53° 59' 23.191" N	0° 42' 42.267" E
28	54° 4' 51.664" N	0° 18' 10.115" E	95	53° 59' 23.584" N	0° 42' 32.090" E
29	54° 4' 49.674" N	0° 22' 20.794" E	96	53° 59' 29.653" N	0° 41' 39.599" E
30	54° 4' 34.602" N	0° 25' 8.241" E	97	53° 59' 31.433" N	0° 41' 30.497" E
31	54° 3' 47.343" N	0° 28' 41.594" E	98	53° 59' 34.340" N	0° 41' 20.783" E
32	54° 3' 29.522" N	0° 29' 45.309" E	99	54° 1' 11.539" N	0° 37' 38.060" E
33	54° 3' 12.983" N	0° 30' 41.496" E	100	54° 1' 53.954" N	0° 30' 4.210" E
34	54° 3' 11.866" N	0° 30' 46.755" E	101	54° 1' 55.082" N	0° 29' 58.960" E
35	54° 2' 29.831" N	0° 38' 16.384" E	102	54° 2' 16.836" N	0° 28' 45.068" E
36	54° 2' 28.252" N	0° 38' 27.328" E	103	54° 2' 34.272" N	0° 27' 42.729" E
37	54° 2' 25.710" N	0° 38' 37.464" E	104	54° 3' 14.191" N	0° 24' 52.548" E
38	54° 2' 22.467" N	0° 38' 46.275" E	105	54° 3' 28.906" N	0° 22' 9.330" E
39	54° 0' 46.742" N	0° 42' 25.062" E	106	54° 3' 30.827" N	0° 18' 25.085" E
40	54° 0' 44.114" N	0° 42' 47.823" E	107	54° 3' 25.965" N	0° 15' 11.395" E
41	54° 0' 44.168" N	0° 42' 53.983" E	108	54° 3' 10.152" N	0° 11' 26.334" E
42	54° 0' 37.964" N	0° 43' 8.166" E	109	54° 3' 9.658" N	0° 11' 1.640" E
43	54° 0' 33.962" N	0° 43' 31.109" E	110	54° 3' 10.393" N	0° 9' 39.559" E
44	54° 0' 51.704" N	0° 44' 6.496" E	111	54° 3' 7.676" N	0° 9' 26.386" E
45	54° 0' 57.175" N	0° 44' 19.901" E	112	54° 3' 13.846" N	0° 8' 47.985" E
46	54° 1' 20.169" N	0° 45' 45.285" E	113	54° 1' 59.146" N	0° 5' 34.054" E
47	54° 1' 22.890" N	0° 46' 0.288" E	114	54° 1' 59.193" N	0° 5' 24.927" E
48	54° 1' 33.372" N	0° 47' 34.265" E	115	54° 2' 1.399" N	0° 4' 39.525" E
49	54° 1' 33.357" N	0° 48' 6.711" E	116	54° 2' 14.627" N	0° 1' 34.678" E
50	54° 1' 32.702" N	0° 48' 19.691" E	117	54° 2' 13.616" N	0° 1' 29.370" E
51	54° 1' 26.938" N	0° 49' 8.341" E	118	54° 2' 9.931" N	0° 1' 16.745" W
52	54° 1' 15.588" N	0° 50' 33.236" E	119	54° 1' 43.569" N	0° 0' 7.896" W
53	54° 0' 17.357" N	0° 57' 13.969" E	120	54° 1' 31.663" N	0° 0' 25.766" W
54	54° 0' 15.266" N	0° 57' 36.824" E	121	54° 1' 7.679" N	0° 1' 51.463" W
55	54° 0' 14.766" N	0° 57' 48.644" E	122	54° 1' 0.011" N	0° 2' 21.082" W
56	54° 0' 17.493" N	0° 58' 26.081" E	123	54° 1' 0.055" N	0° 4' 18.699" W
57	54° 0' 27.621" N	0° 59' 10.323" E	124	54° 1' 25.632" N	0° 12' 25.517" W

58	54° 0' 36.596" N	1° 0' 6.568" E	125	54° 1' 41.883" N	0° 12' 50.086" W
59	54° 0' 53.351" N	1° 4' 59.324" E	126	54° 1' 39.112" N	0° 12' 50.078" W
60	54° 2' 51.236" N	1° 8' 18.052" E	127	54° 1' 39.246" N	0° 12' 59.069" W
61	54° 7' 24.985" N	0° 59' 54.702" E	128	54° 1' 39.257" N	0° 12' 59.850" W
62	54° 9' 13.497" N	1° 0' 43.850" E	129	54° 1' 39.742" N	0° 12' 59.821" W
63	54° 10' 49.480" N	0° 58' 21.782" E	130	54° 1' 39.731" N	0° 12' 59.103" W
64	54° 12' 37.143" N	0° 58' 31.095" E	131	54° 1' 43.547" N	0° 12' 59.118" W
65	54° 12' 17.413" N	1° 12' 18.263" E	132	54° 1' 43.811" N	0° 12' 59.860" W
66	54° 4' 13.012" N	1° 30' 5.270" E	133	54° 2' 7.201" N	0° 13' 0.387" W
67	53° 59' 15.598" N	1° 17' 20.651" E			

## PART 2

### ANCILLARY WORKS

1. Works within the Order limits which have been subject to an environmental impact assessment recorded in the environmental statement comprising—

- (a) temporary landing places, moorings or other means of accommodating or anchoring vessels in the construction and/or maintenance of the authorised development;
- (b) marking buoys, beacons, fenders and other navigational warning or ship impact protection works; and
- (c) temporary works for the benefit or protection of land or structures affected by the authorised development.

## PART 3

### REQUIREMENTS

#### **Time limits**

1. The authorised project must not be commenced after the expiration of seven years beginning with the date this Order comes into force.

#### **Detailed offshore design parameters**

2.—(1) The total number of wind turbine generators comprised in the authorised project must not exceed 180.

(2) Subject to sub-paragraph (3), each wind turbine generator forming part of the authorised project must not—

- (a) exceed a height of 370 metres when measured from LAT to the tip of the vertical blade;
- (b) exceed a rotor diameter of 305 metres;
- (c) be less than 42.43 metres from LAT to the lowest point of the rotating blade; and
- (d) be less than 810 metres from the nearest wind turbine generator in all directions.

(3) The minimum distance in sub-paragraph (2)(d) between each wind turbine generator is to be measured from the centre point of the wind turbine generator.

(4) Wind turbine generator foundation structures forming part of the authorised project must be one of either monopile foundations, mono suction bucket foundations, gravity base structures or jacket foundations.

(5) No wind turbine generator—

- (a) jacket foundations employing pin piles forming part of the authorised project may—

- (i) have a pin pile diameter of greater than four metres; and
  - (ii) employ more than 16 pin piles per jacket foundation; and
- (b) monopile foundation forming part of the authorised project may have a diameter greater than 15 metres.
- (6) The total combined seabed footprint area for wind turbine generator foundations must not exceed—
- (a) 302,180 square metres excluding scour protection; and
  - (b) 985,240 square metres including scour protection.
- (7) The wind turbine generators comprised in the authorised project must be constructed in accordance with the parameters set out in the pro-rata annex.

**3.—**(1) The total number of offshore electrical installations and offshore accommodation platforms must not exceed ten, consisting of a combination of no more than—

- (a) six small offshore transformer substations;
  - (b) three large offshore transformer substations;
  - (c) three offshore HVAC booster stations;
  - (d) six small offshore HVDC converter stations;
  - (e) three large offshore HVDC converter stations; and
  - (f) one offshore accommodation platform.
- (2) The dimensions of any small offshore transformer substation (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
- (a) 100 metres in height when measured from LAT;
  - (b) 90 metres in length; and
  - (c) 90 metres in width.
- (3) The dimensions of any large offshore transformer substation (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
- (a) 100 metres in height when measured from LAT;
  - (b) 180 metres in length; and
  - (c) 90 metres in width.
- (4) The dimensions of any offshore HVAC booster station (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
- (a) 100 metres in height when measured from LAT;
  - (b) 90 metres in length; and
  - (c) 90 metres in width.
- (5) The dimensions of any small offshore HVDC converter substation (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
- (a) 90 metres in height when measured from LAT;
  - (b) 100 metres in length; and
  - (c) 100 metres in width.
- (6) The dimensions of any large offshore HVDC converter substation (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
- (a) 100 metres in height when measured from LAT;

- (b) 180 metres in length; and
  - (c) 90 metres in width.
- (7) The dimensions of any offshore accommodation platform forming part of the authorised project must not exceed—
- (a) 64 metres in height when measured from LAT;
  - (b) 60 metres in length; and
  - (c) 60 metres in width.
- (8) Offshore accommodation platform foundation structures forming part of the authorised project must be one of either monopile foundations, mono suction bucket foundations, gravity base structures, jacket foundations or box-type gravity base structures.
- (9) Offshore electrical installation foundation structures forming part of the authorised project must be one of the following foundation options—
- (a) for small offshore transformer substations and offshore HVAC booster stations either monopile foundations, mono suction bucket foundations, jacket foundations, gravity base structures or box-type gravity base structures; and
  - (b) for large offshore transformer substations and offshore HVDC converter stations either monopile foundations, mono suction bucket foundations, jacket foundations, box-type gravity base structures, gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures.
- (10) No offshore electrical installation or offshore accommodation platform—
- (a) jacket foundation employing pin piles forming part of the authorised project may—
    - (i) have a pin pile diameter of greater than four metres; and
    - (ii) employ more than 16 pin piles per jacket foundation; and
  - (b) monopile foundation forming part of the authorised project may have a diameter greater than 15 metres.
- (11) The total seabed footprint area for offshore accommodation platform foundations must not exceed—
- (a) 5,625 square metres excluding scour protection; and
  - (b) 30,625 square metres including scour protection.
- (12) The total seabed footprint area for offshore electrical installation foundations must not exceed—
- (a) 101,250 square metres excluding scour protection; and
  - (b) 371,250 square metres including scour protection.
- (13) The total number of gravity base structures may not exceed 90, consisting of a combination of no more than—
- (a) 80 for wind turbine generators; and
  - (b) ten for offshore electrical installations and offshore accommodation platforms.
- (14) The offshore electrical installations and offshore accommodation comprised in the authorised project must be constructed in accordance with parameters set out in the pro-rata annex.
- (15) A bridge link forming part of the authorised development must be installed at a minimum height of 20 metres when measured from LAT.
- 4.** The total volume of scour protection for wind turbine generators, offshore accommodation platforms and offshore electrical installations may not exceed 2,172,040 cubic metres and must be in accordance with the pro-rata annex.

**5.—**(1) The number of cable circuits must not exceed six.

(2) The cables comprising Work No. 1(c) must not—

- (a) exceed 600 kilometres in length; and
  - (b) be subject to cable protection with an area greater than 624,000 square metres.
- (3) The cables comprising Work No. 2(d) must not—
- (a) exceed 90 kilometres in length; and
  - (b) be subject to cable protection with an area greater than 94,000 square metres.
- (4) The cables comprising Work No. 2(e) must not—
- (a) exceed 654 kilometres in length; and
  - (b) be subject to cable protection with an area greater than 792,000 square metres.
- (5) The total number of the cable crossings must not exceed—
- (a) 32 within the area of Work Nos. 1 and 2(d); and
  - (b) 54 within the area utilised for Work No. 2(e);  
unless otherwise agreed with the MMO.
- (6) The total volume of cable protection must not exceed 2,042,000 cubic metres with a maximum footprint of 2,058,000 square metres.
- (7) The cables and cable circuits comprised in the authorised development must be constructed in accordance with the parameters set out in the pro-rata annex.

### **Biodiversity net gain**

**6.**—(1) No stage of the connection works in Work No. 7 may commence until a net gain strategy (which must accord with the outline net gain strategy) in relation to that stage has been submitted to and approved by the relevant planning authority, in consultation with the relevant SNCBs.

- (2) The net gain strategy must be implemented as approved.

### **Detailed design approval onshore**

**7.**—(1) Construction of Work No. 7(a) and (b) may not commence until details of—

- (a) the layout;
- (b) scale;
- (c) proposed finished ground levels;
- (d) external appearance and materials;
- (e) hard surfacing materials;
- (f) vehicular and pedestrian access, parking and circulation areas;
- (g) minor structures, such as furniture, refuse or other storage units, signs and lighting;
- (h) proposed and existing functional services above and below, ground, including drainage, power and communications cables and pipelines, manholes and supports; and
- (i) means to control operational noise from Work No. 7 to a level no greater than 5dB above representative background (LA90,T) at the nearest identified noise sensitive receptors;

relating to that work of the authorised project have been submitted to and approved by the relevant planning authority.

(2) The details submitted under sub-paragraph (1) must be in accordance with the outline design plan.

(3) Work No. 7(a) and (b) must be carried out in accordance with the approved details.

(4) Work No. 7(a) and (b) may not commence until confirmation of the choice of HVDC or HVAC or a combination of both has been provided to the relevant planning authority, either before, or at the same time as, the details referred to in sub-paragraph (1).

### **Provision of landscaping**

**8.**—(1) No stage of the connection works may commence until a written landscape management plan and associated work programme (which accords with the outline landscape management plan and outline ecological management plan) for that stage of the connection works has been submitted to and approved by the relevant planning authority in consultation with the relevant SNCBs and Historic England.

(2) The landscape management plan must include details of—

- (a) surveys, assessments and method statements as guided by BS 5837 and the Hedgerows Regulations 1997;
- (b) location, number, species, size and planting density of any proposed planting;
- (c) cultivation, importing of materials and other operations to ensure plant establishment; and
- (d) implementation timetables for the relevant stage of the landscaping works.

(3) The landscape management plan must be carried out as approved.

### **Implementation and maintenance of landscaping**

**9.**—(1) All landscape works must be carried out in accordance with the landscape management plans approved under requirement 8 (provision of landscaping), and in accordance with the relevant recommendations of appropriate British Standards.

(2) Unless otherwise stated in the approved landscape management plan or enhancement strategy, any tree or shrub planted as part of an approved landscape management plan that, within a period of five years after planting, is removed by the undertaker, dies or becomes, in the opinion of the relevant planning authority, seriously damaged or diseased must be replaced in the first available planting season with a specimen of the same species and size as that originally planted unless otherwise approved by the relevant planning authority.

(3) Unless otherwise stated in the approved landscape management plan or enhancement strategy, within a period of five years after completion of the planting of the approved landscape works comprising Work No. 7(f), a landscape management and maintenance plan for Work No. 7(f) must be submitted to and approved by the relevant planning authority.

(4) The landscape management and maintenance plan for Work No. 7(f) must include details of the management and maintenance of Work No. 7(f) until the connection works are decommissioned in accordance with the onshore decommissioning plan approved under requirement 24 (onshore decommissioning).

(5) The landscape management and maintenance plan for Work No. 7(f) must be carried out as approved.

### **Ecological management plan**

**10.**—(1) No stage of the connection works may commence until a written ecological management plan (which accords with the outline ecological management plan and the relevant recommendations of appropriate British Standards) for that stage of the connection works reflecting the survey results and ecological mitigation has been submitted to and approved by the relevant planning authority in consultation with the relevant SNCBs and (where works have potential to impact wetland habitats) the Environment Agency.

(2) The ecological management plan must include an implementation timetable for the relevant stage of the connection works and must be carried out as approved.

### **Highway accesses**

**11.**—(1) Construction of any new permanent or temporary means of access to a highway, or alteration, or use of an existing means of access to a highway, must not commence until an access plan for that access has been submitted to and approved by the relevant highway authority.

(2) The access plan must include details of the siting, design, layout, visibility splays, access management measures, lighting, signing, safety measures and a maintenance programme relevant to the access it relates to.

(3) The highway accesses (including visibility splays) must be constructed and maintained in accordance with the approved details.

### **Fencing and other means of permanent enclosure**

**12.**—(1) No stage of the connection works may commence until details of all proposed permanent fences, walls or other means of enclosure of that stage of the connection works have been submitted to and approved by the relevant planning authority.

(2) The details submitted under paragraph (1) must be in accordance with the outline design plan.

(3) Any approved permanent fencing in relation to the connection works in Work No. 7 must be completed before those works are brought into use and must be maintained for the operational lifetime of the connection works in Work No. 7.

### **Temporary fencing and other temporary means of enclosure**

**13.**—(1) The details of any temporary fences, walls, or other means of enclosure required for the construction of the connection works must be included in the code of construction practice approved under requirement 18 (which must accord with the outline code of construction practice).

(2) All construction sites must remain securely enclosed at all times during construction of the connection works in accordance with the details approved under sub-paragraph (1) above.

### **Surface and foul water drainage**

**14.**—(1) No stage of the connection works may commence until written details of the surface and (if any) foul water drainage system (including means of pollution control) (which must accord with the outline onshore infrastructure drainage strategy) for the construction of that stage of the connection works have, after consultation with the relevant sewerage and drainage authorities and the Environment Agency, been submitted to and approved by the lead local flood authority.

(2) No stage of the connection works may commence operation until written details of the surface and (if any) foul water drainage system (including means of pollution control) for that stage of the connection works have, after consultation with the relevant sewerage and drainage authorities and the Environment Agency, been submitted to and approved by the lead local flood authority.

(3) The surface and foul water drainage system must be constructed, operated and maintained in accordance with the approved details.

### **Contaminated land and groundwater scheme**

**15.**—(1) No stage of the connection works or Work No. 5 may commence until a written scheme to deal with the contamination of any land (including groundwater) of that stage of the connection works or Work No. 5 within the Order limits that is likely to cause significant harm to persons or pollution of controlled waters or the environment has been submitted to, and approved by, the relevant planning authority in consultation with the Environment Agency and, to the extent that the plan relates to the intertidal area, the MMO.

(2) The scheme must include an investigation and assessment report, to identify the extent of any contamination and the remedial measures to be taken for that stage to render the land fit for its intended purpose, together with a management plan which sets out long-term measures with respect to any contaminants remaining on the site.

(3) Such remediation as may be identified in the approved scheme must be carried out in accordance with the approved scheme.



## **Surface water**

**16.**—(1) No stage of the connection works in Work No. 7 may commence until, in respect of that installation, a detailed surface water scheme has been prepared in consultation with the relevant sewerage and drainage authorities and Environment Agency and submitted to and approved by the lead local flood authority.

(2) The detailed surface water schemes must accord with the outline onshore infrastructure drainage strategy and—

- (a) be based on sustainable drainage principles;
- (b) include an assessment of the hydrological and hydrogeological context of the connection works in Work No. 7; and
- (c) include detailed designs of a surface water drainage scheme.

(3) Construction of the connection works in Work No. 7 must be carried out in accordance with the approved scheme.

## **Onshore archaeology**

**17.**—(1) No stage of the connection works or Work No. 5 may commence until a written scheme of archaeological investigation (which must accord with the outline written scheme of investigation for onshore archaeology) for that stage of the connection works or Work No. 5 has been submitted to and approved by the relevant planning authority in consultation with Historic England.

(2) Archaeological investigations carried out as part of onshore site preparation works must only take place in accordance with a specific written scheme of investigation (which must accord with the outline written scheme of investigation for onshore archaeology) which has been submitted to and approved by the relevant planning authority in consultation with Historic England.

(3) All archaeological investigations (other than archaeological investigations carried out as part of onshore site preparation works referred to in sub-paragraph (2)) must be carried out in accordance with the written scheme of archaeological investigation approved under sub-paragraph (1).

(4) The archaeological site investigations and post investigation assessment must be completed in accordance with the programme set out in the written scheme of archaeological investigation and provision made for analysis, publication and dissemination of results and archive deposition.

## **Code of construction practice**

**18.**—(1) No stage of the connection works, Work No. 2 (f) or Work No. 5 may commence until a code of construction practice (which must accord with the outline code of construction practice but may not include the outline construction traffic management plan in the event that the outline construction traffic management plan has been, or is in the process of being, approved separately pursuant to requirement 19) for that stage of the connection works has been submitted to and approved by the relevant planning authority, in consultation with the Environment Agency, the relevant SNCBs and, if applicable, the MMO.

(2) All connection works must be undertaken in accordance with the relevant approved code of construction practice.

## **Construction traffic management plan**

**19.**—(1) No stage of the connection works or Work No. 5 may commence until written details of a construction traffic management plan (which accords with the outline construction traffic management plan) for that stage of the connection works or Work No. 5 has been submitted to and approved by the relevant planning authority in consultation with the relevant highway authorities (and approved by Network Rail in accordance with paragraph 5 of Part 4 of Schedule 9).

(2) The construction traffic management plan must be implemented as approved.

### **European protected species onshore**

**20.**—(1) No stage of the connection works may commence until final pre-construction survey work has been carried out to establish whether a European protected species is present on any of the land affected, or likely to be affected, by that stage of the connection works or in any of the trees to be lopped or felled as part of that stage of the connection works.

(2) Where a European protected species is shown to be present, the relevant stage(s) of the connection works must not begin until, after consultation with the relevant SNCBs and the relevant planning authority, a scheme of protection and mitigation measures has been submitted to and approved by the relevant planning authority or a European protected species licence granted by Natural England.

(3) The connection works must be carried out in accordance with the approved scheme.

(4) In this Requirement, “European Protected Species” has the same meaning as in regulations 42 and 46 of the Conservation of Habitats and Species Regulations 2017(a).

### **Restoration of land used temporarily for construction**

**21.** Any land landward of MLWS within the Order limits which is used temporarily for construction of the connection works and not ultimately incorporated in permanent works or approved landscaping, must be reinstated in accordance with such details as have been submitted to and approved by the relevant planning authority in consultation with, where appropriate, the MMO, and the relevant highway authority, as soon as reasonably practicable and in any event within twelve months of completion of the connection works.

### **Control of noise during operational phase**

**22.**—(1) Work Nos. 7(a), (b) and (c) must not commence operations until a noise management plan (NMP) for those works has been submitted to and approved by the relevant planning authority.

(2) The NMP must set out the particulars of—

(a) any necessary noise attenuation and mitigation measures to be taken to minimise noise resulting from Work No. 7, including any noise limits; and

(b) a scheme for monitoring attenuation and mitigation measures provided under subparagraph (a) which must include—

(i) the circumstances under which noise will be monitored;

(ii) the locations at which noise will be monitored;

(iii) the method of noise measurement (which must be in accord with BS 4142:2014+A1:2019, an equivalent successor standard or other agreed noise measurement methodology appropriate to the circumstances); and

(iv) a complaints procedure.

(3) The NMP must be implemented as approved.

### **Enhancement strategy**

**23.**—(1) No stage of the connection works may commence until written details of an enhancement strategy (which accords with the outline enhancement strategy) for that stage of the connection works has been submitted to and approved by the relevant planning authority.

(2) The enhancement strategy must be implemented as approved.

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(a) S.I. 2017/1012.

### **Ministry of Defence radar mitigation**

**24.**—(1) No wind turbine generator forming part of the authorised development is permitted to rotate its rotor blades on its horizontal axis until the Secretary of State, having consulted with the Ministry of Defence, confirms satisfaction that appropriate mitigation will be implemented and maintained for the life of the authorised development and that arrangements have been put in place with the Ministry of Defence to ensure that the approved mitigation is implemented.

(2) For the purposes of this requirement—

“appropriate mitigation” means measures to prevent or remove any unacceptable effects which the authorised development will have on air defence radar capability of Remote Radar Head (RRH) Staxton Wold and the Ministry of Defence’s air surveillance and control operations that it supports;

“approved mitigation” means the detailed Radar Mitigation Scheme (RMS) that will set out the appropriate measures and timescales for implementation as agreed with the Ministry of Defence at the time the Secretary of State confirms satisfaction in accordance with sub-paragraph (1); and

“Ministry of Defence” means the Ministry of Defence as represented by Defence Infrastructure Organisation – Safeguarding, St George’s House, DIO Head Office, DMS Whittington, Lichfield, Staffordshire, WS14 9PY or any successor body.

(3) The undertaker must thereafter comply with all other obligations contained within the approved mitigation for the life of the authorised development.

### **Onshore decommissioning**

**25.**—(1) Within three months of the permanent cessation of operation of the connection works an onshore decommissioning plan must be submitted to the relevant planning authority for approval unless otherwise agreed by the relevant planning authority.

(2) The relevant planning authority must provide its decision on the onshore decommissioning plan required under requirement 25(1) within three months of submission of such plan unless otherwise agreed by the relevant planning authority and the undertaker.

(3) The onshore decommissioning plan must be implemented as approved.

### **Employment and skills plan**

**26.**—(1) No stage of the connection works may commence until for that stage an employment and skills plan (which accords with the outline employment and skills plan) in relation to the authorised development has been submitted to and approved by the relevant planning authority.

(2) The employment and skills plan must be implemented as approved.

### **Energy balancing infrastructure safety management**

**27.**—(1) Work No. 7(b) must not commence until an energy balancing infrastructure HazID report (which accords with the outline energy balancing infrastructure HazID report) has been submitted to and approved by the relevant planning authority.

(2) The energy balancing infrastructure HazID report must be implemented as approved.

### **Stages of authorised development**

**28.**—(1) The authorised development may not be commenced until a written scheme setting out the stages of construction of the authorised project has been submitted to and approved by the relevant planning authority, in relation to the connection works, or the MMO, in relation to works seaward of MHWS.

(2) The stages of construction referred to in sub-paragraph (1) must not permit the authorised development to be constructed in more than one overall phase.

(3) The scheme must be implemented as approved.

### **Claxby Radar Mitigation**

**29.**—(1) No wind turbine generator blades forming part of the authorised development may be installed until the Secretary of State, having consulted with NATS, has confirmed satisfaction that appropriate mitigation will be implemented and maintained for the required period and that arrangements have been put in place with NATS to ensure that the approved mitigation is implemented and in operation prior to installation of the wind turbine blades.

(2) The undertaker must thereafter comply with the obligations contained within the approved mitigation for the required period.

(3) For the purposes of this requirement—

“appropriate mitigation” means measures to mitigate any adverse effects which the operation of the authorised development will have on the primary surveillance radar at Claxby and NATS’ associated air traffic (surveillance and control) services/operations during the required period;

“approved mitigation” means the detailed Primary Radar Mitigation Scheme setting out the appropriate mitigation approved by the Secretary of State and confirmed in accordance with sub-paragraph (1);

“NATS” means NATS (En-Route) Plc (company number 04129273) or any successor body; and

“the required period” means the shorter of—

- (a) the operational life of the authorised development; and
- (b) the period ending on the date notified to the Secretary of State by the undertaker and confirmed by NATS being the date on which NATS no longer requires the appropriate mitigation to be in place.

### **Requirement for written approval**

**30.** Where the approval, agreement or confirmation of the Secretary of State, the relevant planning authority or another person is required under a requirement, that approval, agreement or confirmation must be given in writing.

### **Amendments to approved details**

**31.**—(1) With respect to any requirement which requires the authorised project to be carried out in accordance with the details approved by the relevant planning authority or another person, the approved details must be carried out as approved unless an amendment or variation is previously agreed by the relevant planning authority or that other person in accordance with sub-paragraph (2).

(2) Any amendments to or variations from the approved details must be in accordance with the principles and assessments set out in the environmental statement. Such agreement may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the relevant planning authority or that other person that the subject matter of the agreement sought is unlikely to give rise to any materially greater environmental effects from those assessed in the environmental statement.

(3) The approved details must be taken to include any amendments that may subsequently be approved by the relevant planning authority or that other person.

## PART 4

### PROCEDURE FOR DISCHARGE OF REQUIREMENTS

#### **Interpretation**

1. In this Part of this Schedule, “discharging authority” means—
  - (a) any body responsible for giving any consent, agreement or approval required by a requirement included in Part 3 of this Schedule, or for giving any consent, agreement or approval further to any document referred to in any such requirement; or
  - (b) the local authority in the exercise of its functions set out in sections 60 (control of noise on construction sites) and 61 (prior consent for work on construction sites) of the Control of Pollution Act 1974 subsequently referred to as “the 1974 Act”(a).

#### **Applications made under requirements**

2.—(1) Where an application has been made to the discharging authority for any consent, agreement or approval required by a requirement contained in Part 3 of this Schedule, or for any consent, agreement or approval further to any document referred to in any such requirement, the discharging authority must give notice to the undertaker of its decision on the application within a period of eight weeks beginning with—

- (a) the day immediately following that on which a valid application is received by the discharging authority (such validity to be confirmed by the discharging authority within five days of receipt of the application); or
- (b) where further information is requested under paragraph 3 the day immediately following that on which the further information has been supplied by the undertaker, or such longer period as may be agreed in writing by the undertaker and the discharging authority.

(2) In determining any application made to the discharging authority for any consent, agreement or approval required by a requirement contained in Part 3 of this Schedule, the discharging authority may—

- (a) give or refuse its consent, agreement or approval; or
- (b) give its consent, agreement or approval either subject to reasonable conditions, or unconditionally,

and where consent, agreement or approval is refused or granted subject to conditions the discharging authority must provide its reasons for that decision with the notice of the decision.

#### **Further information regarding requirements**

3.—(1) In relation to any application referred to in paragraph 2, the discharging authority may request such further information from the undertaker as it considers necessary to enable it to consider the application.

(2) If the discharging authority considers that further information is necessary and the requirement concerned contained in Part 3 of this Schedule does not specify that consultation with a consultee is required, the discharging authority must, within ten working days of receipt of the application, notify the undertaker in writing specifying the further information required.

(3) If the requirement concerned contained in Part 3 of this Schedule specifies that consultation with a consultee is required, the discharging authority must issue the application to the consultee within five working days of receipt of the application, and notify the undertaker in writing specifying any further information requested by the consultee within five working days of receipt of such a request.

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(a) 1974 c.40. Section 61 was amended by Schedule 7 to the Building Act 1984 (c.55), Schedule 15 to the Environmental Protection Act 1990 (c.43) and Schedule 24 to the Environment Act 1995 (c.25).

(4) If the discharging authority does not give the notification within the period specified in sub-paragraph (2) or (3) it (and the consultee, as the case may be) is deemed to have sufficient information to consider the application and is not entitled to request further information without the prior agreement of the undertaker.

## Appeals

4.—(1) Where a person (“the applicant”) makes an application to a discharging authority, the applicant may appeal to the Secretary of State in the event that—

- (a) the discharging authority refuses an application for any consent, agreement or approval required by—
  - (i) a requirement contained in Part 3 of this Schedule; or
  - (ii) a document referred to in any requirement contained in Part 3 of this Schedule;
- (b) the discharging authority does not determine such an application within the time period set out in paragraph 2(1), or grants it subject to conditions;
- (c) the discharging authority issues a notice further to sections 60 (control of noise on construction sites) or 61 (prior consent for work on construction sites) of the 1974 Act;
- (d) on receipt of a request for further information pursuant to paragraph 3 of this Part of this Schedule, the applicant considers that either the whole or part of the specified information requested by the discharging authority is not necessary for consideration of the application; or
- (e) on receipt of any further information requested, the discharging authority notifies the applicant that the information provided is inadequate and requests additional information which the applicant considers is not necessary for consideration of the application.

(2) The appeal process is as follows—

- (a) any appeal by the applicant must be made within 42 days of the date of the notice of the decision or determination, or (where no determination has been made) the expiry of the time period set out in paragraph 2(1), giving rise to the appeal referred to in sub-paragraph (1);
- (b) the applicant must submit the appeal documentation to the Secretary of State and must on the same day provide copies of the appeal documentation to the discharging authority and any consultee specified under the relevant requirement contained in Part 3 of this Schedule;
- (c) as soon as is practicable after receiving the appeal documentation, the Secretary of State must appoint a person to consider the appeal (“the appointed person”) and must notify the appeal parties of the identity of the appointed person and the address to which all correspondence for the attention of the appointed person should be sent;
- (d) the discharging authority and any consultee (if applicable) must submit their written representations together with any other representations to the appointed person in respect of the appeal within 20 working days of the start date specified by the appointed person and must ensure that copies of their written representations and any other representations as sent to the appointed person are sent to each other and to the applicant on the day on which they are submitted to the appointed person;
- (e) the applicant must make any counter-submissions to the appointed person within 20 working days of receipt of written representations pursuant to sub-paragraph (d) above; and
- (f) the appointed person must make a decision and notify it to the appeal parties, with reasons, as soon as reasonably practicable after the end of the 20 day period for counter-submissions under sub-paragraph (e).

(3) The appointment of the appointed person pursuant to sub-paragraph 4(2)(c) may be undertaken by a person appointed by the Secretary of State for this purpose instead of by the Secretary of State.

(4) In the event that the appointed person considers that further information is necessary to enable the appointed person to consider the appeal the appointed person must as soon as practicable notify the appeal parties in writing specifying the further information required, the appeal party from whom the information is sought, and the date by which the information is to be submitted.

(5) Any further information required pursuant to sub-paragraph (4) must be provided by the party from whom the information is sought to the appointed person and to the other appeal parties by the date specified by the appointed person. The appointed person must notify the appeal parties of the revised timetable for the appeal on or before that day. The revised timetable for the appeal must require submission of written representations to the appointed person within ten working days of the date specified by the appointed person, but must otherwise be in accordance with the process and time limits set out in sub-paragraphs 4(2)(c) to (e).

(6) On an appeal under this paragraph, the appointed person may—

- (a) allow or dismiss the appeal; or
- (b) reverse or vary any part of the decision of the discharging authority (whether the appeal relates to that part of it or not),

and may deal with the application as if it had been made to the appointed person in the first instance.

(7) The appointed person may proceed to a decision on an appeal taking into account such written representations as have been sent within the relevant time limits and in the sole discretion of the appointed person such written representations as have been sent outside of the relevant time limits.

(8) The appointed person may proceed to a decision even though no written representations have been made within the relevant time limits, if it appears to the appointed person that there is sufficient material to enable a decision to be made on the merits of the case.

(9) The decision of the appointed person on an appeal is final and binding on the parties, and a court may entertain proceedings for questioning the decision only if the proceedings are brought by a claim for a judicial review.

(10) If an approval is given by the appointed person pursuant to this Part of this Schedule, it is deemed to be an approval for the purpose of Part 3 of this Schedule as if it had been given by the discharging authority. The discharging authority may confirm any determination given by the appointed person in identical form in writing, but a failure to give such confirmation (or a failure to give it in identical form) is not to be taken to affect or invalidate the effect of the appointed person's determination.

(11) Save where a direction is given pursuant to sub-paragraph (12) requiring the costs of the appointed person to be paid by the discharging authority, the reasonable costs of the appointed person are to be met by the applicant.

(12) On application by the discharging authority or the applicant, the appointed person may give directions as to the costs of the appeal and as to the parties by whom the costs of the appeal are to be paid. In considering whether to make any such direction and the terms on which it is to be made, the appointed person must have regard to relevant guidance on the Planning Practice Guidance website or any official circular or guidance which may from time to time replace it.

**SCHEDULE 2**  
**STREETS SUBJECT TO STREET WORKS**

<i>(1)</i> <i>Street subject to street works</i>	<i>(2)</i> <i>Extent of works</i>
Unnamed Road	Between the reference points 1a and 1b and shaded Green on sheet 1 of the streets plan
Sands Road	Between the reference points 1c and 1d and shaded Brown on sheet 1 of the streets plan
Private Access	Between the reference points 2a, 2b and 2c and shaded Brown on sheets 1 and 2 of the streets plan
Bridlington Road	Between the reference points 3a and 3b and shaded Green on sheets 2 and 3 of the streets plan
Gransmoor Road	Between the reference points 4a and 4b and shaded Green on sheets 3 and 4 of the streets plan
Private Access	Between the reference points 5a and 5b and shaded Brown on sheet 4 of the streets plan
Private Access	Between the reference points 6a and 6b and shaded Brown on sheet 4 of the streets plan
Private Access	Between the reference points 7a and 7b and shaded Brown on sheet 4 of the streets plan
Private Access	Between the reference points 8a and 8b and shaded Brown on sheets 4 and 5 of the streets plan
Lissett Lane	Between the reference points 8c and 8d and shaded Green on sheets 4 and 5 of the streets plan
Private Access	Between the reference points 9a and 9b and shaded Brown on sheet 5 of the streets plan
Private Access	Between the reference points 10a and 10b and shaded Brown on sheet 6 of the streets plan
Gembling Lane	Between the reference points 11a and 11b and shaded Green on sheet 6 of the streets plan
Old Howe Lane	Between the reference points 12a and 12b and shaded Green on sheets 6 and 7 of the streets plan
Main Street	Between the reference points 13a and 13b and shaded Green on sheet 7 of the streets plan
Private Access	Between the reference points 14a and 14b and shaded Brown on sheet 7 of the streets plan
Private Access	Between the reference points 15a and 15b and shaded Brown on sheet 8 of the streets plan
Private Access	Between the reference points 16a and 16b and shaded Brown on sheet 8 of the streets plan
Cowslams Lane	Between the reference points 16c and 16d and shaded Green on sheet 8 of the streets plan
B1249	Between the reference points 17a and 17b and shaded Green on sheets 8 and 9 of the streets



	plan
B1249	Between the reference points 17c and 17d and shaded Green on sheets 8 and 9 of the streets plan
Private Access	Between the reference points 18a and 18b and shaded Brown on sheets 8 and 9 of the streets plan
B1249	Between the reference points 18c and 18d and shaded Green on sheets 8 and 9 of the streets plan
Private Access	Between the reference points 19a and 19b and shaded Brown on sheet 10 of the streets plan
Rotsea Lane	Between the reference points 20a and 20b and shaded Green on sheet 11 of the streets plan
Rotsea Lane	Between the reference points 20c and 20d and shaded Green on sheet 11 of the streets plan
Private Access	At reference point 20e and shaded Brown on sheet 11 of the streets plan
Private Access	Between the reference points 21a and 21b and shaded Brown on sheet 12 of the streets plan
Private Access	Between the reference points 22a and 22b and shaded Brown on sheet 12 of the streets plan
Carr Lane	Between the reference points 23a and 23b and shaded Green on sheet 13 of the streets plan
Carr Lane	Between the reference points 24a and 24b and shaded Green on sheet 14 of the streets plan
Wilfholme Road	Between the reference points 25a and 25b and shaded Green on sheet 14 of the streets plan
Beswick Road	Between the reference points 26a and 26b and shaded Green on sheet 15 of the streets plan
Station Road	Between the reference points 27a and 27b and shaded Green on sheet 16 of the streets plan
A164	Between the reference points 28a and 28b and shaded Green on sheet 16 of the streets plan
Station Road	Between the reference points 29a and 29b and shaded Green on sheet 16 of the streets plan
A164	Between the reference points 30a and 30b and shaded Green on sheet 17 of the streets plan
Private Access	Between the reference points 31a and 31b and shaded Brown on sheet 17 of the streets plan
Private Access	Between the reference points 32a and 32b and shaded Brown on sheet 17 of the streets plan
Private Access	Between the reference points 33a and 33b and shaded Brown on sheet 18 of the streets plan
Private Access	Between the reference points 34a and 34b and shaded Brown on sheet 18 of the streets plan
Old Road	Between the reference points 34c and 34d and shaded Green on sheet 18 of the streets plan
Miles Lane	Between the reference points 35a and 35b and shaded Green on sheet 19 of the streets plan
Miles Lane	Between the reference points 35c and 35d and shaded Green on sheet 19 of the streets plan
Miles Lane	Between the reference points 36a and 36b and shaded Green on sheet 19 of the streets plan

Rose Lane	Between the reference points 37a and 37b and shaded Green on sheets 19 and 20 of the streets plan
Private Access	Between the reference points 38a and 38b and shaded Brown on sheet 20 of the streets plan
A1035	Between the reference points 39a and 39b and shaded Green on sheet 21 of the streets plan
Dogkennel Lane	Between the reference points 40a and 40b and shaded Green on sheet 21 of the streets plan
York Road	Between the reference points 41a and 41b and shaded Green on sheet 22 of the streets plan
York Road	Between the reference points 41c and 41d and shaded Green on sheet 22 of the streets plan
A1079	Between the reference points 42a and 42b and shaded Green on sheets 22 and 23 of the streets plan
Newbald Road	Between the reference points 43a and 43b and shaded Green on sheet 23 of the streets plan
Newbald Road	Between the reference points 43c and 43d and shaded Green on sheet 23 of the streets plan
Private Access	Between the reference points 44a and 44b and shaded Brown on sheet 23 of the streets plan
B1230	Between the reference points 45a and 45b and shaded Green on sheets 23 and 24 of the streets plan
Private Access	Between the reference points 46a and 46b and shaded Brown on sheet 24 of the streets plan
Coppleflat Lane	Between the reference points 47a and 47b and shaded Green on sheet 25 of the streets plan
Coppleflat Lane	Between the reference points 48a and 48b and shaded Green on sheet 25 of the streets plan
Coppleflat Lane	Between the reference points 49a and 49b and shaded Green on sheets 25 and 26 of the streets plan
Coppleflat Lane	Between the reference points 50a and 50b and shaded Green on sheets 25 and 26 of the streets plan
A164	Between the reference points 51a and 51b and shaded Green on sheets 25 and 26 of the streets plan
A164	Between the reference points 51c and 51d and shaded Green on sheets 25 and 26 of the streets plan
Private Access	Between the reference points 52a and 52b and shaded Brown on sheet 26 of the streets plan
Private Access	Between the reference points 53a and 53b and shaded Brown on sheet 28 of the streets plan
Private Access	Between the reference points 54a and 54b and shaded Brown on sheet 28 of the streets plan
A1079	Between the reference points 55a and 55b and shaded Green on sheet 27 of the streets plan

**SCHEDULE 3**  
**STREETS TO BE TEMPORARILY STOPPED UP**

<i>(1)</i> <i>Public rights of way to be temporarily stopped up</i>	<i>(2)</i> <i>Extent of temporary stopping up</i>
Unnamed Road	Between the reference points 1a and 1b and shaded Green on sheet 1 of the streets plan
Sands Road	Between the reference points 1c and 1d and shaded Brown on sheet 1 of the streets plan
Private Access	Between the reference points 2a, 2b and 2c and shaded Brown on sheets 1 and 2 of the streets plan
Bridlington Road	Between the reference points 3a and 3b and shaded Green on sheets 2 and 3 of the streets plan
Gransmoor Road	Between the reference points 4a and 4b and shaded Green on sheets 3 and 4 of the streets plan
Private Access	Between the reference points 5a and 5b and shaded Brown on sheet 4 of the streets plan
Private Access	Between the reference points 6a and 6b and shaded Brown on sheet 4 of the streets plan
Private Access	Between the reference points 7a and 7b and shaded Brown on sheet 4 of the streets plan
Private Access	Between the reference points 8a and 8b and shaded Brown on sheets 4 and 5 of the streets plan
Lissett Lane	Between the reference points 8c and 8d and shaded Green on sheets 4 and 5 of the streets plan
Private Access	Between the reference points 9a and 9b and shaded Brown on sheet 5 of the streets plan
Private Access	Between the reference points 10a and 10b and shaded Brown on sheet 6 of the streets plan
Gembling Lane	Between the reference points 11a and 11b and shaded Green on sheet 6 of the streets plan
Old Howe Lane	Between the reference points 12a and 12b and shaded Green on sheets 6 and 7 of the streets plan
Main Street	Between the reference points 13a and 13b and shaded Green on sheet 7 of the streets plan
Private Access	Between the reference points 14a and 14b and shaded Brown on sheet 7 of the streets plan
Private Access	Between the reference points 15a and 15b and shaded Brown on sheet 8 of the streets plan
Private Access	Between the reference points 16a and 16b and shaded Brown on sheet 8 of the streets plan
Cowslams Lane	Between the reference points 16c and 16d and shaded Green on sheet 8 of the streets plan
B1249	Between the reference points 17a and 17b and

	shaded Green on sheets 8 and 9 of the streets plan
B1249	Between the reference points 17c and 17d and shaded Green on sheets 8 and 9 of the streets plan
Private Access	Between the reference points 18a and 18b and shaded Brown on sheets 8 and 9 of the streets plan
B1249	Between the reference points 18c and 18d and shaded Green on sheets 8 and 9 of the streets plan
Private Access	Between the reference points 19a and 19b and shaded Brown on sheet 10 of the streets plan
Rotsea Lane	Between the reference points 20a and 20b and shaded Green on sheet 11 of the streets plan
Rotsea Lane	Between the reference points 20c and 20d and shaded Green on sheet 11 of the streets plan
Private Access	At reference point 20e and shaded Brown on sheet 11 of the streets plan
Private Access	Between the reference points 21a and 21b and shaded Brown on sheet 12 of the streets plan
Private Access	Between the reference points 22a and 22b and shaded Brown on sheet 12 of the streets plan
Carr Lane	Between the reference points 23a and 23b and shaded Green on sheet 13 of the streets plan
Carr Lane	Between the reference points 24a and 24b and shaded Green on sheet 14 of the streets plan
Wilfholme Road	Between the reference points 25a and 25b and shaded Green on sheet 14 of the streets plan
Beswick Road	Between the reference points 26a and 26b and shaded Green on sheet 15 of the streets plan
Station Road	Between the reference points 27a and 27b and shaded Green on sheet 16b of the streets plan
A164	Between the reference points 28a and 28b and shaded Green on sheet 16b of the streets plan
Station Road	Between the reference points 29a and 29b and shaded Green on sheet 16 of the streets plan
A164	Between the reference points 30a and 30b and shaded Green on sheet 17 of the streets plan
Private Access	Between the reference points 31a and 31b and shaded Brown on sheet 17 of the streets plan
Private Access	Between the reference points 32a and 32b and shaded Brown on sheet 17 of the streets plan
Private Access	Between the reference points 33a and 33b and shaded Brown on sheet 18 of the streets plan
Private Access	Between the reference points 34a and 34b and shaded Brown on sheet 18 of the streets plan
Old Road	Between the reference points 34c and 34d and shaded Green on sheet 18 of the streets plan
Miles Lane	Between the reference points 35a and 35b and shaded Green on sheet 19 of the streets plan
Miles Lane	Between the reference points 35c and 35d and shaded Green on sheet 19 of the streets plan
Miles Lane	Between the reference points 36a and 36b and

	shaded Green on sheet 19 of the streets plan
Rose Lane	Between the reference points 37a and 37b and shaded Green on sheets 19 and 20 of the streets plan
Private Access	Between the reference points 38a and 38b and shaded Brown on sheet 20 of the streets plan
A1035	Between the reference points 39a and 39b and shaded Green on sheet 21 of the streets plan
Dogkennel Lane	Between the reference points 40a and 40b and shaded Green on sheet 21 of the streets plan
York Road	Between the reference points 41a and 41b and shaded Green on sheet 22 of the streets plan
York Road	Between the reference points 41c and 41d and shaded Green on sheet 22 of the streets plan
A1079	Between the reference points 42a and 42b and shaded Green on sheets 22 and 23 of the streets plan
Newbald Road	Between the reference points 43a and 43b and shaded Green on sheet 23 of the streets plan
Newbald Road	Between the reference points 43c and 43d and shaded Green on sheet 23 of the streets plan
Private Access	Between the reference points 44a and 44b and shaded Brown on sheet 23 of the streets plan
B1230	Between the reference points 45a and 45b and shaded Green on sheets 23 and 24 of the streets plan
Private Access	Between the reference points 46a and 46b and shaded Brown on sheet 24 of the streets plan
Coppleflat Lane	Between the reference points 47a and 47b and shaded Green on sheet 25 of the streets plan
Coppleflat Lane	Between the reference points 48a and 48b and shaded Green on sheet 25 of the streets plan
Coppleflat Lane	Between the reference points 49a and 49b and shaded Green on sheets 25 and 26 of the streets plan
Coppleflat Lane	Between the reference points 50a and 50b and shaded Green on sheets 25 and 26 of the streets plan
A164	Between the reference points 51a and 51b and shaded Green on sheets 25 and 26 of the streets plan
A164	Between the reference points 51c and 51d and shaded Green on sheets 25 and 26 of the streets plan
Private Access	Between the reference points 52a and 52b and shaded Brown on sheet 26 of the streets plan
Private Access	Between the reference points 53a and 53b and shaded Brown on sheet 28 of the streets plan
Private Access	Between the reference points 54a and 54b and shaded Brown on sheet 28 of the streets plan
A1079	Between the reference points 55a and 55b and shaded Green on sheet 27 of the streets plan

**SCHEDULE 4**  
**PUBLIC RIGHTS OF WAY TO BE STOPPED UP OR DIVERTED**  
**AND ACCESS LAND**

**PART 1**

**PUBLIC RIGHTS OF WAY TO BE TEMPORARILY STOPPED UP**

<i>(1)</i> <i>Public right of way to be temporarily stopped up</i>	<i>(2)</i> <i>Extent of temporary stopping up</i>
Barmston Footpath No. 4	Between points 1a and 1b as shown dashed on sheet 1 of the public rights of way plan
Barmston Footpath No. 3	Between points 2a and 2b as shown dashed on sheets 1 and 2 of the public rights of way plan
Barmston Footpath No. 2	Between points 3a and 3b as shown dashed on sheet 2 of the public rights of way plan
Foston on the Wolds Footpath No. 10	Between points 4a and 4b as shown dashed on sheet 6 of the public rights of way plan
Foston on the Wolds Footpath No. 12	Between points 5a and 5b as shown dashed on sheet 7 of the public rights of way plan
Foston on the Wolds Footpath No. 12	Between points 6a and 6b as shown dashed on sheet 8 of the public rights of way plan
Foston on the Wolds Bridleway No. 6	Between points 7a and 7b as shown dashed on sheet 10 of the public rights of way plan
Hutton Cranswick Footpath No. 10	Between points 8a and 8b as shown dashed on sheets 11 and 12 of the public rights of way plan
Watton Footpath No. 18	Between points 9a and 9b as shown dashed on sheet 12 of the public rights of way plan
Watton Bridleway No. 13	Between points 10a and 10b as shown dashed on sheet 13 of the public rights of way plan
Beswick Bridleway No. 23	Between points 11a and 11b as shown dashed on sheet 15 of the public rights of way plan
Lockington Footpath No. 8	Between points 12a and 12b as shown dashed on sheet 16a and 16b respectively of the public rights of way plan
Leconfield Footpath No. 1	Between points 13a and 13b as shown dashed on sheet 17 of the public rights of way plan
Leconfield Bridleway No. 2	Between points 14a and 14b as shown dashed on sheet 17 of the public rights of way plan
Leconfield Footpath No. 7	Between points 15a and 15b as shown dashed on sheets 17 and 18 of the public rights of way plan
Leconfield Footpath No. 7	Between points 15c and 15d as shown dashed on sheet 18 of the public rights of way plan
Leconfield Bridleway No. 9	Between points 16a and 16b as shown dashed on sheet 18 of the public rights of way plan
Leconfield Footpath No. 10	Between points 17a and 17b as shown dashed on sheet 18 of the public rights of way plan

Leconfield Footpath No. 10	Between points 17c and 17d as shown dashed on sheet 18 of the public rights of way plan
Leconfield Footpath No. 11	Between points 18a and 18b as shown dashed on sheet 18 of the public rights of way plan
Leconfield Bridleway No. 6	Between points 19a and 19b as shown dashed on sheet 18 of the public rights of way plan
Leconfield Bridleway No. 12	Between points 20a and 20b as shown dashed on sheet 18 of the public rights of way plan
Cherry Burton Footpath No. 2	Between points 21a and 21b as shown dashed on sheet 20 of the public rights of way plan
Cherry Burton Footpath No. 3	Between points 22a and 22b as shown dashed on sheet 20 of the public rights of way plan
Walkington Footpath No. 9 (Moor Lane)	Between points 23a and 23b as shown dashed on sheet 24 of the public rights of way plan
Rowley Footpath No.12	Between points 24a and 24b as shown dashed on sheets 25 and 26 of the public rights of way plan
Rowley Footpath No.12	Between points 24c and 24d as shown dashed on sheets 26 and 27 of the public rights of way plan
Skidby Footpath No. 16	Between points 25a and 25b as shown dashed on sheet 26 and 28 of the public rights of way plan
Skidby Footpath No. 16	Between points 25c and 25d as shown dashed on sheet 28 of the public rights of way plan
Skidby Footpath No. 17	Between points 26a and 26b as shown dashed on sheet 28 of the public rights of way plan
Rowley Bridleway No. 13	Between points 27a and 27b as shown dashed on sheet 27 of the public rights of way plan

## PART 2

### PUBLIC RIGHTS OF WAY TO BE PERMANENTLY DIVERTED

<i>(1)</i> <i>Public right of way to be diverted</i>	<i>(2)</i> <i>Extent of diversion</i>	<i>(2)</i> <i>Extent of substitute right of way</i>
Skidby Footpath No.16	Within area 1 shaded orange on sheet 28 of the public rights of way plan	602 m
Rowley Bridleway No. 13	Between points 27a and 27b dashed blue on sheet 27 of the public rights of way plan	358 m

### PART 3

#### PUBLIC RIGHTS OF WAY TO BE TEMPORARILY DIVERTED

<i>(1)</i> <i>Public right of way to be diverted</i>	<i>(2)</i> <i>Extent of temporary diversion</i>	<i>(3)</i> <i>Extent of substitute right of way</i>
Barmston Footpath No. 4	Between points 1a and 1b as shown dashed on sheet 1 of the public rights of way plan	244 m

### PART 4

#### ACCESS LAND WHERE PUBLIC RIGHTS OF WAY MAY BE TEMPORARILY SUSPENDED

<i>(1)</i> <i>Access Land subject to temporary prohibition or restriction of use</i>	<i>(2)</i> <i>Extent of temporary prohibition or restriction of use of access land</i>
England Coastal Path	Temporarily suspend access to the area shaded green on the public rights of way plan



**SCHEDULE 5**  
**ACCESS TO WORKS**

<i>(1)</i> <i>Location of access</i>	<i>(2)</i> <i>Description of access</i>
Sands Road	Referenced OA_001 and hatched pink on sheet 1 of the access to works plan
Sands Road	Referenced AP_002 and shaded blue on sheet 1 of the access to works plan
Bridlington Road	Referenced AP_003 and shaded blue on sheets 2 and 3 of the access to works plan
Bridlington Road	Referenced AP_040 and shaded blue on sheets 2 and 3 of the access to works plan
Bridlington Road	Referenced OA_002 and shaded pink on sheet 3 of the access to works plan
Fisher Lane	Referenced OA_003 and shaded pink on sheet 4 of the access to works plan
Lissett Lane	Referenced AP_004 and shaded blue on sheets 4 and 5 of the access to works plan
Lissett Lane	Referenced OA_004 and hatched pink on sheets 4 and 5 of the access to works plan
Bridlington Road	Referenced OA_005 and shaded pink on sheet 5 of the access to works plan
Gembling Lane	Referenced OA_027 and shaded pink on sheet 6 of the access to works plan
Gembling Lane	Referenced OA_028 and shaded pink on sheet 6 of the access to works plan
Old Howe Lane	Referenced AP_005 and shaded blue on sheets 6 and 7 of the access to works plan
Old Howe Lane	Referenced AP_039 and shaded blue on sheets 6 and 7 of the access to works plan
Main Street	Referenced OA_029 and shaded pink on sheet 7 of the access to works plan
Cowslams Lane	Referenced AP_006 and shaded blue on sheet 8 of the access to works plan
Cowslams Lane	Referenced OA_006 and hatched pink on sheet 8 of the access to works plan
B1249	Referenced OA_007 and shaded pink on sheets 8 and 9 of the access to works plan
B1249	Referenced AP_007 and shaded blue on sheets 8 and 9 of the access to works plan
B1249	Referenced AP_008 and shaded blue on sheets 8 and 9 of the access to works plan
B1249	Referenced OA_008 and hatched pink on sheets 8 and 9 of the access to works plan
Private Access	Referenced AP_009 and shaded blue on sheet 10 of the access to works plan
Private Access	Referenced OA_009 and hatched pink on sheet 10 of the access to works plan
Rotsea Lane	Referenced AP_010 and shaded blue on sheet

	11 of the access to works plan
Rotsea Lane	Referenced AP_038 and shaded blue on sheet 11 of the access to works plan
Rotsea Lane	Referenced OA_010 and hatched pink on sheet 11 of the access to works plan
Rotsea Lane	Referenced OA_031 and shaded pink on sheet 11 of the access to works plan
Carr Lane	Referenced OA_011 and shaded pink on sheet 13 of the access to works plan
Carr Lane	Referenced OA_034 and shaded pink on sheet 13 of the access to works plan
Carr Lane	Referenced AP_011 and AP_037 and shaded blue on sheet 14 of the access to works plan
Wilfholme Road	Referenced OA_012 and shaded pink on sheet 14 of the access to works plan
Wilfholme Road	Referenced OA_013 and shaded pink on sheet 14 of the access to works plan
Wilfholme Road	Referenced AP_012 and AP_036 and shaded blue on sheet 14 of the access to works plan
Beswick Road	Referenced AP_013 and AP_035 and shaded blue on sheet 15 of the access to works plan
Station Road	Referenced OA_015 and shaded pink on sheet 16 of the access to works plan
Station Road	Referenced AP_014 and AP_034 and shaded blue on sheet 16 of the access to works plan
Station Road	Referenced OA_014 and hatched pink on sheet 16 of the access to works plan
Station Road	Referenced AP_015 and shaded blue on sheet 16 of the access to works plan
A164	Referenced AP_016 and shaded blue on sheet 17 of the access to works plan
A164	Referenced OA_017 and hatched pink on sheet 17 of the access to works plan
Old Road	Referenced AP_017 and shaded blue on sheet 18 of the access to works plan
Miles Lane	Referenced OA_018 and shaded pink on sheet 19 of the access to works plan
Miles Lane	Referenced AP_018 and shaded blue on sheet 19 of the access to works plan
Roase Lane	Referenced OA_019 and shaded pink on sheets 19 and 20 of the access to works plan
A1035	Referenced AP_020 and AP_032 and shaded blue on sheet 21 of the access to works plan
Dogkennel Lane	Referenced AP_021 and shaded blue on sheet 21 of the access to works plan
Dogkennel Lane	Referenced OA_020 and hatched pink on sheet 21 of the access to works plan
York Road	Referenced AP_022 and shaded blue on sheet 22 of the access to works plan
York Road	Referenced OA_021 and hatched pink on sheet 22 of the access to works plan
Killingwoldgraves Lane	Referenced OA_022 and shaded pink on sheets 22 and 23 of the access to works plan
Newbald Road	Referenced AP_023 and AP_024 and shaded

	blue on sheet 23 of the access to works plan
Newbald Road	Referenced OA_040 and hatched pink on sheet 23 of the access to works plan
Copleflat Lane	Referenced OA_023 and hatched pink on sheet 25 of the access to works plan
Copleflat Lane	Referenced AP_027 and shaded blue on sheet 25 of the access to works plan
Copleflat Lane	Referenced OA_024 and shaded pink on sheets 25 and 26 of the access to works plan
Copleflat Lane	Referenced AP_030 and shaded blue on sheets 25 and 26 of the access to works plan
Copleflat Lane	Referenced OA_025 and hatched pink on sheets 25 and 26 of the access to works plan
Copleflat Lane	Referenced AP_028 and shaded blue on sheets 25 and 26 of the access to works plan
A164	Referenced AP_026 and shaded blue on sheet 26 of the access to works plan
A1079	Referenced OA_043 and hatched pink on sheet 27 of the access to works plan
A1079	Referenced AP_025 and hatched blue on sheet 27 of the access to works plan

## SCHEDULE 6

### LAND IN WHICH ONLY NEW RIGHTS ETC., MAY BE ACQUIRED

<i>(1)</i> <i>Number of land shown on land plans</i>	<i>(2)</i> <i>Purpose for which rights may be acquired and restrictions imposed</i>
1 2 2A 3 3A 4 4A 10 11 12 13 18	Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve underground electricity cables, jointing bays, ducting, telecommunications and other ancillary apparatus (including but not limited to access chambers, manholes and marker posts) and any other works as necessary together with the right to fell, trim or lop trees and bushes which may obstruct or interfere with the said cables, telecommunications and other ancillary apparatus
19 20 21 27 28 29	Rights to pass and repass on foot, with or without vehicles, plant and machinery (including rights to lay and use any temporary surface) for all purposes in connection with the construction, use, maintenance and decommissioning of the authorised development
30 31 32	Rights to continuous vertical and lateral support for the authorised development
33 36 37 38 39	Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve sewers, drains, pipes, ducts, mains, conduits, services, flues and to drain into and manage waterflows in any drains, watercourses and culverts

40	Rights to install, execute, implement, retain, repair, improve, renew, remove, relocate and plant trees, woodlands, shrubs, hedgerows, seeding, landscaping and other ecological measures together with the right to maintain, inspect and replant such trees, shrubs, hedgerows, landscaping and other ecological measures the right to pass and repass on foot, with or without vehicles, plant and machinery for all purposes in connection with the implementation and maintenance of landscaping and ecological mitigation or enhancement works
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78	Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve security fencing, gates, boundary treatment, public rights of way and any other ancillary apparatus and any other works as necessary
86	Restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions (including but not limited to blasting and piling) which may obstruct, interrupt, or interfere with the exercise of the rights or damage the authorised development
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1 2 2A 3 3A 4 4A	Rights to ground and lay anchor for vessels within the Order land
308 309 310 315 316 317 318 323 330 332 333 335 336 337 338 339 340 341 342 343 344	<p>Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve pipes, ducts, mains, wires, cables, conduits, flues, fibre optic cables and other conducting media of whatsoever nature</p> <p>Restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions (including but not limited to blasting and piling) which may obstruct, interrupt, or interfere with the exercise of the rights or damage the authorised development</p>



345 346 347 348 349 350 351 352 353 354 355 356	
14 17 25 26 35 45 46 47 56 57 80 84 92 99 100 104 113 114 117 123 134 135 151 163 165 186 187 192 203 206 209 230 237 250 255 258 268 269 290 296	<p>Rights to use, maintain and improve a permanent means of access including visibility splays and bridges</p> <p>Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve security fencing, gates, boundary treatment, public rights of way and any other ancillary apparatus and any other works as necessary</p> <p>Rights to pass and repass on foot, with or without vehicles, plant and machinery for all purposes in connection with the construction, use, maintenance and decommissioning of the authorised development</p> <p>Rights to install, execute, implement, retain, repair, improve, renew, remove, relocate and plant trees, woodlands, shrubs, hedgerows, seeding, landscaping and other ecological measures together with the right to maintain, inspect and replant such trees, shrubs, hedgerows, landscaping and other ecological measures the right to pass and repass on foot, with or without vehicles, plant and machinery for all purposes in connection with the implementation and maintenance of landscaping and ecological mitigation or enhancement works</p> <p>Restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions (including but not limited to blasting and piling) which may obstruct, interrupt, or interfere with the exercise of the rights</p>

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<p>23 25 34 55 91 98 138 152 162 164 185 193 203 206 229 236 247 255 267 287 295 302</p>	<p>Rights to pass and repass on foot, with or without vehicles, plant and machinery (including rights to lay and use any temporary surface) for all purposes in connection with the construction, use, maintenance and decommissioning of the authorised development</p> <p>Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve security fencing, gates, boundary treatment, public rights of way and any other ancillary apparatus and any other works as necessary</p> <p>Rights to install, execute, implement, retain, repair, improve, renew, remove, relocate and plant trees, woodlands, shrubs, hedgerows, seeding, landscaping and other ecological measures together with the right to maintain, inspect and replant such trees, shrubs, hedgerows, landscaping and other ecological measures the right to pass and repass on foot, with or without vehicles, plant and machinery for all purposes in connection with the implementation and maintenance of landscaping and ecological mitigation or enhancement works</p> <p>Restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions (including but not limited to blasting and piling) which may obstruct, interrupt, or interfere with the exercise of the rights</p>
<p>323 330 332 333</p>	<p>Rights to construct, use, maintain and improve a permanent means of access including visibility splays</p> <p>Rights to pass and repass on foot, with or without vehicles, plant and machinery (including rights to lay and use any temporary surface) for all purposes in connection with the construction, use, maintenance and decommissioning of the authorised development</p> <p>Rights to install, retain, use, maintain, inspect,</p>

	alter, remove, refurbish, reconstruct, replace, protect and improve pipes, ducts, mains, wires, cables, conduits, flues, fibre optic cables and other conducting media of whatsoever nature
	Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve security infrastructure including cameras, perimeter fencing, fencing, gates and any other security measures or ancillary apparatus required in order to ensure an appropriate level of security in respect of the authorised development
	Rights to install, execute, implement, retain, repair, improve, renew, remove, relocate and plant trees, woodlands, shrubs, hedgerows, seeding, landscaping and other ecological measures together with the right to maintain, inspect and replant such trees, shrubs, hedgerows, landscaping and other ecological measures the right to pass and repass on foot, with or without vehicles, plant and machinery for all purposes in connection with the implementation and maintenance of landscaping and ecological mitigation or enhancement works
	Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve any boundary treatment, public rights of way and any other ancillary apparatus and any other works as necessary
	Restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions (including but not limited to blasting and piling) which may obstruct, interrupt, or interfere with the exercise of the rights
340 341 342 343 344 345 346 347 348 349 350	Rights to install, retain, use, maintain, inspect, alter, remove, refurbish, reconstruct, replace, protect and improve electricity poles, overhead electricity lines, underground electricity cables, telecommunications and all equipment and other ancillary apparatus (including but not limited to the use of scaffolding) and any other works as necessary together with the right to fell, trim or lop trees and bushes which may obstruct or interfere with the said poles, lines, telecommunications and other equipment and ancillary apparatus

351	Restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions (including but not limited to blasting and piling) which may obstruct, interrupt, or interfere with the exercise of the rights or damage the authorised development
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## SCHEDULE 7

### MODIFICATION OF COMPENSATION AND COMPULSORY PURCHASE ENACTMENTS FOR CREATION OF NEW RIGHTS

1. The enactments for the time being in force with respect to compensation for the compulsory purchase of land apply, with the necessary modifications as respects compensation, in the case of a compulsory acquisition under this Order of a right by the creation of a new right or the imposition of a restrictive covenant as they apply as respects compensation on the compulsory purchase of land and interests in land.

2.—(1) Without limitation on the scope of paragraph 1, the Land Compensation Act 1973<sup>(a)</sup> has effect subject to the modifications set out in sub-paragraph (2).

(2) In section 44(1) (compensation for injurious affection), as it applies to compensation for injurious affection under section 7 (measure of compensation in case of severance) of the 1965 Act as substituted by paragraph 5—

- (a) for the words “land is acquired or taken from” there is substituted the words “a right or restrictive covenant over land is purchased from or imposed on”; and
- (b) for the words “acquired or taken from him” there is substituted the words “over which the right is exercisable or the restrictive covenant enforceable”.

3.—(1) Without limitation on the scope of paragraph 1, the 1961 Act has effect subject to the modification set out in sub-paragraph (2).

(2) For section 5A(5A) (relevant valuation date) of the 1961 Act substitute—

“(5A) If—

- (a) the acquiring authority enters on land for the purpose of exercising a right in pursuance of a notice of entry under section 11(1) (powers of entry) of the 1965 Act (as modified by paragraph 7 of Schedule 7 to the Hornsea Four Offshore Wind Farm Order 202[ ]; and
- (b) the acquiring authority is subsequently required by a determination under paragraph 12 of Schedule 2A (counter-notice requiring purchase of land not in notice to treat) to the 1965 Act (as substituted by paragraph 10 of Schedule 7 to the Hornsea Four Wind Farm Order 202[ ] to acquire an interest in the land, and
- (c) the acquiring authority enters on and takes possession of that land,

the authority is deemed for the purposes of subsection (3)(a) to have entered on that land where it entered on that land for the purpose of exercising that right.”.

#### Application of Part 1 of the 1965 Act

4.—(1) The 1965 Act is to have effect with the modifications necessary to make it apply to the compulsory acquisition under this Order of a right by the creation of a new right, or to the imposition under this Order of a restrictive covenant, as it applies to the compulsory acquisition under this Order of land, so that, in appropriate contexts, references in that Act to land are read (according to the requirements of the particular context) as referring to, or as including references to—

- (a) the right acquired or to be acquired, or the restriction imposed or to be imposed; or
- (b) the land over which the right is or is to be exercisable, or the restriction is to be enforceable.

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(a) 1973 c.26.

(2) Without limitation on the scope of sub-paragraph (1), Part 1 of the 1965 Act applies in relation to the compulsory acquisition under this Order of a right by the creation of a new right or, in relation to the imposition of a restriction, with the modifications specified in the following provisions of this Schedule.

**5.** For section 7 (measure of compensation in the case of severance) of the 1965 Act there is substituted the following section—

“**7.** In assessing the compensation to be paid by the acquiring authority under this Act, regard shall be had not only to the extent (if any) to which the value of the land over which the right is to be acquired or the restrictive covenant is to be imposed is depreciated by the acquisition of the right or the imposition of the covenant but also to the damage (if any) to be sustained by the owner of the land by reason of its severance from other land of the owner, or injuriously affecting that other land by the exercise of the powers conferred by this or the special Act.”.

**6.** The following provisions of the 1965 Act (which state the effect of a deed poll executed in various circumstances where there is no conveyance by persons with interests in the land), that is to say—

- (a) section 9(4) (refusal to convey, failure to make title, etc);
- (b) paragraph 10(3) of Schedule 1 (persons without power to sell their interests) (conveyance of the land or interest);
- (c) paragraph 2(3) of Schedule 2 (absent and untraced owners); and
- (d) paragraphs 2(3) and 7(2) of Schedule 4 (common land),

are so modified as to secure that, as against persons with interests in the land which are expressed to be overridden by the deed, the right which is to be compulsorily acquired or the restrictive covenant which is to be imposed is vested absolutely in the acquiring authority.

**7.** Section 11 (powers of entry) of the 1965 Act is so modified as to secure that, as from the date on which the acquiring authority has served notice to treat in respect of any right or restrictive covenant, as well as the notice of entry required by subsection (1) of that section (as it applies to compulsory acquisition under article 20), it has power, exercisable in equivalent circumstances and subject to equivalent conditions, to enter for the purpose of exercising that right or enforcing that restrictive covenant (which is deemed for this purpose to have been created on the date of service of the notice); and sections 11A (powers of entry: further notices of entry), 11B (counter-notice requiring possession to be taken on specified date), 12 (penalty for unauthorised entry) and 13 (refusal to give possession to acquiring authority) of the 1965 Act is modified correspondingly.

**8.** Section 20 (protection for interests of tenants at will, etc.) of the 1965 Act applies with the modifications necessary to secure that persons with such interests in land as are mentioned in that section are compensated in a manner corresponding to that in which they would be compensated on a compulsory acquisition under this Order of that land, but taking into account only the extent (if any) of such interference with such an interest as is actually caused, or likely to be caused, by the exercise of the right or the enforcement of the restrictive covenant in question.

**9.** Section 22 (interest omitted from purchase) of the 1965 Act as modified by article 29(3) is so modified as to enable the acquiring authority, in circumstances corresponding to those referred to in that section, to continue to be entitled to exercise the right acquired or enforce the restrictive covenant imposed, subject to compliance with that section as respects compensation.

**10.** For Schedule 2A to the 1965 Act substitute—

## “SCHEDULE 2A COUNTER-NOTICE REQUIRING PURCHASE OF LAND

### **Introduction**

1.—(1) This Schedule applies where an acquiring authority serve a notice to treat in respect of a right over, or restrictive covenant affecting, the whole or part of a house, building or factory and have not executed a general vesting declaration under section 4 (execution of declaration) of the 1981 Act as applied by article 23 (application of the Compulsory Purchase (Vesting Declarations) Act 1981) of the Hornsea Four Offshore Wind Farm Order 202[ ] in respect of the land to which the notice to treat relates.

(2) But see article 25(3) (acquisition of subsoil only) of the Hornsea Four Offshore Wind Farm Order 202[ ] which excludes the acquisition of subsoil only from this Schedule.

2. In this Schedule, “house” includes any park or garden belonging to a house.

### **Counter-notice requiring purchase of land**

3. A person who is able to sell the house, building or factory (“the owner”) may serve a counter-notice requiring the authority to purchase the owner’s interest in the house, building or factory.

4. A counter-notice under paragraph 3 must be served within the period of 28 days beginning with the day on which the notice to treat was served.

### **Response to counter-notice**

5. On receiving a counter-notice, the acquiring authority must decide whether to—

- (a) withdraw the notice to treat,
- (b) accept the counter-notice, or
- (c) refer the counter-notice to the Upper Tribunal.

6. The authority must serve notice of their decision on the owner within the period of 3 months beginning with the day on which the counter-notice is served (“the decision period”).

7. If the authority decide to refer the counter-notice to the Upper Tribunal they must do so within the decision period.

8. If the authority do not serve notice of a decision within the decision period they are to be treated as if they had served notice of a decision to withdraw the notice to treat at the end of that period.

9. If the authority serve notice of a decision to accept the counter-notice, the compulsory purchase order and the notice to treat are to have effect as if they included the owner’s interest in the house, building or factory.

### **Determination by the Upper Tribunal**

10. On a referral under paragraph 7, the Upper Tribunal must determine whether the acquisition of the right or the imposition of the restrictive covenant would—

- (a) in the case of a house, building or factory, cause material detriment to the house, building or factory, or
- (b) in the case of a park or garden, seriously affect the amenity or convenience of the house to which the park or garden belongs.

**11.** In making its determination, the Upper Tribunal must take into account—

- (a) the effect of the acquisition of the right or the imposition of the covenant,
- (b) the use to be made of the right or covenant proposed to be acquired or imposed, and
- (c) if the right or covenant is proposed to be acquired or imposed for works or other purposes extending to other land, the effect of the whole of the works and the use of the other land.

**12.** If the Upper Tribunal determines that the acquisition of the right or the imposition of the covenant would have either of the consequences described in paragraph 10, it must determine how much of the house, building or factory the authority ought to be required to take.

**13.** If the Upper Tribunal determines that the authority ought to be required to take some or all of the house, building or factory, the compulsory purchase order and the notice to treat are to have effect as if they included the owner's interest in that land.

**14.—**(1) If the Upper Tribunal determines that the authority ought to be required to take some or all of the house, building or factory, the authority may at any time within the period of 6 weeks beginning with the day on which the Upper Tribunal makes its determination withdraw the notice to treat in relation to that land.

(2) If the acquiring authority withdraw the notice to treat under this paragraph they must pay the person on whom the notice was served compensation for any loss or expense caused by the giving and withdrawal of the notice.

(3) Any dispute as to the compensation is to be determined by the Upper Tribunal.”.



## SCHEDULE 8

### LAND OF WHICH TEMPORARY POSSESSION MAY BE TAKEN

<i>(1)</i> Area	<i>(2)</i> Number of land shown on land plan	<i>(3)</i> Purpose for which temporary possession may be taken
East Riding of Yorkshire	5	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	6	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	6A	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	7	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	8	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	9	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	15	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	16	Temporary use for access to facilitate construction for Work Nos. 5 and 6
East Riding of Yorkshire	22	Temporary use (including for access and logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	24	Temporary use (including for access and logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	42	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	43	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	44	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	48	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	49	Temporary use for access to

		facilitate construction for Work No. 6
East Riding of Yorkshire	50	Temporary use (including for access and logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	67	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	79	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	81	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	82	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	83	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	85	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	89	Temporary use (including for access and logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	90	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	97	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	101	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	102	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	103	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	105	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	112	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	115	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	116	Temporary use for access to facilitate construction for Work No. 6

East Riding of Yorkshire	118	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	119	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	120	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	121	Temporary use (including access and bridge inspection, monitoring, maintenance and improvements) to facilitate construction for Work No. 6
East Riding of Yorkshire	122	Temporary use (including access and bridge inspection, monitoring, maintenance and improvements) to facilitate construction for Work No. 6
East Riding of Yorkshire	124	Temporary use (including access and bridge inspection, monitoring, maintenance and improvements) to facilitate construction for Work No. 6
East Riding of Yorkshire	125	Temporary use (including access and bridge inspection, monitoring, maintenance and improvements) to facilitate construction for Work No. 6
East Riding of Yorkshire	131	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	132	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	133	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	136	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	137	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	154	Temporary use (including for logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	197	Temporary use (including for access and logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	198	Temporary use for access to facilitate construction for Work No. 6

East Riding of Yorkshire	202	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	204	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	205	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	207	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	208	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	210	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	217	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	218	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	219	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	220	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	221	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	222	Temporary use (including for access and logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	224	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	225	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	226	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	231	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	232	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	246	Temporary use for access to facilitate construction for Work No. 6

East Riding of Yorkshire	248	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	249	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	251	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	256	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	257	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	259	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	260	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	261	Temporary use (including for logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	270	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	271	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	286	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	288	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	289	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	291	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	297	Temporary use (including for logistics compound) to facilitate construction for Work No. 6
East Riding of Yorkshire	301	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	303	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	304	Temporary use for access to facilitate construction for

		Work No. 6
East Riding of Yorkshire	306	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	311	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	312	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	313	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	314	Temporary use for access to facilitate construction for Work No. 6
East Riding of Yorkshire	319	Temporary use (including for access and logistics compound) to facilitate construction for Work Nos. 6, 7, 8 and 10
East Riding of Yorkshire	321	Temporary use for access to facilitate construction for Work Nos. 6, 7, 8 and 10
East Riding of Yorkshire	324	Temporary use for access to facilitate construction for Work Nos. 6, 7, 8 and 10
East Riding of Yorkshire	325	Temporary use for access to facilitate construction for Work Nos. 6, 7, 8 and 10

# SCHEDULE 9

## PROTECTIVE PROVISIONS

### PART 1

#### PROTECTION FOR ELECTRICITY, GAS, WATER AND SEWERAGE UNDERTAKERS

#### **Application**

**1.** For the protection of the affected undertakers referred to in this Part of this Schedule (save for National Grid which is protected by Part 3 of this Schedule and Northern Powergrid which is protected by Part 11 of this Schedule) the following provisions must, unless otherwise agreed in writing between the undertaker and the affected undertaking concerned, have effect.

**2.** In this Part of this Schedule—

“affected undertaker” means

- (a) any licence holder within the meaning of Part 1 (electricity supply) of the 1989 Act;
- (b) a gas transporter within the meaning of Part 1 (gas supply) of the Gas Act 1986(a);
- (c) a water undertaker within the meaning of the Water Industry Act 1991(b);
- (d) a sewerage undertaker within the meaning of Part 1 (preliminary) of the Water Industry Act 1991(c),

for the area of the authorised development but, for the avoidance of doubt, does not include the undertakers specified in Part 3 or Part 11 of this Schedule, and in relation to any apparatus, means the undertaker to whom it belongs or by whom it is maintained;

“alternative apparatus” means alternative apparatus adequate to enable the affected undertaker in question to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means—

- (a) in the case of an electricity undertaker, electric lines or electrical plant (as defined in the 1989 Act), belonging to or maintained by that affected undertaker;
- (b) in the case of a gas undertaker, any mains, pipes or other apparatus belonging to or maintained by a gas transporter for the purposes of gas supply;
- (c) in the case of a water undertaker—
  - (i) mains, pipes or other apparatus belonging to or maintained by that affected undertaker for the purposes of water supply; and
  - (ii) any water mains or service pipes (or part of a water main or service pipe) that is the subject of an agreement to adopt made under section 51A (agreements to adopt water main or service pipe at future date) of the Water Industry Act 1991;
- (d) in the case of a sewerage undertaker—
  - (i) any drain or works vested in the affected undertaker in accordance with the Water Industry Act 1991; and
  - (ii) any sewer which is so vested or is the subject of a notice of intention to adopt given under section 102(4) (adoption of sewers and disposal works) of that Act or an

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(a) 1986 c.44. A new section 7 was substituted by section 5 of the Gas Act 1995 (c.45), and was further amended by section 76 of the Utilities Act 2000 (c.27).

(b) 1991 c.56.

(c) 1991 c.56.

agreement to adopt made under section 104 (agreements to adopt sewer, drain or sewerage disposal works, at future date) of that Act,

and includes a sludge main, disposal main (within the meaning of section 219 (general interpretation) of that Act) or sewer outfall and any manholes, ventilating shafts, pumps or other accessories forming part of any such sewer, drain or works, and includes any structure in which apparatus is or is to be lodged or which gives or will give access to apparatus;

“functions” includes powers and duties; and

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over or upon land.

### **Precedence of the 1991 Act in respect of apparatus in the streets**

3. This Part of this Schedule does not apply to apparatus in respect of which the relations between the undertaker and the affected undertaker are regulated by the provisions of Part 3 (street works in England and Wales) of the 1991 Act.

### **No acquisition etc. except by agreement**

4. Regardless of any provision in this Order or anything shown on the land plans, the undertaker must not acquire any apparatus otherwise than by agreement.

### **Removal of apparatus**

5.—(1) If, in the exercise of the powers conferred by this Order, the undertaker acquires any interest in any land in which any apparatus is placed, that apparatus must not be removed under this Part of this Schedule and any right of an affected undertaker to maintain that apparatus in that land must not be extinguished until alternative apparatus has been constructed and is in operation to the reasonable satisfaction of the affected undertaker in question.

(2) If, for the purpose of executing any works in, on or under any land purchased, held, or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it must give to the affected undertaker in question written notice of that requirement, together with a plan and section of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order an affected undertaker reasonably needs to remove any of its apparatus) the undertaker must, subject to sub-paragraph (3), afford to the affected undertaker the necessary facilities and rights for the construction of alternative apparatus in other land of the undertaker and subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, the affected undertaker in question must, on receipt of a written notice to that effect from the undertaker, as soon as reasonably possible use reasonable endeavours to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed.

(4) Any alternative apparatus to be constructed in land of the undertaker under this Part of this Schedule must be constructed in such manner and in such line or situation as may be agreed between the affected undertaker in question and the undertaker or in default of agreement settled by arbitration in accordance with article 39 (arbitration).

(5) The affected undertaker in question must, after the alternative apparatus to be provided or constructed has been agreed or settled by arbitration in accordance with article 39 (arbitration) and after the grant to the affected undertaker of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this Part of this Schedule.



(6) Regardless of anything in sub-paragraph (5), if the undertaker gives notice in writing to the affected undertaker in question that it desires itself to execute any work, or part of any work in connection with the construction or removal of apparatus in any land controlled by the undertaker, that work, instead of being executed by the affected undertaker, must be executed by the undertaker without unnecessary delay under the superintendence, if given, and to the reasonable satisfaction of the affected undertaker.

(7) Nothing in sub-paragraph (6) authorises the undertaker to execute the placing, installation, bedding, packing, removal, connection or disconnection of any apparatus, or execute any filling around the apparatus (where the apparatus is laid in a trench) within 300 millimetres of the apparatus.

### **Facilities and rights for alternative apparatus**

**6.—**(1) Where, in accordance with the provisions of this Part of this Schedule, the undertaker affords to an affected undertaker facilities and rights for the construction and maintenance in land of the undertaker of alternative apparatus in substitution for apparatus to be removed, those facilities and rights must be granted upon such terms and conditions as may be agreed between the undertaker and the affected undertaker in question or in default of agreement settled by arbitration in accordance with article 39 (arbitration).

(2) If the facilities and rights to be afforded by the undertaker in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are in the opinion of the arbitrator less favourable on the whole to the affected undertaker in question than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to which those facilities and rights are subject, the arbitrator must make such provision for the payment of compensation by the undertaker to that affected undertaker as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case.

### **Retained apparatus**

**7.—**(1) Not less than 28 days before starting the execution of any works of the type referred to in paragraph 5 that are near to, or will or may affect, any apparatus the removal of which has not been required by the undertaker under paragraph 5, the undertaker must submit to the affected undertaker in question a plan, section and description of the works to be executed.

(2) Those works must be executed only in accordance with the plan, section and description submitted under sub-paragraph (1) and in accordance with such reasonable requirements as may be made in accordance with sub-paragraph (3) by the affected undertaker for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and the affected undertaker is entitled to watch and inspect the execution of those works.

(3) Any requirements made by an affected undertaker under sub-paragraph (2) must be made within a period of 21 days beginning with the date on which a plan, section and description under sub-paragraph (1) are submitted to it.

(4) If an affected undertaker in accordance with sub-paragraph (2) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs 1 to 6 apply as if the removal of the apparatus had been required by the undertaker under paragraph 5.

(5) Nothing in this paragraph precludes the undertaker from submitting at any time or from time to time, but in no case less than 28 days before commencing the execution of any works, a new plan, section and description instead of the plan, section and description previously submitted, and having done so the provisions of this paragraph apply to and in respect of the new plan, section and description.

(6) The undertaker is not required to comply with sub-paragraph (1) in a case of emergency but in that case it must give to the affected undertaker in question notice as soon as is reasonably practicable and a plan, section and description of those works as soon as reasonably practicable

subsequently and must comply with sub-paragraph (2) in so far as is reasonably practicable in the circumstances.

**8.**—(1) Subject to the following provisions of this paragraph, the undertaker must repay to an affected undertaker the reasonable expenses incurred by that affected undertaker in, or in connection with, the inspection, removal, alteration or protection of any apparatus or the construction of any new apparatus which may be required in consequence of the execution of any such works as are referred to in paragraph 5.

(2) There must be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Part of this Schedule, that value being calculated after removal.

(3) If in accordance with the provisions of this Part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or, in default of agreement, is not determined by arbitration in accordance with article 39 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this Part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to the affected undertaker in question by virtue of sub-paragraph (1) must be reduced by the amount of that excess.

(4) For the purposes of sub-paragraph (2)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus is not to be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole is to be treated as if it also had been agreed or had been so determined.

(5) An amount which apart from this sub-paragraph would be payable to an affected undertaker in respect of works by virtue of sub-paragraph (1) must, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on the affected undertaker any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

### **Expenses and costs**

**9.**—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any such works referred to in paragraph 5, any damage is caused to any apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works) or property of an affected undertaker, or there is any interruption in any service provided, or in the supply of any goods, by any affected undertaker, the undertaker must—

- (a) bear and pay the cost reasonably incurred by that affected undertaker in making good such damage or restoring the supply; and
- (b) make reasonable compensation to that affected undertaker for any other expenses, loss, damages, penalty or costs incurred by the affected undertaker,

by reason or in consequence of any such damage or interruption.

(2) Nothing in sub-paragraph (1) imposes any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the act, neglect or default of an affected undertaker, its officers, servants, contractors or agents.

(3) An affected undertaker must give the undertaker reasonable notice of any such claim or demand and no settlement or compromise may be made without the consent of the undertaker which, if it withholds such consent, shall have the sole conduct of any settlement or compromise or of any proceedings necessary to resist the claim or demand.

**10.** Nothing in this Part of this Schedule affects the provisions of any enactment or agreement regulating the relations between the undertaker and an affected undertaker in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

## PART 2

### PROTECTION FOR OPERATORS OF ELECTRONIC COMMUNICATIONS CODE NETWORKS

**1.** For the protection of any operator, the following provisions, unless otherwise agreed in writing between the undertaker and the operator, have effect.

**2.** In this Part of this Schedule—

“conduit system” has the same meaning as in the electronic communications code and references to providing a conduit system is construed in accordance with paragraph 1(3A) of that code;

“electronic communications apparatus” has the same meaning as in the electronic communications code;

“the electronic communications code” has the same meaning as in Chapter 1 of Part 2 of the 2003 Act(a);

“electronic communications code network” means—

- (a) so much of an electronic communications network or conduit system provided by an electronic communications code operator as is not excluded from the application of the electronic communications code by a direction under section 106 of the 2003 Act; and
- (b) an electronic communications network which the Secretary of State is providing or proposing to provide;

“electronic communications code operator” means a person in whose case the electronic communications code is applied by a direction under section 106 of the 2003 Act; and

“operator” means the operator of an electronic communications code network.

**3.** The exercise of the powers of article 30 (statutory undertakers) are subject to Part 10 of Schedule 3A to the Communications Act 2003(b).

**4.**—(1) Subject to sub-paragraphs (2) to (4), if as the result of the authorised development or their construction, or of any subsidence resulting from any of those works—

- (a) any damage is caused to any electronic communications apparatus belonging to an operator (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works, or other property of an operator); or
- (b) there is any interruption in the supply of the service provided by an operator, the undertaker must bear and pay the cost reasonably incurred by the operator in making good such damage or restoring the supply and must—
  - (i) make reasonable compensation to an operator for loss sustained by it; and

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(a) See section 106.

(b) 2003 c.21.

- (ii) indemnify an operator against claims, demands, proceedings, costs, damages and expenses which may be made or taken against, or recovered from, or incurred by, an operator by reason, or in consequence of, any such damage or interruption.

(2) Nothing in sub-paragraph (1) imposes any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the act, neglect or default of an operator, its officers, servants, contractors or agents.

(3) The operator must give the undertaker reasonable notice of any such claim or demand and no settlement or compromise of the claim or demand may be made without the consent of the undertaker which, if it withholds such consent, shall have the sole conduct of any settlement or compromise or of any proceedings necessary to resist the claim or demand.

(4) Any difference arising between the undertaker and the operator under this paragraph must be referred to and settled by arbitration under article 39 (arbitration).

**5.** This Part of this Schedule does not apply to—

- (a) any apparatus in respect of which the relations between the undertaker and an operator are regulated by the provisions of Part 3 of the 1991 Act; or
- (b) any damage, or any interruption, caused by electro-magnetic interference arising from the construction or use of the authorised development.

**6.** Nothing in this Part of this Schedule affects the provisions of any enactment or agreement regulating the relations between the undertaker and an operator in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

## PART 3A

### FOR THE PROTECTION OF NATIONAL GRID ELECTRICITY TRANSMISSION PLC AS ELECTRICITY UNDERTAKER

#### **Application**

**1.** For the protection of National Grid as referred to in this Part of this Schedule the following provisions must, unless otherwise agreed in writing between the undertaker and National Grid, have effect.

#### **Interpretation**

**2.** In this Part of this Schedule—

“alternative apparatus” means appropriate alternative apparatus to the satisfaction of National Grid to enable National Grid to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means any electric lines or electrical plant as defined in the Electricity Act 1989, belonging to or maintained by National Grid together with any replacement apparatus and such other apparatus constructed pursuant to this Order that becomes operational apparatus of National Grid for the purposes of transmission, distribution and/or supply and includes any structure in which apparatus is or must be lodged or which gives or will give access to apparatus;

“authorised development” has the same meaning as in article 2 (interpretation) of this Order (unless otherwise specified) and for the purposes of this Part of this Schedule must include the use and maintenance of the authorised development and construction of any works authorised by this Schedule;

“functions” includes powers and duties;

“ground mitigation scheme” means a scheme approved by National Grid (such approval not to be unreasonably withheld or delayed) setting out the necessary measures (if any) for a ground subsidence event;

“ground monitoring scheme” means a scheme for monitoring ground subsidence which sets out the apparatus which is to be subject to such monitoring, the extent of land to be monitored, the manner in which ground levels are to be monitored, the timescales of any monitoring activities and the extent of ground subsidence which, if exceeded, shall require the undertaker to submit for National Grid’s approval a ground mitigation scheme;

“ground subsidence event” means any ground subsidence identified by the monitoring activities set out in the ground monitoring scheme that has exceeded the level described in the ground monitoring scheme as requiring a ground mitigation scheme;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

“maintain” and “maintenance” shall include the ability and right to do any of the following in relation to any apparatus or alternative apparatus of National Grid including construct, use, repair, alter, inspect, renew or remove the apparatus;

“National Grid” means National Grid Electricity Transmission PLC (Company No. 2366977) whose registered office is at 1-3 Strand, London, WC2N 5EH or any successor as a licence holder within the meaning of Part 1 of the Electricity Act 1989;

“plan” or “plans” include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed; and

“specified works” means any of the authorised development or activities (including onshore site preparation works, monitoring, ground work operations or the receipt and erection of construction plant and equipment) undertaken in association with the authorised development which—

- (a) will or may be situated over, or within 15 metres measured in any direction of any apparatus the removal of which has not been required by the undertaker under paragraph 7 or otherwise;
- (b) may in any way adversely affect any apparatus the removal of which has not been required by the undertaker under paragraph 7 or otherwise; and/or
- (c) includes in relation to any electricity apparatus any activity that is referred to in development near overhead lines EN43-8 and HSE’s guidance note 6 “Avoidance of Danger from Overhead Lines.”

3. Except for paragraphs 4 (apparatus of National Grid in streets subject to temporary stopping up), 9 (retained apparatus: protection of National Grid as electricity undertaker), 10 (expenses) and 11 (indemnity) which must apply in respect of the exercise of all or any powers under this Order affecting the rights and apparatus of National Grid, this Schedule does not apply to apparatus in respect of which the relations between the undertaker and National Grid are regulated by the provisions of Part 3 of the 1991 Act.

#### **Apparatus of National Grid in streets subject to temporary stopping up**

4.—(1) Where any public right of way is stopped up under article 11 (stopping up and diversion of public rights of way and access land), if National Grid has any apparatus in the street or accessed via that street National Grid must be entitled to the same rights in respect of such apparatus as it enjoyed immediately before the stopping up and the undertaker must grant to National Grid, or must procure the granting to National Grid of, legal easements reasonably satisfactory to National Grid in respect of such apparatus and access to it prior to the stopping up of any such street or highway but nothing in this paragraph affects any right of the undertaker or National Grid to require the removal of that apparatus under paragraph 7 or the power of the undertaker, subject to compliance with this sub-paragraph, to carry out works under paragraph 9.

(2) Notwithstanding the temporary stopping up under the powers of article 11 (stopping up and diversion of public rights of way and access land), National Grid must be at liberty at all times to take all necessary access across any such street and/or to execute and do all such works and things

in, upon or under any such street as may be reasonably necessary or desirable to enable it to maintain any apparatus which at the time of the stopping up or diversion was in that street.

### **Protective works to buildings**

5. The undertaker, in the case of the powers conferred by article 16 (protective work to buildings), must exercise those powers so as not to obstruct or render less convenient the access to any apparatus without the written consent of National Grid which must not unreasonably be withheld.

### **Acquisition of land**

6.—(1) Regardless of any provision in this Order or anything shown on the land plans or contained in the book of reference to this Order, the undertaker must not appropriate or acquire or take temporary possession of any land or apparatus or appropriate, acquire, extinguish, interfere with or override any easement, other interest or right and/or apparatus of National Grid otherwise than by agreement (such agreement not to be unreasonably withheld).

(2) The undertaker and National Grid agree that where there is any inconsistency or duplication between the provisions set out in this Part of this Schedule relating to the relocation and/or removal of apparatus (including but not limited to the payment of costs and expenses relating to such relocation and/or removal of apparatus) and the provisions of any existing easement, rights, agreements and licences granted, used, enjoyed or exercised by National Grid and/or other enactments relied upon by National Grid as of right or other use in relation to the apparatus, then the provisions in this Schedule shall prevail.

(3) Any agreement or consent granted by National Grid under paragraph 9 or any other paragraph of this Part of this Schedule, shall not be taken to constitute agreement under sub-paragraph (1).

### **Removal of apparatus**

7.—(1) If, in the exercise of the powers conferred by the Order, the undertaker acquires any interest in or possess temporarily any Order land in which any apparatus is placed, that apparatus must not be removed under this Part of this Schedule and any right of National Grid to maintain that apparatus in that land must not be extinguished until alternative apparatus has been constructed, and is in operation to the reasonable satisfaction of National Grid in accordance with sub-paragraphs (2) to (5) inclusive.

(2) If, for the purpose of executing any works comprised in the authorised development in, on, under or over any land purchased, held, appropriated or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it must give to National Grid 56 days' advance written notice of that requirement, together with a plan of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order National Grid reasonably needs to remove any of its apparatus) the undertaker must, subject to sub-paragraph (3), secure any necessary consents for the alternative apparatus and afford to National Grid to its satisfaction (taking into account paragraph 8(1) below) the necessary facilities and rights—

- (a) for the construction of alternative apparatus in other land of or land secured by the undertaker; and
- (b) subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of or land secured by the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, National Grid must, on receipt of a written notice to that effect from the undertaker, take such steps as are reasonable in the circumstances in an endeavour to obtain the necessary facilities and rights in the land in which the alternative

apparatus is to be constructed save that this obligation shall not extend to the requirement for National Grid to use its compulsory purchase powers to this end unless it elects to so do.

(4) Any alternative apparatus to be constructed in land of or land secured by the undertaker under this Part of this Schedule must be constructed in such manner and in such line or situation as may be agreed between National Grid and the undertaker.

(5) National Grid must, after the alternative apparatus to be provided or constructed has been agreed, and subject to a written diversion agreement having been entered into between the parties and the grant to National Grid of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this Part of this Schedule.

### **Facilities and rights for alternative apparatus**

**8.**—(1) Where, in accordance with the provisions of this Part of this Schedule, the undertaker affords to or secures for National Grid facilities and rights in land for the construction, use, maintenance and protection of alternative apparatus in substitution for apparatus to be removed, those facilities and rights must be granted upon such terms and conditions as may be agreed between the undertaker and National Grid and must be no less favourable on the whole to National Grid than the facilities and rights enjoyed by it in respect of the apparatus to be removed unless otherwise agreed by National Grid.

(2) If the facilities and rights to be afforded by the undertaker and agreed with National Grid under sub-paragraph (1) above in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are less favourable on the whole to National Grid than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to which those facilities and rights are subject the matter must be referred to arbitration under paragraph 15 (arbitration) and the arbitrator must make such provision for the payment of compensation by the undertaker to National Grid as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case. In respect of the appointment of an arbitrator under this sub-paragraph (2) article 39 (arbitration) of this Order must apply.

### **Retained apparatus: Protection of National Grid as Electricity Undertaker**

**9.**—(1) Not less than 56 days before the commencement of any specified works, the undertaker must submit to National Grid a plan of the works to be executed and seek from National Grid details of the underground extent of their electricity assets.

(2) In relation to works which will or may be situated on, over, under or within—

(a) 15 metres measured in any direction of any apparatus, or

(b) involve embankment works within 15 metres of any apparatus,

the plan to be submitted to National Grid under sub-paragraph (1) must include a method statement and describe—

(a) the exact position of the works;

(b) the level at which these are proposed to be constructed or renewed;

(c) the manner of their construction or renewal including details of excavation, positioning of plant;

(d) the position of all apparatus;

(e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus;

(f) any intended maintenance regimes;

(g) an assessment of risks of rise of earth issues; and

(h) a ground monitoring scheme, where required.

(3) In relation to any works which will or may be situated on, over, under or within 10 metres of any part of the foundations of an electricity tower or between any two or more electricity towers, the plan to be submitted under sub-paragraph (1) must in addition to the matters set out in sub-paragraph (2) include a method statement describing—

- (a) details of any cable trench design including route, dimensions, clearance to pylon foundations;
- (b) demonstration that pylon foundations will not be affected prior to, during and post construction;
- (c) details of load bearing capacities of trenches;
- (d) details of cable installation methodology including access arrangements, jointing bays and backfill methodology;
- (e) a written management plan for high voltage hazard during construction and ongoing maintenance of the cable route;
- (f) written details of the operations and maintenance regime for the cable, including frequency and method of access;
- (g) assessment of earth rise potential if reasonably required by National Grid's engineers; and
- (h) evidence that trench bearing capacity is to be designed to support overhead line construction traffic of up to and including 26 tonnes in weight.

(4) The undertaker must not commence any works to which sub-paragraph (1), (2) or (3) apply until National Grid has given written approval of the plan so submitted.

(5) Any approval of National Grid required under sub-paragraph (1), (2), or (3)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (6) or (8); and
- (b) must not be unreasonably withheld.

(6) In relation to a work to which sub-paragraph (1), (2) or (3) apply, National Grid may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its apparatus against interference or risk of damage or for the provision of protective works or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(7) Works to which this paragraph applies must only be executed in accordance with the plan, submitted under sub-paragraph (1) or as relevant sub-paragraph (2), (3) or (6) as approved or as amended from time to time by agreement between the undertaker and National Grid and in accordance with such reasonable requirements as may be made in accordance with sub-paragraphs (5), (6), (8) and/or (9) by National Grid for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and National Grid will be entitled to watch and inspect the execution of those works.

(8) Where National Grid requires any protective works to be carried out by itself or by the undertaker (whether of a temporary or permanent nature) such protective works, inclusive of any measures or schemes required and approved as part of the plan approved pursuant to this paragraph, must be carried out to National Grid's satisfaction prior to the commencement of any specified works for which protective works are required and National Grid must give notice of its requirement for such works within 42 days of the date of submission of a plan pursuant to this paragraph (except in an emergency).

(9) If National Grid in accordance with sub-paragraphs (6) or (8) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs (1) to (3) and (6) to (7) shall apply as if the removal of the apparatus had been required by the undertaker under paragraph 7(2).

(10) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any specified works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph shall apply to and in respect of the new plan.



(11) The undertaker will not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it must give to National Grid notice as soon as is reasonably practicable and a plan of those works and must—

- (a) comply with sub-paragraphs (6), (7) and (8) insofar as is reasonably practicable in the circumstances; and comply with sub-paragraph (12) at all times.

(12) At all times when carrying out any works authorised under this Order, the undertaker must comply with National Grid's policies for development near overhead lines ENA TA 43-8 and the Health and Safety Executive's guidance note 6 "Avoidance of Danger from Overhead Lines".

## **Expenses**

**10.**—(1) Save where otherwise agreed in writing between National Grid and the undertaker and subject to the following provisions of this paragraph, the undertaker must pay to National Grid within 30 days of receipt of an itemised invoice or claim from National Grid all charges, costs and expenses reasonably anticipated within the following three months or incurred by National Grid in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus or alternative apparatus which may be required in consequence of the execution of any such works as are referred to in this Part of this Schedule including without limitation—

- (a) any costs reasonably incurred by or compensation properly paid by National Grid in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation all costs incurred by National Grid as a consequence of National Grid—
  - (i) using its own compulsory purchase powers to acquire any necessary rights under paragraph 7(3); or
  - (ii) exercising any compulsory purchase powers in the Order transferred to or benefitting National Grid;
- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus, where no written diversion agreement is otherwise in place;
- (c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works;
- (f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Part of this Schedule.

(2) There will be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Part of this Schedule and which is not re-used as part of the alternative apparatus, that value being calculated after removal.

(3) If in accordance with the provisions of this Part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was situated,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or, in default of agreement settled by arbitration in accordance with article 39 (arbitration) of this Order to be necessary, then, if such placing involves cost in the construction of works under this Part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be,

the amount which apart from this sub-paragraph would be payable to National Grid by virtue of sub-paragraph (1) will be reduced by the amount of that excess save to the extent that it is not possible in the circumstances to obtain the existing type of apparatus at the same capacity and dimensions or place at the existing depth in which case full costs will be borne by the undertaker.

(4) For the purposes of sub-paragraph (3)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus will not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a pipe or cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole will be treated as if it also had been agreed or had been so determined.

(5) Any amount which apart from this sub-paragraph would be payable to National Grid in respect of works by virtue of sub-paragraph (1) will, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on National Grid any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

### **Indemnity**

**11.—**(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any works authorised by this Part of this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by him) in the course of carrying out such works (including without limitation works carried out by the undertaker under this Part of this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of the authorised development) or property of National Grid, or there is any interruption in any service provided, or in the supply of any goods, by National Grid, or National Grid becomes liable to pay any amount to any third party, the undertaker will—

- (a) bear and pay on demand accompanied by an invoice or claim from National Grid the cost reasonably and properly incurred by National Grid in making good such damage or restoring the supply; and
- (b) indemnify National Grid for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from National Grid, by reason or in consequence of any such damage or interruption or National Grid becoming liable to any third party other than arising from any default by National Grid.

(2) The fact that any act or thing may have been done by National Grid on behalf of the undertaker or in accordance with a plan approved by National Grid or in accordance with any requirement of National Grid as a consequence of the authorised development or under its supervision will not (unless sub-paragraph (3) applies), excuse the undertaker from liability under the provisions of this sub-paragraph (2) where the undertaker fails to carry out and execute the works properly with due care and attention and in a skilful and workman like manner or in a manner that does not accord with the approved plan or as otherwise agreed between the undertaker and National Grid.

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker in respect of—

- (a) any damage or interruption to the extent that it is attributable to the neglect or default of National Grid, its officers, servants, contractors or agents;
- (b) any authorised development and/or any other works authorised by this Part of this Schedule carried out by National Grid as an assignee, transferee or lessee of the undertaker with the benefit of the Order pursuant to section 156 of the 2008 Act or article 5 (benefit of the Order) of the Order subject to the proviso that once such works become apparatus (“new apparatus”), any works yet to be executed and not falling within this sub-

paragraph 11(3)(b) will be subject to the full terms of this Part of this Schedule including this paragraph 11 in respect of such new apparatus; and/or

- (c) any indirect or consequential loss of any third party (including but not limited to loss of use, revenue, profit, contract, production, increased cost of working or business interruption) arising from any such damage or interruption, which is not reasonably foreseeable.

(4) National Grid must give the undertaker reasonable notice of any such claim or demand and no settlement, admission of liability or compromise or demand must be made, unless payment is required in connection with a statutory compensation scheme without first consulting the undertaker and considering its representations.

### **Enactments and agreements**

12. Save to the extent provided for to the contrary elsewhere in this Part of this Schedule or by agreement in writing between the undertaker and National Grid, nothing in this Part of this Schedule affects the provisions of any enactment or agreement regulating the relations between the undertaker and National Grid in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

### **Co-operation**

13.—(1) Where in consequence of the proposed construction of any part of the authorised development, the undertaker or National Grid requires the removal of apparatus under paragraph 7(2) or National Grid makes requirements for the protection or alteration of apparatus under paragraph 9, National Grid shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of National Grid's undertaking and National Grid shall use its best endeavours to co-operate with the undertaker for that purpose.

(2) For the avoidance of doubt whenever National Grid's consent, agreement or approval to is required in relation to plans, documents or other information submitted by the undertaker or the taking of action by National Grid, it must not be unreasonably withheld or delayed.

### **Access**

14. If in consequence of the agreement reached in accordance with paragraph 6 or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker must provide such alternative means of access to such apparatus as will enable National Grid to maintain or use the apparatus no less effectively than was possible before such obstruction.

### **Arbitration**

15. Save for differences or disputes arising under paragraphs 7(2), 7(4), 8(1) and 9 any difference or dispute arising between the undertaker and National Grid under this Part of this Schedule must, unless otherwise agreed in writing between the undertaker and National Grid, be determined by arbitration in accordance with article 39 (arbitration).

### **Notices**

16. The plans submitted to National Grid by the undertaker pursuant to paragraph 9(1) must be sent to National Grid LSBUD at <https://lsbud.co.uk/> or [assetprotection@nationalgrid.com](mailto:assetprotection@nationalgrid.com) or such other address as National Grid may from time to time appoint instead for that purpose and notify to the undertaker in writing.

## **PART 3B**

## FOR THE PROTECTION OF NATIONAL GRID GAS PLC AS GAS UNDERTAKER

### **Application**

1. For the protection of National Grid as referred to in this Part of this Schedule the following provisions must, unless otherwise agreed in writing between the undertaker and National Grid, have effect.

### **Interpretation**

2. In this Part of this Schedule—

“alternative apparatus” means appropriate alternative apparatus to the satisfaction of National Grid to enable National Grid to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means any mains, pipes or other apparatus belonging to or maintained by National Grid for the purposes of gas supply, together with any replacement apparatus and such other apparatus constructed pursuant to this Order that becomes operational apparatus of National Grid for the purposes of transmission, distribution and/or supply and includes any structure in which apparatus is or must be lodged or which gives or will give access to apparatus;

“authorised development” has the same meaning as in article 2 (interpretation) of this Order (unless otherwise specified) and for the purposes of this Part of this Schedule must include the use and maintenance of the authorised development and construction of any works authorised by this Schedule;

“functions” includes powers and duties;

“ground mitigation scheme” means a scheme approved by National Grid (such approval not to be unreasonably withheld or delayed) setting out the necessary measures (if any) for a ground subsidence event;

“ground monitoring scheme” means a scheme for monitoring ground subsidence which sets out the apparatus which is to be subject to such monitoring, the extent of land to be monitored, the manner in which ground levels are to be monitored, the timescales of any monitoring activities and the extent of ground subsidence which, if exceeded, shall require the undertaker to submit for National Grid’s approval a ground mitigation scheme;

“ground subsidence event” means any ground subsidence identified by the monitoring activities set out in the ground monitoring scheme that has exceeded the level described in the ground monitoring scheme as requiring a ground mitigation scheme;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

“maintain” and “maintenance” shall include the ability and right to do any of the following in relation to any apparatus or alternative apparatus of National Grid including construct, use, repair, alter, inspect, renew or remove the apparatus;

“National Grid” means National Grid Gas PLC (Company No. 200600) whose registered office is at 1-3 Strand, London, WC2N 5EH, or any successor as a gas transporter within the meaning of Part 1 of the Gas Act 1986;

“Network Code” means the network code prepared by National Grid as from time to time modified pursuant to the licence granted, or treated as granted, to it from time to time under the Gas Act 1986 as amended, in respect of its national transmission system;

“Network Code Claims” means any claim made against National Grid by any person under the Network Code arising out of or in connection with any failure by National Grid to make gas available for off take at, or a failure to accept gas tendered for delivery from, any entry point to or exit point from the National Grid network as a result of the authorised works or any costs and/or expenses incurred by National Grid as a result of or in connection with, it taking action (including purchase or buy back of capacity) for the purpose of managing constraint or

potential constraint on the National Grid Network which may arise as a direct result of the authorised works;

“plan” or “plans” include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed; and

“specified works” means any of the authorised development or activities (including onshore site preparation works, monitoring, ground work operations or the receipt and erection of construction plant and equipment) undertaken in association with the authorised development which—

- (a) will or may be situated over, or within 15 metres measured in any direction of any apparatus the removal of which has not been required by the undertaker under paragraph 7 or otherwise;
- (b) may in any way adversely affect any apparatus the removal of which has not been required by the undertaker under paragraph 7 or otherwise; and/or
- (c) includes in relation to any gas apparatus any of the activities that are referred to in paragraph 8 of T/SP/SSW/22 (National Grid’s policies for safe working in proximity to gas apparatus “Specification for safe working in the vicinity of National Grid, High pressure Gas pipelines and associated installation requirements for third parties T/SP/SSW/22”).

3. Except for paragraphs 4 (apparatus of National Grid in streets subject to temporary stopping up), 9 (retained apparatus: protection of National Grid as gas undertaker), 10 (expenses) and 11 (indemnity) which must apply in respect of the exercise of all or any powers under this Order affecting the rights and apparatus of National Grid, this Schedule does not apply to apparatus in respect of which the relations between the undertaker and National Grid are regulated by the provisions of Part 3 of the 1991 Act.

#### **Apparatus of National Grid in streets subject to temporary stopping up**

4.—(1) Where any public right of way is stopped up under article 11 (stopping up and diversion of public rights of way and access land), if National Grid has any apparatus in the street or accessed via that street National Grid must be entitled to the same rights in respect of such apparatus as it enjoyed immediately before the stopping up and the undertaker must grant to National Grid, or must procure the granting to National Grid of, legal easements reasonably satisfactory to National Grid in respect of such apparatus and access to it prior to the stopping up of any such street or highway but nothing in this paragraph affects any right of the undertaker or National Grid to require the removal of that apparatus under paragraph 7 or the power of the undertaker, subject to compliance with this sub-paragraph, to carry out works under paragraph 9.

(2) Notwithstanding the temporary stopping up under the powers of article 11 (stopping up and diversion of public rights of way and access land), National Grid must be at liberty at all times to take all necessary access across any such street and/or to execute and do all such works and things in, upon or under any such street as may be reasonably necessary or desirable to enable it to maintain any apparatus which at the time of the stopping up or diversion was in that street.

#### **Protective works to buildings**

5. The undertaker, in the case of the powers conferred by article 16 (protective work to buildings), must exercise those powers so as not to obstruct or render less convenient the access to any apparatus without the written consent of National Grid which must not unreasonably be withheld.

#### **Acquisition of land**

6.—(1) Regardless of any provision in this Order or anything shown on the land plans or contained in the book of reference to this Order, the undertaker must not appropriate or acquire or take temporary possession of any land or apparatus or appropriate, acquire, extinguish, interfere

with or override any easement, other interest or right and/or apparatus of National Grid otherwise than by agreement (such agreement not to be unreasonably withheld).

(2) The undertaker and National Grid agree that where there is any inconsistency or duplication between the provisions set out in this Part of this Schedule relating to the relocation and/or removal of apparatus (including but not limited to the payment of costs and expenses relating to such relocation and/or removal of apparatus) and the provisions of any existing easement, rights, agreements and licences granted, used, enjoyed or exercised by National Grid and/or other enactments relied upon by National Grid as of right or other use in relation to the apparatus, then the provisions in this Schedule shall prevail.

(3) Any agreement or consent granted by National Grid under paragraph 9 or any other paragraph of this Part of this Schedule, shall not be taken to constitute agreement under sub-paragraph (1).

### **Removal of apparatus**

7.—(1) If, in the exercise of the powers conferred by the Order, the undertaker acquires any interest in or possess temporarily any Order land in which any apparatus is placed, that apparatus must not be removed under this Part of this Schedule and any right of National Grid to maintain that apparatus in that land must not be extinguished until alternative apparatus has been constructed, and is in operation to the reasonable satisfaction of National Grid in accordance with sub-paragraphs (2) to (5) inclusive.

(2) If, for the purpose of executing any works comprised in the authorised development in, on, under or over any land purchased, held, appropriated or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it must give to National Grid 56 days' advance written notice of that requirement, together with a plan of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order National Grid reasonably needs to remove any of its apparatus) the undertaker must, subject to sub-paragraph (3), secure any necessary consents for the alternative apparatus and afford to National Grid to its satisfaction (taking into account paragraph 8(1) below) the necessary facilities and rights—

- (a) for the construction of alternative apparatus in other land of or land secured by the undertaker; and
- (b) subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of or land secured by the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, National Grid must, on receipt of a written notice to that effect from the undertaker, take such steps as are reasonable in the circumstances in an endeavour to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed save that this obligation shall not extend to the requirement for National Grid to use its compulsory purchase powers to this end unless it elects to so do.

(4) Any alternative apparatus to be constructed in land of or land secured by the undertaker under this Part of this Schedule must be constructed in such manner and in such line or situation as may be agreed between National Grid and the undertaker.

(5) National Grid must, after the alternative apparatus to be provided or constructed has been agreed, and subject to a written diversion agreement having been entered into between the parties and the grant to National Grid of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this Part of this Schedule.

### **Facilities and rights for alternative apparatus**

8.—(1) Where, in accordance with the provisions of this Part of this Schedule, the undertaker affords to or secures for National Grid facilities and rights in land for the construction, use,

maintenance and protection of alternative apparatus in substitution for apparatus to be removed, those facilities and rights must be granted upon such terms and conditions as may be agreed between the undertaker and National Grid and must be no less favourable on the whole to National Grid than the facilities and rights enjoyed by it in respect of the apparatus to be removed unless otherwise agreed by National Grid.

(2) If the facilities and rights to be afforded by the undertaker and agreed with National Grid under sub-paragraph (1) above in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are less favourable on the whole to National Grid than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to which those facilities and rights are subject the matter must be referred to arbitration under paragraph 16 (arbitration) and the arbitrator must make such provision for the payment of compensation by the undertaker to National Grid as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case. In respect of the appointment of an arbitrator under this sub-paragraph (2) article 39 (arbitration) of this Order must apply.

### **Retained apparatus: protection of National Grid as Gas Undertaker**

**9.**—(1) Not less than 56 days before the commencement of any specified works the undertaker must submit to National Grid a plan and, if reasonably required by National Grid, a ground monitoring scheme in respect of those works.

(2) The plan to be submitted to National Grid under sub-paragraph (1) must include a method statement and describe—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant etc;
- (d) the position of all apparatus;
- (e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus; and
- (f) any intended maintenance regimes.

(3) The undertaker must not commence any works to which sub-paragraphs (1) and (2) apply until National Grid has given written approval of the plan so submitted.

(4) Any approval of National Grid required under sub-paragraph (3)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (5) or (7); and
- (b) must not be unreasonably withheld.

(5) In relation to a work to which sub-paragraphs (1) and/or (2) apply, National Grid may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its apparatus against interference or risk of damage or for the provision of protective works or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(6) Works to which this paragraph applies must only be executed in accordance with the plan, submitted under sub-paragraphs (1) and (2) or as relevant sub-paragraph (5), as amended from time to time by agreement between the undertaker and National Grid and in accordance with such reasonable requirements as may be made in accordance with sub-paragraphs (5), (7) and/or (8) by National Grid for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and National Grid will be entitled to watch and inspect the execution of those works.

(7) Where National Grid requires any protective works to be carried out by itself or by the undertaker (whether of a temporary or permanent nature) such protective works, inclusive of any measures or schemes required and approved as part of the plan approved pursuant to this paragraph, must be carried out to National Grid's satisfaction prior to the commencement of any

specified works for which protective works are required and National Grid must give notice of its requirement for such protective works within 42 days of the date of submission of a plan pursuant to this paragraph (except in an emergency).

(8) If National Grid in accordance with sub-paragraph (5) or (7) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs (1) to (3) and (6) to (7) apply as if the removal of the apparatus had been required by the undertaker under paragraph 7(2).

(9) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any specified works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph will apply to and in respect of the new plan.

(10) The undertaker will not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it must give to National Grid notice as soon as is reasonably practicable and a plan of those works and must—

- (a) comply with sub-paragraphs (5), (6) and (7) insofar as is reasonably practicable in the circumstances; and comply with sub-paragraph (11) at all times.

(11) At all times when carrying out any works authorised under this Order the undertaker must comply with National Grid's policies for safe working in proximity to gas apparatus "Specification for safe working in the vicinity of National Grid, High pressure Gas pipelines and associated installation requirements for third parties T/SP/SSW22" and the Health and Safety Executive's HS(~G)47 Avoiding Danger from underground services".

(12) As soon as reasonably practicable after any ground subsidence event attributable to the authorised development the undertaker shall implement an appropriate ground mitigation scheme save that National Grid retains the right to carry out any further necessary protective works for the safeguarding of its apparatus and can recover any such costs in line with paragraph 10.

## **Expenses**

**10.**—(1) Save where otherwise agreed in writing between National Grid and the undertaker and subject to the following provisions of this paragraph, the undertaker must pay to National Grid within 30 days of receipt of an itemised invoice or claim from National Grid all charges, costs and expenses reasonably anticipated within the following three months or incurred by National Grid in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus or alternative apparatus which may be required in consequence of the execution of any such works as are referred to in this Part of this Schedule including without limitation—

- (a) any costs reasonably incurred by or compensation properly paid by National Grid in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation all costs incurred by National Grid as a consequence of National Grid—
  - (i) using its own compulsory purchase powers to acquire any necessary rights under paragraph 7(3); or
  - (ii) exercising any compulsory purchase powers in the Order transferred to or benefitting National Grid;
- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus, where no written diversion agreement is otherwise in place;
- (c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works;



- (f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Part of this Schedule.

(2) There will be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Part of this Schedule and which is not re-used as part of the alternative apparatus, that value being calculated after removal.

(3) If in accordance with the provisions of this Part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was situated,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or, in default of agreement settled by arbitration in accordance with article 39 (arbitration) of this Order to be necessary, then, if such placing involves cost in the construction of works under this Part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to National Grid by virtue of sub-paragraph (1) will be reduced by the amount of that excess save to the extent that it is not possible in the circumstances to obtain the existing type of apparatus at the same capacity and dimensions or place at the existing depth in which case full costs will be borne by the undertaker.

(4) For the purposes of sub-paragraph (3)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus will not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a pipe or cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole will be treated as if it also had been agreed or had been so determined.

(5) Any amount which apart from this sub-paragraph would be payable to National Grid in respect of works by virtue of sub-paragraph (1) will, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on National Grid any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

## **Indemnity**

**11.**—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any works authorised by this Part of this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by him) in the course of carrying out such works (including without limitation works carried out by the undertaker under this Part of this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of the authorised development) or property of National Grid, or there is any interruption in any service provided, or in the supply of any goods, by National Grid, or National Grid becomes liable to pay any amount to any third party, the undertaker will—

- (a) bear and pay on demand accompanied by an invoice or claim from National Grid the cost reasonably and properly incurred by National Grid in making good such damage or restoring the supply; and
- (b) indemnify National Grid for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from National Grid, by reason or in

consequence of any such damage or interruption or National Grid becoming liable to any third party and including any Network Code Claims other than arising from any default by National Grid.

(2) The fact that any act or thing may have been done by National Grid on behalf of the undertaker or in accordance with a plan approved by National Grid or in accordance with any requirement of National Grid as a consequence of the authorised development or under its supervision will not (unless sub-paragraph (3) applies), excuse the undertaker from liability under the provisions of this sub-paragraph (2) where the undertaker fails to carry out and execute the works properly with due care and attention and in a skilful and workman like manner or in a manner that does not accord with the approved plan or as otherwise agreed between the undertaker and National Grid.

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker in respect of—

- (a) any damage or interruption to the extent that it is attributable to the neglect or default of National Grid, its officers, servants, contractors or agents;
- (b) any authorised development and/or any other works authorised by this Part of this Schedule carried out by National Grid as an assignee, transferee or lessee of the undertaker with the benefit of the Order pursuant to section 156 of the 2008 Act or article 5 (benefit of the Order) of the Order subject to the proviso that once such works become apparatus (“new apparatus”), any works yet to be executed and not falling within this sub-paragraph 11(3)(b) will be subject to the full terms of this Part of this Schedule including this paragraph 11 in respect of such new apparatus; and/or
- (c) any indirect or consequential loss of any third party (including but not limited to loss of use, revenue, profit, contract, production, increased cost of working or business interruption) arising from any such damage or interruption, which is not reasonably foreseeable.

(4) National Grid must give the undertaker reasonable notice of any such claim or demand and no settlement, admission of liability or compromise or demand must be made, unless payment is required in connection with a statutory compensation scheme without first consulting the undertaker and considering its representations.

### **Enactments and agreements**

12. Save to the extent provided for to the contrary elsewhere in this Part of this Schedule or by agreement in writing between the undertaker and National Grid, nothing in this Part of this Schedule affects the provisions of any enactment or agreement regulating the relations between the undertaker and National Grid in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

### **Co-operation**

13.—(1) Where in consequence of the proposed construction of any part of the authorised development, the undertaker or National Grid requires the removal of apparatus under paragraph 7(2) or National Grid makes requirements for the protection or alteration of apparatus under paragraph 9, National Grid shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of National Grid’s undertaking and National Grid shall use its best endeavours to co-operate with the undertaker for that purpose.

(2) For the avoidance of doubt whenever National Grid’s consent, agreement or approval to is required in relation to plans, documents or other information submitted by the undertaker or the taking of action by National Grid, it must not be unreasonably withheld or delayed.

## Access

14. If in consequence of the agreement reached in accordance with paragraph 6 or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker must provide such alternative means of access to such apparatus as will enable National Grid to maintain or use the apparatus no less effectively than was possible before such obstruction.

## Arbitration

15. Save for differences or disputes arising under paragraphs 7(2), 7(4), 8(1) and 9 any difference or dispute arising between the undertaker and National Grid under this Part of this Schedule must, unless otherwise agreed in writing between the undertaker and National Grid, be determined by arbitration in accordance with article 39 (arbitration).

## Notices

16. The plans submitted to National Grid by the undertaker pursuant to paragraph 9(1) must be sent to National Grid LSBUD at <https://lsbud.co.uk/> or [assetprotection@nationalgrid.com](mailto:assetprotection@nationalgrid.com) or such other address as National Grid may from time to time appoint instead for that purpose and notify to the undertaker in writing.

# PART 4

## PROTECTION OF RAILWAY INTERESTS

1. The provisions of this Part of this Schedule have effect, unless otherwise agreed in writing between the undertaker and Network Rail and, in the case of paragraph 15 of this Part of this Schedule any other person on whom rights or obligations are conferred by that paragraph.

2. In this Part of this Schedule—

“asset protection agreement” means an agreement to regulate the construction and maintenance of the specified work in a form prescribed from time to time by Network Rail;

“construction” includes execution, placing, alteration and reconstruction and “construct” and “constructed” have corresponding meanings;

“the engineer” means an engineer appointed by Network Rail for the purposes of this Order;

“network licence” means the network licence, as the same is amended from time to time, granted to Network Rail Infrastructure Limited by the Secretary of State in exercise of their powers under section 8 (licences) of the Railways Act 1993(a);

“Network Rail” means Network Rail Infrastructure Limited (company number 02904587, whose registered office is at 1 Eversholt Street, London, NW1 2DN) and any associated company of Network Rail Infrastructure Limited which holds property for railway purposes, and for the purpose of this definition “associated company” means any company which is (within the meaning of section 1159 of the Companies Act 2006(b) the holding company of Network Rail Infrastructure Limited, a subsidiary of Network Rail Infrastructure Limited or another subsidiary of the holding company of Network Rail Infrastructure Limited and any successor to Network Rail Infrastructure Limited’s railway undertaking;

“plans” includes sections, designs, design data, software, drawings, specifications, soil reports, calculations, descriptions (including descriptions of methods of construction), staging proposals, programmes and details of the extent, timing and duration of any proposed occupation of railway property;

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(a) 1993 c.43.

(b) 2006 c.46.

“railway operational procedures” means procedures specified under any access agreement (as defined in the Railways Act 1993) or station lease;

“railway property” means any railway belonging to Network Rail and—

- (a) any station, land, works, apparatus and equipment belonging to Network Rail or connected with any such railway; and
- (b) any easement or other property interest held or used by Network Rail or a tenant or licensee of Network Rail for the purposes of such railway or works, apparatus or equipment;

“regulatory consents” means any consent or approval required under—

- (a) the Railways Act 1993;
- (b) the network licence; and/or
- (c) any other relevant statutory or regulatory provisions;

by either the Office of Rail and Road or the Secretary of State for Transport or any other competent body including change procedures and any other consents, approvals of any access or beneficiary that may be required in relation to the authorised development;

“specified work” means so much of any of the authorised development as is situated upon, across, under, over or within 15 metres of, or may in any way adversely affect, railway property and, for the avoidance of doubt, includes the maintenance of such works under the powers conferred by article 4 (maintenance of authorised development) in respect of such works.

**3.—**(1) Where under this Part of this Schedule Network Rail is required to give its consent or approval in respect of any matter, that consent or approval is subject to the condition that Network Rail complies with any relevant railway operational procedures and any obligations under its network licence or under statute.

(2) In so far as any specified work or the acquisition or use of railway property is or may be subject to railway operational procedures, Network Rail must—

- (a) co-operate with the undertaker with a view to avoiding undue delay and securing conformity as between any plans approved by the engineer and requirements emanating from those procedures; and
- (b) use their reasonable endeavours to avoid any conflict arising between the application of those procedures and the proper implementation of the authorised development pursuant to this Order.

**4.—**(1) The undertaker must not exercise the powers conferred by—

- (a) article 3 (development consent granted by the Order);
- (b) article 4 (maintenance of authorised project);
- (c) article 15 (discharge of water);
- (d) article 17 (authority to survey and investigate the land onshore);
- (e) article 18 (compulsory acquisition of land);
- (f) article 21 (compulsory acquisition of rights);
- (g) article 25 (acquisition of subsoil only);
- (h) article 24 (power to override easements and other rights);
- (i) article 28 (temporary use of land for carrying out the authorised project);
- (j) article 29 (temporary use of land for maintaining the authorised project);
- (k) article 30 (statutory undertakers);
- (l) article 22 (private rights);
- (m) article 36 (felling or lopping of trees or shrubs);
- (n) article 37 (trees subject to tree preservation orders);

- (o) the powers conferred by section 11(3) (power of entry) of the 1965 Act;
- (p) the powers conferred by section 203 (power to override easements and rights) of the Housing and Planning Act 2016;
- (q) the powers conferred by section 172 (right to enter and survey land) of the Housing and Planning Act 2016;
- (r) any powers under in respect of the temporary possession of land under the Neighbourhood Planning Act 2017;

in respect of any railway property unless the exercise of such powers is with the consent of Network Rail.

(2) The undertaker must not in the exercise of the powers conferred by this Order prevent pedestrian or vehicular access to any railway property, unless preventing such access is with the consent of Network Rail.

(3) The undertaker must not exercise the powers conferred by sections 271 or 272 of the 1990 Act, article 30 (statutory undertakers), article 24 (power to override easements and other rights) or article 22 (private rights), in relation to any right of access of Network Rail to railway property, but such right of access may be diverted with the consent of Network Rail.

(4) The undertaker must not under the powers of this Order acquire or use or acquire new rights over, or seek to impose any restrictive covenants over, any railway property, or extinguish any existing rights of Network Rail in respect of any third party property, except with the consent of Network Rail.

(5) The undertaker must not under the powers of this Order do anything which would result in railway property being incapable of being used or maintained or which would affect the safe running of trains on the railway.

(6) Where Network Rail is asked to give its consent pursuant to this paragraph, such consent must not be unreasonably withheld but may be given subject to reasonable conditions but it shall never be unreasonable to withhold consent for reasons of operational or railway safety (such matters to be in Network Rail's absolute discretion).

(7) The undertaker must enter into an asset protection agreement prior to the carrying out of any specified work.

**5.—(1)** The undertaker must not submit the construction traffic management plan to the relevant planning authority in accordance with requirement 19 of Part 3 of Schedule 1 (construction traffic management plan) without having first obtained the written approval of Network Rail in respect of all provisions relating to Cranswick Level Crossing, Driffield Level Crossing and safety briefings for HGV drivers on the safe use of level crossings affected by the authorised project in accordance with sub-paragraph (2).

(2) The undertaker must provide Network Rail with a draft of the construction traffic management plan for approval and Network Rail must within a period of 28 days beginning with the date on which the draft construction traffic management plan is received by Network Rail and acting reasonably serve written notice on the undertaker confirming that—

- (a) the draft construction traffic management plan is approved; or
- (b) the draft construction traffic management plan is approved subject to reasonable amendments as required by Network Rail; or
- (c) the draft construction traffic management plan is not approved and the reason for the non-approval; or
- (d) that further information is required in order for Network Rail to make its determination (in which case this paragraph 5(2) must apply to such further information from the date of its receipt by Network Rail).

(3) In the event that Network Rail fails to serve written notice in accordance with paragraph 5(2) within 28 days of receipt Network Rail is deemed to have served a notice pursuant to paragraph 5(2)(a).

(4) The undertaker must include any reasonable amendments which are required by Network Rail and notified to the undertaker by Network Rail in the notice given pursuant to paragraph 5(2)(b) in the draft construction traffic management plan it submits to the relevant planning authority in accordance with requirement 19 of Part 3 of Schedule 1 (construction traffic management plan) and the undertaker must not submit any such written details that relate to Cranswick Level Crossing, Driffield Level Crossing and/or safety briefings for HGV drivers on the safe use of level crossings affected by the authorised project to the relevant planning authority which have not been approved by Network Rail in accordance with paragraphs 5(2) or 5(3).

(5) Each notice and all other information required to be sent to Network Rail under the terms of this paragraph 5 must—

- (a) be sent to the Company Secretary and General Counsel at Network Rail Infrastructure Limited, 1 Eversholt Street, London, NW1 2DN via Royal Mail plc's special delivery service (or if this service is no longer being provided an appropriate recorded delivery postal service) and marked for the attention of the Level Crossing Manager; and
- (b) contain a clear statement on its front page that Network Rail must respond within 28 days of receipt.

(6) In the event that any subsequent changes are made to the construction traffic management plan following consultation with Network Rail, in so far as such changes impact on railway property, the undertaker must not submit any such written details to the relevant planning authorities or finalise any updates to the construction traffic management plan without further consultation with Network Rail.

**6.—**(1) The undertaker must before commencing construction of any specified work supply to Network Rail proper and sufficient plans of that work for the reasonable approval of the engineer and the specified work must not be commenced except in accordance with such plans as have been approved in writing by the engineer or settled by arbitration.

(2) The approval of the engineer under sub-paragraph (1) must not be unreasonably withheld, and if by the end of the period of 28 days beginning with the date on which such plans have been supplied to Network Rail the engineer has not intimated their disapproval of those plans and the grounds of such disapproval the undertaker may serve upon the engineer written notice requiring the engineer to intimate approval or disapproval within a further period of 28 days beginning with the date upon which the engineer receives written notice from the undertaker. If by the expiry of the further 28 days the engineer has not intimated approval or disapproval, the engineer shall be deemed to have approved the plans as submitted.

(3) If by the end of the period of 28 days beginning with the date on which written notice was served upon the engineer under sub-paragraph (2), Network Rail gives notice to the undertaker that Network Rail desires itself to construct any part of a specified work which in the opinion of the engineer will or may affect the stability of railway property or the safe operation of traffic on the railways of Network Rail then, if the undertaker desires such part of the specified work to be constructed, Network Rail must construct it without unnecessary delay on behalf of and to the reasonable satisfaction of the undertaker in accordance with the plans approved or deemed to be approved or settled under this paragraph, and under the supervision (where appropriate and if given) of the undertaker.

(4) When signifying their approval of the plans the engineer may specify any protective works (whether temporary or permanent) which in the engineer's opinion should be carried out before the commencement of the construction of a specified work to ensure the safety or stability of railway property or the continuation of safe and efficient operation of the railways of Network Rail or the services of operators using the same (including any relocation de-commissioning and removal of works, apparatus and equipment necessitated by a specified work and the comfort and safety of passengers who may be affected by the specified works), and such protective works as may be reasonably necessary for those purposes must be constructed by Network Rail or by the undertaker, if Network Rail so desires, and such protective works must be carried out at the expense of the undertaker in either case without unnecessary delay and the undertaker must not commence the construction of the specified works until the engineer has notified the undertaker that the protective works have been completed to their reasonable satisfaction.

**7.—**(1) Any specified work and any protective works to be constructed by virtue of paragraph 6(4) must, when commenced, be constructed—

- (a) without unnecessary delay in accordance with the plans approved or deemed to have been approved or settled under paragraph 6;
- (b) under the supervision (where appropriate and if given) and to the reasonable satisfaction of the engineer;
- (c) in such manner as to cause as little damage as is possible to railway property; and
- (d) so far as is reasonably practicable, so as not to interfere with or obstruct the free, uninterrupted and safe use of any railway of Network Rail or the traffic thereon and the use by passengers of railway property.

(2) If any damage to railway property or any such interference or obstruction shall be caused by the carrying out of, or in consequence of the construction of a specified work, the undertaker must, notwithstanding any such approval make good such damage and must pay to Network Rail all reasonable expenses to which Network Rail may be put and compensation for any loss which it may sustain by reason of any such damage, interference or obstruction.

(3) Nothing in this Part of this Schedule imposes any liability on the undertaker with respect to any damage, costs, expenses or loss attributable to the negligence of Network Rail or its servants, contractors or agents or any liability on Network Rail with respect of any damage, costs, expenses or loss attributable to the negligence of the undertaker or its servants, contractors or agents.

**8.** The undertaker must—

- (a) at all times afford reasonable facilities to the engineer for access to a specified work during its construction; and
- (b) supply the engineer with all such information as they may reasonably require with regard to a specified work or the method of constructing it.

**9.** Network Rail must at all times afford reasonable facilities to the undertaker and its agents for access to any works carried out by Network Rail under this Part of this Schedule during their construction and must supply the undertaker with such information as it may reasonably require with regard to such works or the method of constructing them.

**10.—**(1) If any permanent or temporary alterations or additions to railway property are reasonably necessary in consequence of the construction or completion of a specified work in order to ensure the safety of railway property or the continued safe operation of the railway of Network Rail, such alterations and additions may be carried out by Network Rail and if Network Rail gives to the undertaker 56 days' notice (or in the event of an emergency or safety critical issue such notice as is reasonable in the circumstances) of its intention to carry out such alterations or additions (which must be specified in the notice), the undertaker must pay to Network Rail the reasonable cost of those alterations or additions including, in respect of any such alterations and additions as are to be permanent, a capitalised sum representing the increase of the costs which may be expected to be reasonably incurred by Network Rail in maintaining, working and, when necessary, renewing any such alterations or additions.

(2) If during the construction of a specified work by the undertaker, Network Rail gives notice to the undertaker that Network Rail desires itself to construct that part of the specified work which in the opinion of the engineer is endangering the stability of railway property or the safe operation of traffic on the railways of Network Rail then, if the undertaker decides that part of the specified work is to be constructed, Network Rail must assume construction of that part of the specified work and the undertaker must, notwithstanding any such approval of a specified work under paragraph 6(3), pay to Network Rail all reasonable expenses to which Network Rail may be put and compensation for any loss which it may suffer by reason of the execution by Network Rail of that specified work.

(3) The engineer must, in respect of the capitalised sums referred to in this paragraph and paragraph 11(a) provide such details of the formula by which those sums have been calculated as the undertaker may reasonably require.

(4) If the cost of maintaining, working or renewing railway property is reduced in consequence of any such alterations or additions a capitalised sum representing such saving must be set off against any sum payable by the undertaker to Network Rail under this paragraph.

**11.** The undertaker must repay to Network Rail all reasonable fees, costs, charges and expenses reasonably incurred by Network Rail—

- (a) in constructing any part of a specified work on behalf of the undertaker as provided by paragraph 6(3) or in constructing any protective works under the provisions of paragraph 6(4) including, in respect of any permanent protective works, a capitalised sum representing the cost of maintaining and renewing those works;
- (b) in respect of the approval by the engineer of plans submitted by the undertaker and the supervision by the engineer of the construction of a specified work;
- (c) in respect of the employment or procurement of the services of any inspectors, signallers, watch-persons and other persons whom it shall be reasonably necessary to appoint for inspecting, signalling, watching and lighting railway property and for preventing, so far as may be reasonably practicable, interference, obstruction, danger or accident arising from the construction or failure of a specified work;
- (d) in respect of any special traffic working resulting from any speed restrictions which may in the opinion of the engineer, require to be imposed by reason or in consequence of the construction or failure of a specified work or from the substitution or diversion of services which may be reasonably necessary for the same reason; and
- (e) in respect of any additional temporary lighting of railway property in the vicinity of the specified works, being lighting made reasonably necessary by reason or in consequence of the construction or failure of a specified work.

**12.—**(1) In this paragraph—

“EMI” means, subject to sub-paragraph (2), electromagnetic interference with Network Rail’s apparatus generated by the operation of the authorised development where such interference is of a level which adversely affects the safe operation of Network Rail’s apparatus; and

“Network Rail’s apparatus” means any lines, circuits, wires, apparatus or equipment (whether or not modified or installed as part of the authorised development) which are owned or used by Network Rail for the purpose of transmitting or receiving electrical energy or of radio, telegraphic, telephonic, electric, electronic or other like means of signalling or other communications.

(2) This paragraph applies to EMI only to the extent that such EMI is not attributable to any change to Network Rail’s apparatus carried out after approval of plans under paragraph 6(1) for the relevant part of the authorised development giving rise to EMI (unless the undertaker has been given notice in writing before the approval of those plans of the intention to make such change).

(3) Subject to sub-paragraph (5), the undertaker must in the design and construction of the authorised development take all measures necessary to prevent EMI and must establish with Network Rail (both parties acting reasonably) appropriate arrangements to verify their effectiveness.

(4) In order to facilitate the undertaker’s compliance with sub-paragraph (3)—

- (a) the undertaker must consult with Network Rail as early as reasonably practicable to identify all Network Rail’s apparatus which may be at risk of EMI, and thereafter must continue to consult with Network Rail (both before and after formal submission of plans under paragraph 6(1)) in order to identify all potential causes of EMI and the measures required to eliminate them;
- (b) Network Rail must make available to the undertaker all information in the possession of Network Rail reasonably requested by the undertaker in respect of Network Rail’s apparatus identified pursuant to sub-paragraph (a); and
- (c) Network Rail must allow the undertaker reasonable facilities for the inspection of Network Rail’s apparatus identified pursuant to sub-paragraph (a).



(5) In any case where it is established that EMI can only reasonably be prevented by modifications to Network Rail's apparatus, Network Rail must not withhold its consent unreasonably to modifications of Network Rail's apparatus, but the means of prevention and the method of their execution must be selected in the reasonable discretion of Network Rail, and in relation to such modifications paragraph 6(1) has effect subject to the sub-paragraph.

(6) Prior to the commencement of operation of the authorised development the undertaker shall test the use of the authorised development in a manner that shall first have been agreed with Network Rail and if, notwithstanding any measures adopted pursuant to sub-paragraph (3), the testing of the authorised development causes EMI then the undertaker must immediately upon receipt of notification by Network Rail of such EMI either in writing or communicated orally (such oral communication to be confirmed in writing as soon as reasonably practicable after it has been issued) forthwith cease to use (or procure the cessation of use of) the undertaker's apparatus causing such EMI until all measures necessary have been taken to remedy such EMI by way of modification to the source of such EMI or (in the circumstances, and subject to the consent, specified in sub-paragraph (5)) to Network Rail's apparatus.

(7) In the event of EMI having occurred—

- (a) the undertaker must afford reasonable facilities to Network Rail for access to the undertaker's apparatus in the investigation of such EMI;
- (b) Network Rail must afford reasonable facilities to the undertaker for access to Network Rail's apparatus in the investigation of such EMI;
- (c) Network Rail must make available to the undertaker any additional material information in its possession reasonably requested by the undertaker in respect of Network Rail's apparatus or such EMI; and
- (d) the undertaker shall not allow the use or operation of the authorised development in a manner that has caused or will cause EMI until measures have been taken in accordance with this paragraph to prevent EMI occurring.

(8) Where Network Rail approves modifications to Network Rail's apparatus pursuant to sub-paragraphs (5) or (6)—

- (a) Network Rail must allow the undertaker reasonable facilities for the inspection of the relevant part of Network Rail's apparatus;
- (b) any modifications to Network Rail's apparatus approved pursuant to those sub-paragraphs must be carried out and completed by the undertaker in accordance with paragraph 7.

(9) To the extent that it would not otherwise do so, the indemnity in paragraph 16(1) applies to the costs and expenses reasonably incurred or losses suffered by Network Rail through the implementation of the provisions of this paragraph (including costs incurred in connection with the consideration of proposals, approval of plans, supervision and inspection of works and facilitating access to Network Rail's apparatus) or in consequence of any EMI to which sub-paragraph (6) applies.

(10) For the purpose of paragraph 11(a) any modifications to Network Rail's apparatus under this paragraph shall be deemed to be protective works referred to in that paragraph.

**13.** If at any time after the completion of a specified work, not being a work vested in Network Rail, Network Rail gives notice to the undertaker informing it that the state of maintenance of any part of the specified work appears to be such as adversely affects the operation of railway property, the undertaker must, on receipt of such notice, take such steps as may be reasonably necessary to put that specified work in such state of maintenance as not adversely to affect railway property.

**14.** The undertaker must not provide any illumination or illuminated sign or signal on or in connection with a specified work in the vicinity of any railway belonging to Network Rail unless it has first consulted Network Rail and it must comply with Network Rail's reasonable requirements for preventing confusion between such illumination or illuminated sign or signal and

any railway signal or other light used for controlling, directing or securing the safety of traffic on the railway.

**15.** Any additional expenses which Network Rail may reasonably incur in altering, reconstructing or maintaining railway property under any powers existing at the making of this Order by reason of the existence of a specified work must, provided that 56 days' previous notice of the commencement of such alteration, reconstruction or maintenance has been given to the undertaker, be repaid by the undertaker to Network Rail.

**16.—(1)** The undertaker must pay to Network Rail all reasonable costs, charges, damages and expenses not otherwise provided for in this Part of this Schedule which may be occasioned to or reasonably incurred by Network Rail—

- (a) by reason of the construction, maintenance or operation of a specified work or the failure thereof; or
- (b) by reason of any act or omission of the undertaker or of any person in its employ or of its contractors or others whilst engaged upon a specified work,
- (c) by reason of any act or omission of the undertaker or any person in its employ or of its contractors or others whilst accessing to or egressing from the authorised development;
- (d) in respect of any damage caused to or additional maintenance required to, railway property or any such interference or obstruction or delay to the operation of the railway as a result of access to or egress from the authorised development by the undertaker or any person in its employ or of its contractors or others;
- (e) in respect of costs incurred by Network Rail in complying with any railway operational procedures or obtaining any regulatory consents which procedures are required to be followed or consents obtained to facilitate the carrying out or operation of the authorised development;

and the undertaker must indemnify and keep indemnified Network Rail from and against all claims and demands arising out of or in connection with a specified work or any such failure, act or omission: and the fact that any act or thing may have been done by Network Rail on behalf of the undertaker or in accordance with plans approved by the engineer or in accordance with any requirement of the engineer or under the engineer's supervision shall not (if it was done without negligence on the part of Network Rail or of any person in its employ or of its contractors or agents) excuse the undertaker from any liability under the provisions of this sub-paragraph.

(2) Network Rail must—

- (a) give the undertaker reasonable written notice of any such claims or demands;
- (b) not make any settlement or compromise of such a claim or demand without the prior consent of the undertaker; and
- (c) take such steps as are within its control and are reasonable in the circumstances to mitigate any liabilities relating to such claims or demands.

(3) The sums payable by the undertaker under sub-paragraph (1) shall if relevant include a sum equivalent to the relevant costs.

(4) Subject to the terms of any agreement between Network Rail and a train operator regarding the timing or method of payment of the relevant costs in respect of that train operator, Network Rail must promptly pay to each train operator the amount of any sums which Network Rail receives under sub-paragraph (3) which relates to the relevant costs of that train operator.

(5) The obligation under sub-paragraph (3) to pay Network Rail the relevant costs shall, in the event of default, be enforceable directly by any train operator concerned to the extent that such sums would be payable to that operator pursuant to sub-paragraph (4).

(6) In this paragraph—

“the relevant costs” means the costs, losses and expenses (including loss of revenue) reasonably incurred by each train operator as a consequence of any specified work including but not limited to any restriction of the use of Network Rail's railway network as a result of

the construction, maintenance or failure of a specified work or any such act or omission as mentioned in sub-paragraph (1); and

“train operator” means any person who is authorised to act as the operator of a train by a licence under section 8 of the Railways Act 1993.

**17.** Network Rail must, on receipt of a request from the undertaker, from time to time provide the undertaker free of charge with written estimates of the costs, charges, expenses and other liabilities for which the undertaker is or will become liable under this Part of this Schedule (including the amount of the relevant costs mentioned in paragraph 16) and with such information as may reasonably enable the undertaker to assess the reasonableness of any such estimate or claim made or to be made pursuant to this Part of this Schedule (including any claim relating to those relevant costs).

**18.** In the assessment of any sums payable to Network Rail under this Part of this Schedule there must not be taken into account any increase in the sums claimed that is attributable to any action taken by or any agreement entered into by Network Rail if that action or agreement was not reasonably necessary and was taken or entered into with a view to obtaining the payment of those sums by the undertaker under this Part of this Schedule or increasing the sums so payable.

**19.** The undertaker and Network Rail may, subject in the case of Network Rail to compliance with the terms of its network licence, enter into, and carry into effect, agreements for the transfer to the undertaker of—

- (a) any railway property shown on the works and land plans and described in the book of reference;
- (b) any lands, works or other property held in connection with any such railway property; and
- (c) any rights and obligations (whether or not statutory) of Network Rail relating to any railway property or any lands, works or other property referred to in this paragraph.

**20.** Nothing in this Order, or in any enactment incorporated with or applied by this Order, prejudices or affects the operation of Part I of the Railways Act 1993.

**21.** The undertaker must give written notice to Network Rail if any application is proposed to be made by the undertaker for the Secretary of State’s consent under article 5 (benefit of the Order) of this Order and any such notice must be given no later than 28 days before any such application is made and must describe or give (as appropriate)—

- (a) the nature of the application to be made;
- (b) the extent of the geographical area to which the application relates; and
- (c) the name and address of the person acting for the Secretary of State to whom the application is to be made.

**22.** The undertaker must no later than 28 days from the date that the plans submitted to and certified by the Secretary of State in accordance with article 38 (certification of plans, etc.) are certified by the Secretary of State, provide a set of those plans to Network Rail in a format specified by Network Rail.

**23.** In relation to any dispute arising under this Part of this Schedule (except for those disputes referred to in paragraph 12) the provisions of article 39 (arbitration) shall not apply and any such dispute, unless otherwise provided for, must be referred to and settled by a single arbitrator to be agreed between the parties or, failing agreement, to be appointed on the application of either party (after giving notice in writing to the other) to the President of the Institution of Civil Engineers.

## PART 5

### FOR THE PROTECTION OF THE ENVIRONMENT AGENCY

**1.—(1)** The following provisions shall apply for the protection of the Agency unless otherwise agreed in writing between the undertaker and the Agency.

(2) In this Part of this Schedule—

“the Agency” means the Environment Agency;

“construction” includes execution, placing, altering, replacing, relaying and removal and excavation and “construct” and “constructed” shall be construed accordingly;

“drainage work” means any main river and includes any land which provides or is expected to provide flood storage capacity for any main river and any bank, wall, embankment or other structure, or any appliance, constructed or used for land drainage, flood defence or tidal monitoring;

“the fishery” means any waters containing fish and fish in, or migrating to or from, such waters and the spawn, spawning ground, habitat or food of such fish;

“main river” means all watercourses shown as such on the statutory main river maps held by the Agency and the Department for Environment, Food and Rural Affairs including any structure or appliance for controlling or regulating the flow of water in or out of the channel;

“plans” includes sections, drawings, specifications, calculations and method statements;

“specified work” means so much of any work or operation authorised by this Order as is in, on, under, over or within 16 metres of a drainage work or is otherwise likely to—

- (a) affect any drainage work or the volumetric rate of flow of water in or flowing to or from any drainage work;
- (b) affect the flow, purity or quality of water in any watercourse or other surface waters or ground water;
- (c) cause obstruction to the free passage of fish or damage to any fishery;
- (d) affect the conservation, distribution or use of water resources.; or
- (e) affect the conservation value of the main river and habitats in its immediate vicinity; and

“watercourse” includes all rivers, streams, ditches, drains, cuts, culverts, dykes, sluices, basins, sewers and passages through which water flows except a public sewer.

**2.**—(1) Before beginning to construct any specified work, the undertaker must submit to the Agency plans of the specified work and such further particulars available to it as the Agency may within 28 days of the receipt of the plans reasonably request.

(2) Any such specified work must not be constructed except in accordance with such plans as may be approved in writing by the Agency, or determined under paragraph 11.

(3) Any approval of the Agency required under this paragraph—

- (a) must not be unreasonably withheld or delayed;
- (b) is deemed to have been refused if it is neither given nor refused within 2 months of the submission of the plans or receipt of further particulars if such particulars have been requested by the Agency for approval; and
- (c) may be given subject to such reasonable requirements as the Agency may have for the protection of any drainage work or the fishery or for the protection of water resources, or for the prevention of flooding or pollution or in the discharge of its environmental duties.

(4) The Agency must use its reasonable endeavours to respond to the submission of any plans before the expiration of the period mentioned in sub-paragraph (3)(b).

**3.** Without limiting paragraph 2, the requirements which the Agency may have under that paragraph include conditions requiring the undertaker at its own expense to construct such protective works, whether temporary or permanent, before or during the construction of the specified works (including the provision of flood banks, walls or embankments or other new works and the strengthening, repair or renewal of existing banks, walls or embankments) as are reasonably necessary—

- (a) to safeguard any drainage work against damage; or
- (b) to secure that its efficiency for flood defence purposes is not impaired and that the risk of flooding is not otherwise increased,

by reason of any specified work.

**4.—**(1) Subject to sub-paragraph (2), any specified work, and all protective works required by the Agency under paragraph 3, must be constructed—

- (a) without unreasonable delay in accordance with the plans approved under this Part; and
- (b) to the reasonable satisfaction of the Agency, and the Agency shall be entitled by its officer to watch and inspect the construction of such works.

(2) The undertaker must give to the Agency not less than 14 days' notice in writing of its intention to commence construction of any specified work and notice in writing of its completion not later than 7 days after the date on which it is completed.

(3) If the Agency reasonably requires, the undertaker must construct all or part of the protective works so that they are in place prior to the construction of any specified work.

(4) If any part of a specified work or any protective work required by the Agency is constructed otherwise than in accordance with the requirements of this Part, the Agency may by notice in writing require the undertaker at the undertaker's own expense to comply with the requirements of this Part or (if the undertaker so elects and the Agency in writing consents, such consent not to be unreasonably withheld or delayed) to remove, alter or pull down the work and, where removal is required, to restore the site to its former condition to such extent and within such limits as the Agency reasonably requires.

(5) Subject to sub-paragraph (6) and paragraph 9, if, within a reasonable period, being not less than 28 days beginning with the date when a notice under sub-paragraph (4) is served upon the undertaker, the undertaker has failed to begin taking steps to comply with the requirements of the notice and has not subsequently made reasonably expeditious progress towards their implementation, the Agency may execute the works specified in the notice, and any expenditure incurred by the Agency in so doing shall be recoverable from the undertaker.

(6) In the event of any dispute as to whether sub-paragraph (4) is properly applicable to any work in respect of which notice has been served under that sub-paragraph, or as to the reasonableness of any requirement of such a notice, the Agency shall not, except in the case of an emergency, exercise the powers conferred by sub-paragraph (4) until the dispute has been finally determined in accordance with paragraph 11.

**5.—**(1) Subject to sub-paragraph (6) the undertaker must from the commencement of the construction of the specified works maintain in good repair and condition and free from obstruction any drainage work which is situated within the limits of deviation and on land held by the undertaker for the purposes of or in connection with the specified works, whether or not the drainage work is constructed under the powers conferred by this Order or is already in existence.

(2) If any such drainage work which the undertaker is liable to maintain is not maintained to the reasonable satisfaction of the Agency, the Agency may by notice in writing require the undertaker to repair and restore the work, or any part of such work, or (if the undertaker so elects and the Agency in writing consents, such consent not to be unreasonably withheld or delayed), to remove the work and restore the site to its former condition, to such extent and within such limits as the Agency reasonably requires.

(3) Subject to sub-paragraph (5) and paragraph 9, if, within a reasonable period, being not less than 28 days beginning with the date on which a notice in respect of any drainage work is served under sub-paragraph (2) on the undertaker, the undertaker has failed to begin taking steps to comply with the requirements of the notice and has not subsequently made reasonably expeditious progress towards their implementation, the Agency may do what is necessary for such compliance and any expenditure incurred by the Agency in so doing shall be recoverable from the undertaker.

(4) If there is any failure by the undertaker to obtain consent or comply with conditions imposed by the Agency in accordance with these Protective Provisions the Agency may serve written notice requiring the undertaker to cease all or part of the specified works and the undertaker must cease the specified works or part thereof until it has obtained the consent or complied with the condition unless the cessation of the specified works or part thereof would cause greater damage than compliance with the written notice.

(5) In the event of any dispute as to the reasonableness of any requirement of a notice served under sub-paragraph (2), the Agency shall not, except in the case of an emergency, exercise the powers conferred by sub-paragraph (3) until the dispute has been finally determined in accordance with paragraph 11.

(6) This paragraph does not apply to drainage works which are vested in the Agency, or which the Agency or another person is liable to maintain and is not proscribed by the powers of the Order from doing so.

**6.** Subject to paragraph 9, if by reason of the construction of any specified work or of the failure of any such work, the efficiency of any drainage work for flood defence purposes is impaired, or that drainage work is otherwise damaged, such impairment or damage must be made good by the undertaker to the reasonable satisfaction of the Agency and if the undertaker fails to do so, the Agency may make good the impairment or damage and recover any expenditure incurred by the Agency in so doing from the undertaker.

**7.** If by reason of construction of the specified work the Agency's access to flood defences or equipment maintained for flood defence purposes is materially obstructed, the undertaker must provide such alternative means of access that will allow the Agency to maintain the flood defence or use the equipment no less effectively than was possible before the obstruction within 24 hours of the undertaker becoming aware of such obstruction.

**8.—(1)** The undertaker must take all such measures as may be reasonably practicable to prevent any interruption of the free passage of fish in the fishery during the construction of any specified work.

(2) If by reason of—

- (a) the construction of any specified work; or
- (b) the failure of any such work,

damage to the fishery is caused, or the Agency has reason to expect that such damage may be caused, the Agency may serve notice on the undertaker requiring it to take such steps as may be reasonably practicable to make good the damage, or, as the case may be, to protect the fishery against such damage.

(3) Subject to paragraph 9, if within such time as may be reasonably practicable for that purpose after the receipt of written notice from the Agency of any damage or expected damage to a fishery, the undertaker fails to take such steps as are described in sub-paragraph (2), the Agency may take those steps and any expenditure incurred by the Agency in so doing shall be recoverable from the undertaker.

(4) Subject to paragraph 9, in any case where immediate action by the Agency is reasonably required in order to secure that the risk of damage to the fishery is avoided or reduced, the Agency may take such steps as are reasonable for the purpose, and may recover from the undertaker any expenditure incurred in so doing provided that notice specifying those steps is served on the undertaker as soon as reasonably practicable after the Agency has taken, or commenced to take, the steps specified in the notice.

**9.** The undertaker shall indemnify the Agency in respect of all costs, charges and expenses which the Agency may incur—

- (a) in the examination or approval of plans under this Part;
- (b) in the inspection of the construction of the specified works or any protective works required by the Agency under this Part; and
- (c) in the carrying out of any surveys or tests by the Agency which are reasonably required in connection with the construction of the specified works.

**10.—(1)** The undertaker is responsible for and shall indemnify the Agency against all costs and losses not otherwise provided for in this Part which may be incurred or suffered by the Agency by reason of—

- (a) the construction, operation or maintenance of any specified works comprised within the authorised works or the failure of any such works comprised within them; or
- (b) any act or omission of the undertaker, its employees, contractors or agents or others whilst engaged upon the construction, operation or maintenance of the authorised works or dealing with any failure of the authorised works.

(2) For the avoidance of doubt, in sub-paragraph (1)—

“costs” includes—

- (a) expenses and charges;
- (b) staff costs and overheads;
- (c) legal costs;

“losses” includes physical damage.

(3) The undertaker shall indemnify the Agency against all liabilities, claims and demands arising out of or in connection with the authorised works or otherwise out of the matters referred to in sub-paragraph (1)(a) and (1)(b).

(4) For the avoidance of doubt, in sub-paragraph (3)—

“claims” and “demands” include as applicable—

- (a) costs (within the meaning of sub-paragraph (2)) incurred in connection with any claim or demand; and
- (b) any interest element of sums claimed or demanded;

“liabilities” includes—

- (a) contractual liabilities;
- (b) tortious liabilities (including liabilities for negligence or nuisance);
- (c) liabilities to pay statutory compensation or for breach of statutory duty;
- (d) liabilities to pay statutory penalties imposed on the basis of strict liability (but does not include liabilities to pay other statutory penalties).

(5) The Agency must give to the undertaker reasonable notice of any such claim or demand, and no settlement or compromise shall be made without the agreement of the undertaker which agreement shall not be unreasonably withheld or delayed.

(6) The fact that any work or thing has been executed or done by the undertaker in accordance with a plan approved by the Agency, or to its satisfaction, or in accordance with any directions or award of an arbitrator, shall not relieve the undertaker from any liability under the provisions of this Part.

**11.** Any dispute arising between the undertaker and the Agency under this Part shall, if the parties agree, be determined by arbitration under article 39 (arbitration), but shall otherwise be determined by the Secretary of State for Environment, Food and Rural Affairs or its successor and the Secretary of State for Business, Energy and Industrial Strategy or its successor acting jointly on a reference to them by the undertaker or the Agency, after notice in writing by one to the other.

## PART 6

### FOR THE PROTECTION OF DRAINAGE AUTHORITIES

**1.** The provisions of this Part have effect for the protection of the drainage authority unless otherwise agreed in writing between the undertaker and the drainage authority.

**2.** In this Part of this Schedule—

“construction” includes execution, placing, altering, replacing, relaying and removal and excavation and “construct” and “constructed” is to be construed accordingly;

“drainage authority” means in relation to an ordinary watercourse, the drainage board concerned within the meaning of section 23 (prohibition on obstructions etc. in watercourses) of the Land Drainage Act 1991;

“drainage work” means any ordinary watercourse and includes any bank, wall, embankment or other structure, or any appliance, constructed or used for land drainage or flood defence in connection with an ordinary watercourse which is the responsibility of the drainage authority;

“independent review” means a review carried out by a third party confirming the findings of the undertaker in the assessment of the impact of the proposed specified work on flood risk;

“ordinary watercourse” has the meaning given by section 72 (interpretation) of the Land Drainage Act 1991;

“plans” includes any information reasonably required by the drainage authority including location details, grid references, sections, drawings, specifications, assessments and method statements; and

“specified work” means so much of any work or operation authorised by this Order as is in, on, under over or within 9 metres of a drainage work and which comprises any of the following works carried out in relation to or which may affect any ordinary watercourse—

- (a) the erection of any mill, dam, weir, or other similar obstruction to the flow of an ordinary watercourse, or raising or otherwise altering any such obstruction;
- (b) the construction or installation of a bridge or other structure;
- (c) the erection of a culvert in an ordinary watercourse;
- (d) the alteration of an ordinary watercourse or a culvert or other form of drainage infrastructure in a manner that would be likely to affect the flow of an ordinary watercourse;
- (e) the introduction by means of any channel, siphon, pipeline or sluice or by any other means whatsoever any water into any ordinary watercourse within the Order limits so as to directly or indirectly increase the flow or volume of water in any ordinary watercourse within the Order limits without the previous consent of the drainage authority;
- (f) any work likely to obstruct flow or adversely affect the integrity of any embankment, wall or enclosing structure containing an ordinary watercourse.

**3.—**(1) Before commencing construction of a specified work, the undertaker must submit to the drainage authority plans of the specified work, including an independent review and such further particulars available to it as the drainage authority may within 14 days of the submission of the plans reasonably request.

(2) The undertaker must not commence construction of the specified work until approval, unconditionally or conditionally, has been given as provided in this paragraph.

(3) A specified work must not be constructed except in accordance with such plans as may be approved in writing by the drainage authority or determined under paragraph 12.

(4) Any approval of the drainage authority required under this paragraph—

- (a) must not be unreasonably withheld or delayed;
- (b) is deemed to have been given if it is neither given nor refused within 56 days of the submission of the plans for approval, or submission of further particulars (where required by the drainage authority under sub-paragraph (1)) whichever is the later; and
- (c) may be given subject to such reasonable requirements as the drainage authority may make for the protection of any drainage work, for the protection of any ordinary watercourse or for the prevention of flooding.

(5) Any refusal under this paragraph must be accompanied by a statement of the reasons for refusal.

**4.** Without limiting paragraph 3, the requirements which the drainage authority may make under that paragraph include conditions requiring the undertaker at its own expense to construct such protective works, whether temporary or permanent, during the construction of the specified work



(including the provision of flood banks, walls or embankments or other new works and the strengthening, repair or renewal of existing banks, walls or embankments) as are reasonably necessary—

- (a) to safeguard any drainage work against damage by reason of any specified work; or
- (b) to secure that the efficiency of any drainage work for flood defence and land drainage purposes is not impaired, and that the risk of flooding is not otherwise increased, by reason of any specified work.

**5.**—(1) Subject to sub-paragraph (2), any specified work, and all protective works required by the drainage authority under paragraph 4, must be constructed—

- (a) without unreasonable delay in accordance with the plans approved or deemed to have been approved or settled under this Part of this Schedule; and
- (b) to the reasonable satisfaction of the drainage authority, and an officer of the drainage authority is entitled to watch and inspect the construction of such works.

(2) The undertaker must give to the drainage authority—

- (a) not less than 14 days' notice in writing of its intention to commence construction of any specified work; and
- (b) notice in writing of its completion not later than 7 days after the date of completion.

(3) If the drainage authority reasonably requires, the undertaker must construct all or part of the protective works so that they are in place before the construction of the specified work to which the protective works relate.

(4) If any part of a specified work or any protective work required by the drainage authority is constructed otherwise than in accordance with the requirements of this Part of this Schedule, the drainage authority may by notice in writing require the undertaker at the undertaker's expense to comply with the requirements of this Part of this Schedule or (if the undertaker so elects and the drainage authority in writing consents, such consent not to be unreasonably withheld or delayed) to remove, alter or pull down the work and, where removal is agreed, to restore the site to its former condition to such extent and within such limits as the drainage authority reasonably requires.

(5) Subject to sub-paragraph (6) and paragraphs 9 and 10, if within a reasonable period, being not less than 28 days from the date when a notice under sub-paragraph (4) is served on the undertaker, the undertaker has failed to begin taking steps to comply with the requirements of the notice and subsequently to make reasonably expeditious progress towards their implementation, the drainage authority may execute the works specified in the notice and any reasonable expenditure incurred by it in so doing is recoverable from the undertaker.

(6) In the event of any dispute as to whether sub-paragraph (4) is properly applicable to any work in respect of which notice has been served under that sub-paragraph, or as to the reasonableness of any requirement of such a notice, the drainage authority must not except in an emergency exercise the powers conferred by sub-paragraph (5) until the dispute has been finally determined in accordance with paragraph 12.

**6.**—(1) Subject to sub-paragraph (5), the undertaker must from the commencement of the construction of the specified work maintain in good repair and condition and free from obstruction any drainage work which is situated within the limits of deviation on land held by the undertaker for the purpose of or in connection with the specified work, whether or not the drainage work is constructed under the powers conferred by this Order or is already in existence.

(2) If any drainage work which the undertaker is liable to maintain is not maintained to the reasonable satisfaction of the drainage authority, the drainage authority may by notice in writing require the undertaker to repair and restore the work, or any part of the work, or (if the undertaker so elects and the drainage authority in writing consents, such consent not to be unreasonably withheld or delayed), to remove the specified work and restore the site to its former condition, to such extent and within such limits as the drainage authority reasonably requires.

(3) Subject to sub-paragraph (4) and paragraphs 9 and 10, if, within a reasonable period being not less than 28 days beginning with the date on which a notice in respect of any drainage work is

served under sub-paragraph (2) on the undertaker, the undertaker has failed to begin taking steps to comply with the reasonable requirements of the notice and has not subsequently made reasonably expeditious progress towards their implementation, the drainage authority may do what is reasonably necessary for such compliance and may recover any reasonable expenditure reasonably incurred by it in so doing from the undertaker.

(4) In the event of any dispute as to the reasonableness of any requirement of a notice served under sub-paragraph (2), the drainage authority must not except in a case of emergency exercise the powers conferred by sub-paragraph (3) until the dispute has been finally determined in accordance with paragraph 12.

(5) This paragraph does not apply to—

- (a) drainage works which are vested in the drainage authority, or which the drainage authority or another person is liable to maintain and is not prevented by this Order from so doing; and
- (b) any obstruction of a drainage work for the purpose of a work or operation authorised by this Order and carried out in accordance with the provisions of this Part of this Schedule provided that any obstruction is removed as soon as reasonably practicable.

7. Subject to paragraphs 9 and 10 and paragraph 6(5)(b), if by reason of the construction of any specified work or of the failure of any such work the efficiency of any drainage work for flood defence purposes or land drainage is impaired, or that drainage work is otherwise damaged, such impairment or damage must be made good by the undertaker to the reasonable satisfaction of the drainage authority and, if the undertaker fails to do so, the drainage authority may make good the impairment or damage and recover from the undertaker any expenditure incurred by the drainage authority in so doing from the undertaker.

8. If by reason of the construction of the specified work the drainage authority's access to flood defences or equipment maintained for flood defence purposes is materially obstructed, the undertaker must provide such alternative means of access that will allow the drainage authority to maintain the flood defence or use the equipment no less effectively than was possible before the obstruction within 24 hours of the undertaker becoming aware of such obstruction.

9. The undertaker must make reasonable compensation for costs, charges and expenses which the drainage authority may reasonably incur—

- (a) in the examination or approval of plans under this Part of this Schedule;
- (b) in the inspection of the construction of the specified works or any protective works required by the drainage authority under this Part of this Schedule; and
- (c) in the carrying out of any surveys or tests by the drainage authority which are reasonably required in connection with the construction of the specified works.

10.—(1) The undertaker must make reasonable compensation for costs and losses which may be reasonably incurred or suffered by the drainage authority by reason of—

- (a) the construction of any specified work comprised within the authorised works; or
- (b) any act or omission of the undertaker, its employees, contractors or agents or others whilst engaged upon the construction of the specified works.

(2) In sub-paragraph (1)—

“costs” includes—

- (a) expenses and charges;
- (b) staff costs and overheads; and
- (c) legal costs; and

“losses” includes physical damage.

(3) The undertaker must make reasonable compensation for liabilities, claims and demands against the drainage authority arising out of or in connection with the specified works or otherwise out of the matters referred to in sub-paragraphs (1)(a) and (1)(b).

- (4) In sub-paragraph (3)—  
“claims” and “demands” include as applicable—
- (a) costs (within the meaning of sub-paragraph (2)) incurred in connection with any claim or demand; and
  - (b) any interest element of sums claimed or demanded; and
- “liabilities” includes—
- (a) contractual liabilities;
  - (b) tortious liabilities (including liabilities for negligence or nuisance);
  - (c) liabilities to pay statutory compensation or for breach of statutory duty; and
  - (d) liabilities to pay statutory penalties imposed on the basis of strict liability (but does not include liabilities to pay other statutory penalties).
- (5) The drainage authority must give to the undertaker notice of any such claim or demand.
- (6) The undertaker may at its own expense conduct all negotiations for the settlement of the same and any litigation that may arise therefrom.
- (7) The drainage authority must not compromise or settle any such claim or make any admission which might be prejudicial to the claim without the agreement of the undertaker which agreement must not be unreasonably withheld or delayed.
- (8) The drainage authority must, at all times take reasonable steps to prevent and mitigate any such claims, demands, proceedings, costs, damages, expenses or loss.
- (9) The drainage authority must, at the request of the undertaker, afford all reasonable assistance for the purpose of contesting any such claim or action and is entitled to be repaid its reasonable expenses reasonably incurred in so doing.
- 11.** The fact that any work or thing has been executed or done by the undertaker in accordance with a plan approved or deemed to be approved by the drainage authority, or to its satisfaction, or in accordance with any directions or award of an arbitrator, does not relieve the undertaker from any liability under this Part of this Schedule.
- 12.** Any dispute arising between the undertaker and the drainage authority under this Part of this Schedule, if the parties agree, is to be determined by arbitration under article 39 (arbitration), but otherwise is to be determined by the Secretary of State for Business, Energy and Industrial Strategy on a reference to them by the undertaker or the drainage authority, after notice in writing by one to the other.

## PART 7

### FOR THE PROTECTION OF DOGGERBANK OFFSHORE WIND FARM PROJECT 1 PROJCO LIMITED AND DOGGERBANK OFFSHORE WIND FARM PROJECT 2 PROJCO LIMITED

- 1.** For the protection of Doggerbank Offshore Wind Farm Project 1 Projco Limited (Company No. 07791991) and Doggerbank Offshore Wind Farm Project 2 Projco Limited (Company No. 07914510) as referred to in this Part of this Schedule the following provisions have effect, unless otherwise agreed in writing between the undertaker and Dogger Bank.
- 2.** Part 1 of Schedule 9 shall not apply in respect of the interaction between the Hornsea Four authorised development and the Dogger Bank authorised development.
- 3.** In this Part of this Schedule—  
“acceptable insurance” means a third party liability insurance effected and maintained by the undertaker to a level of not less than £50,000,000 (fifty million pounds) (or such lower amount as may be agreed by Dogger Bank) per occurrence or series of occurrences arising out of one event. Such insurance shall be maintained for the construction period of the authorised

development which constitute specified works and arranged with an internationally recognised insurer of repute operating in the London and worldwide insurance market underwriters whose security/credit rating meets the same requirements as an “acceptable credit provider”, such policy shall include (but without limitation)—

- (a) Dogger Bank as a Co-Insured;
- (b) a cross liabilities clause; and
- (c) contractors’ pollution liability for third party property damage and third party bodily damage arising from a pollution/contamination event with cover of £10,000,000.00 (ten million pounds) per event or £20,000,000.00 (twenty million pounds) in aggregate;

“Dogger Bank” means Doggerbank Offshore Wind Farm Project 1 Projco Limited (Company No. 07791991) and Doggerbank Offshore Wind Farm Project 2 Projco Limited (Company No. 07914510) whose registered office is at No.1 Forbury Place, 43 Forbury Road, Reading, United Kingdom, RG1 3JH;

“the Dogger Bank authorised development” means the onshore development authorised by the Dogger Bank Order;

“Dogger Bank limits of deviation” means the areas of the Dogger Bank Order land in respect of which the Dogger Bank authorised development may be constructed, in accordance with article 3(2) of the Dogger Bank Order;

“the Dogger Bank Order” means the Dogger Bank Creyke Beck Offshore Wind Farm Order 2015 (as amended);

“the Dogger Bank Order land” means the land or any part of it shown as falling within the Dogger Bank Order limits;

“ground mitigation scheme” means a scheme approved by Dogger Bank (such approval not to be unreasonably withheld or delayed) setting out the necessary measures (if any) for a ground subsidence event;

“ground monitoring scheme” means a scheme for monitoring ground subsidence which sets out the Dogger Bank authorised development which is to be subject to such monitoring, the extent of land to be monitored, the manner in which ground levels are to be monitored, the timescales of any monitoring activities and the extent of ground subsidence which, if exceeded, shall require the undertaker to submit for Dogger Bank’s approval a ground mitigation scheme;

“ground subsidence event” means any ground subsidence identified by the monitoring activities set out in the ground monitoring scheme that has exceeded the level described in the ground monitoring scheme as requiring a ground mitigation scheme; and

“the Hornsea Four authorised development” means the development authorised by this Order;

“the respective authorised developments” means the Dogger Bank authorised development and the Hornsea Four authorised development;

“specified works” means the carrying out of any of the authorised development over, under or within 15 metres of the Dogger Bank authorised development or in the event that the Dogger Bank authorised development has not been constructed within the Dogger Bank limits of deviation.

#### **Regulation of powers over the Hornsea Four Order land**

4.—(1) The undertaker may not exercise the powers under any of the articles of the Order specified in sub-paragraph (2) over or in respect of the Dogger Bank limits of deviation otherwise than with the prior written consent of Dogger Bank.

(2) The articles referred to in sub-paragraph (1) are—

- (a) article 8 (street works);
- (b) article 10 (temporary stopping up of streets and public rights of way);
- (c) article 11 (stopping up and diversion of public rights of way and access land);

- (d) article 12 (access to works);
- (e) article 14 (power to alter layout etc. of streets);
- (f) article 15 (discharge of water);
- (g) article 17 (authority to survey and investigate the land onshore);
- (h) article 18 (compulsory acquisition of land);
- (i) article 19 (compulsory acquisition of land: minerals)
- (j) article 21 (compulsory acquisition of rights);
- (k) article 22 (private rights);
- (l) article 24 (statutory authority to override easements and other rights);
- (m) article 25 (acquisition of subsoil only);
- (n) article 27 (rights under or over streets);
- (o) article 28 (temporary use of land for carrying out authorised project);
- (p) article 29 (temporary use of land for maintaining authorised development);
- (q) article 31 (statutory undertakers);
- (r) article 36 (felling or lopping of trees and removal of hedgerows); and
- (s) article 37 (trees subject to tree preservation orders).

(3) In the event that Dogger Bank withholds its consent pursuant to sub-paragraph (1) it will notify the undertaker in writing of the reasons for withholding such consent and (if applicable) the time period during which such consent will be withheld.

### **Co-operation during construction**

**5.** The undertaker may not acquire any land interest or override any easement or other interest of Dogger Bank within the Dogger Bank limits of deviation without first obtaining the written consent of Dogger Bank.

**6.—(1)** Wherever in this Part of this Schedule provision is made with respect to the approval or consent of Dogger Bank, that approval or consent shall be in writing (and subject to such reasonable terms and conditions as Dogger Bank may require), but shall not be unreasonably withheld.

(2) In the event that Dogger Bank does not respond in writing to a request for approval or consent within 28 days of receipt of such a request, Dogger Bank is deemed to have given its consent (without any terms or conditions).

**7.** Insofar as the construction of the Hornsea Four authorised development is or may be undertaken concurrently with the Dogger Bank authorised development, the undertaker shall—

- (a) co-operate with Dogger Bank with a view to ensuring—
  - (i) the co-ordination of construction programming and the carrying out of works; and
  - (ii) that access for the purposes of constructing the respective authorised developments is maintained for the undertaker and Dogger Bank and their respective contractors.
- (b) use reasonable endeavours to avoid any conflict arising between the carrying out of the respective authorised developments.

**8.** Insofar as the construction of the Hornsea Four authorised development gives rise to the need to modify any scheme secured by a requirement contained in Part 3 of Schedule 1 to the Dogger Bank Order, the undertaker shall provide such assistance as is reasonably necessary to support Dogger Bank in pursuing any such modification.

## **Protection of Dogger Bank**

9.—(1) Not less than 56 days before the commencement of any specified works the undertaker must submit to Dogger Bank a plan and, if reasonably required by Dogger Bank, a ground monitoring scheme in respect of those works.

(2) The plan to be submitted to Dogger Bank under sub-paragraph (1) must include a method statement and describe—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant etc.;
- (d) the position of all Dogger Bank authorised development;
- (e) by way of detailed drawings, every alteration proposed to be made to or close to any of the Dogger Bank authorised development; and
- (f) any intended maintenance regimes.

(3) The undertaker must not commence any works to which sub-paragraphs (1) and (2) apply until Dogger Bank has given written approval of the plan so submitted.

(4) Any approval of Dogger Bank required under sub-paragraph (3)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (5) or (7); and
- (b) must not be unreasonably withheld.

(5) In relation to a work to which sub-paragraphs (1) and/or (2) apply, Dogger Bank may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing the Dogger Bank authorised development against interference or risk of damage or for the provision of protective works or for the purpose of providing or securing proper and convenient means of access to any of the Dogger Bank authorised development.

(6) Works to which this paragraph applies must only be executed in accordance with the plan, submitted under sub-paragraphs (1) and (2) or as relevant sub-paragraph (5), as amended from time to time by agreement between the undertaker and Dogger Bank and in accordance with such reasonable requirements as may be made in accordance with sub-paragraphs (5) and/or (7) by Dogger Bank for the alteration or otherwise for the protection of the Dogger Bank authorised development, or for securing access to it, and Dogger Bank will be entitled to watch and inspect the execution of those works.

(7) Where Dogger Bank requires any protective works to be carried out by itself or by the undertaker (whether of a temporary or permanent nature) such protective works, inclusive of any measures or schemes required and approved as part of the plan approved pursuant to this paragraph, must be carried out to Dogger Bank's satisfaction prior to the commencement of any specified works for which protective works are required and Dogger Bank must give notice of its requirement for such protective works within 42 days of the date of submission of a plan pursuant to this paragraph (except in an emergency).

(8) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any specified works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph will apply to and in respect of the new plan.

(9) The undertaker will not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it must give to Dogger Bank notice as soon as is reasonably practicable and a plan of those works and must—

- (a) comply with sub-paragraphs (5), (6) and (7) insofar as is reasonably practicable in the circumstances; and
- (b) comply with sub-paragraph (10) at all times.

(10) As soon as reasonably practicable after any ground subsidence event attributable to the authorised development the undertaker shall implement an appropriate ground mitigation scheme save that Dogger Bank retains the right to carry out any further necessary protective works for the safeguarding of its apparatus and can recover any such costs in line with paragraph 10.

### **Expenses**

**10.**—(1) Save where otherwise agreed in writing between Dogger Bank and the undertaker and subject to the following provisions of this paragraph, the undertaker must pay to Dogger Bank within 30 days of receipt of an itemised invoice or claim from Dogger Bank all charges, costs and expenses reasonably incurred by Dogger Bank in, or in connection with this Part of this Schedule including without limitation—

- (a) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works;
- (b) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Part of this Schedule.

### **Indemnity**

**11.**—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any works authorised by this Part of this Schedule or in consequence of the construction, use, maintenance or failure of any of the onshore elements of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by him) in the course of carrying out the onshore elements of the authorised development (including without limitation works carried out by the undertaker under this Part of this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or property of Dogger Bank, or there is any interruption in any service provided, or in the supply of any goods, by Dogger Bank, or Dogger Bank becomes liable to pay any amount to any third party, the undertaker will—

- (a) bear and pay on demand accompanied by an invoice or claim from Dogger Bank the cost reasonably and properly incurred by Dogger Bank in making good such damage or restoring the supply; and
- (b) indemnify Dogger Bank for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from Dogger Bank, by reason or in consequence of any such damage or interruption or Dogger Bank becoming liable to any third party as aforesaid other than arising from any default by Dogger Bank.

(2) The fact that any act or thing may have been done by Dogger Bank on behalf of the undertaker or in accordance with a plan approved by Dogger Bank or in accordance with any requirement of Dogger Bank as a consequence of the onshore elements of the authorised development or under its supervision will not (unless sub-paragraph (3) applies), excuse the undertaker from liability under the provisions of this sub-paragraph (2) where the undertaker fails to carry out and execute the works properly with due care and attention and in a skilful and workman like manner or in a manner that does not accord with the approved plan or as otherwise agreed between the undertaker and Dogger Bank.

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker in respect of any damage or interruption to the extent that it is attributable to the neglect or default of Dogger Bank, its officers, servants, contractors or agents.

(4) Dogger Bank must give the undertaker reasonable notice of any such claim or demand and no settlement, admission of liability or compromise or demand must be made, unless payment is required in connection with a statutory compensation scheme without first consulting the undertaker and considering its representations.

(5) Dogger Bank must use its reasonable endeavours to mitigate in whole or in part and to minimise any costs, expenses, loss, demands and penalties to which the indemnity under sub-paragraph (1) applies. If requested to do so by the undertaker, Dogger Bank must provide an

explanation of how the claim has been minimised. The undertaker is only liable under subparagraph (1) for claims reasonably incurred by Dogger Bank.

(6) The undertaker must not commence construction (and must not permit the commencement of such construction) of any specified works until Dogger Bank is satisfied acting reasonably (but subject to all necessary regulatory constraints) that the undertaker or its contractor has procured acceptable insurance (and provided evidence to Dogger Bank that it shall maintain such acceptable insurance for the construction period of the specified works from the proposed date of commencement of construction of the specified works) and Dogger Bank has confirmed the same in writing to the undertaker.

(7) In the event that the undertaker fails to comply with paragraph 11(5) of this Part of this Schedule, nothing in this Part of this Schedule shall prevent Dogger Bank from seeking injunctive relief (or any other equitable remedy) in any court of competent jurisdiction.

### **Arbitration**

12.—(1) Any difference or dispute arising between the undertaker and Dogger Bank under this Part of this Schedule shall, unless otherwise agreed in writing between the undertaker and Dogger Bank, be referred to and settled in arbitration in accordance with the Rules at Schedule 14 of this Order, by a single arbitrator to be agreed upon by the parties within 14 days of receipt of the notice of arbitration, or if the parties fail to agree within the time period stipulated, to be appointed on application of either party (after giving written notice to the other) by the Secretary of State.

(2) Should the Secretary of State fail to appoint an arbitrator under paragraph (1) within 14 days of the application, the referring party may refer to the Centre of Effective Dispute Resolution for appointment of an arbitrator.

(3) Article 39 (arbitration) shall not apply to any difference or dispute under any provisions of the Part of this Schedule.

### **Access**

13. If in consequence of any specified works approved in accordance with this Part or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker must provide such alternative means of access to such apparatus as will enable Dogger Bank to maintain or use the apparatus no less effectively than was possible before such obstruction.

## **PART 8**

### **FOR THE PROTECTION OF CARBON STORAGE LICENSEE**

#### **Application**

1. For the protection of the licensee from time to time of United Kingdom Carbon Dioxide Appraisal and Storage Licence CS001, unless otherwise provided for in this Schedule or otherwise agreed in writing between the undertaker and the licensee the provisions of this Part of this Schedule shall have effect for so long as the Licence shall remain in full force and effect.

2. In the event that—

- (a) the licence is terminated and no longer has effect;
- (b) the consents required to develop the NEP Project are not obtained within four months of the coming into force of this Order; or
- (c) the licensee has not undertaken and completed the evaluation and shared that with the undertaker,

the obligations on the undertaker in this Part of this Schedule shall no longer have effect.



## Interpretation

### 3. In this Part of this Schedule—

“applicable laws” means applicable laws, rules, orders, guidelines and regulations, including without limitation, those relating to health, safety and the environment and logistics activities such as helicopter and vessel operations;

“BP Exploration Operating Company Limited” means BP Exploration Operating Company Limited, with Company Registration Number 00305943, whose registered office is at Chertsey Road, Sunbury On Thames, Middlesex TW16 7BP;

“Carbon Sentinel Limited” means Carbon Sentinel Limited, with Company Registration Number 08116471, whose registered office is at 1–3 Strand, London WC2N 5EH;

“coexistence and proximity agreement” means an agreement entered on reasonable terms between the undertaker and the licensee in respect of the undertaker’s works and licensee’s works to reconcile and protect the interests of the parties as are known at the time to secure the implementation of the undertaker’s works and the licensee’s works, taking account of the matters in paragraph 10;

“the Endurance protective provisions plan” means the plan entitled protective provisions plan and certified as the protective provisions plan for the purposes of this Part of this Schedule;

“evaluation” means a Value of Information study, including but not limited to—

- (a) comprehensive evaluation of different seismic acquisition and processing techniques and survey designs, using forward modelling to investigate the impact on imaging from seabed to Bunter, and the ability to monitor the spread of the CO<sub>2</sub> plume;
- (b) field trials investigating the sand waves on the seabed and an assessment of the potential for those to impact on the use of ocean bottom seismic acquisition systems to monitor the spread of the CO<sub>2</sub> plume;
- (c) investigation and assessment of the potential acoustic noise of an operating wind farm and the potential impact of that on the quality of seismic data recorded during 3D seismic surveys;
- (d) an evaluation of the financial feasibility of acquiring two baseline surveys, one with towed streamer and the other with ocean bottom seismic acquisition systems, with the objective of achieving the greatest flexibility for future CO<sub>2</sub> monitoring in the overlap zone;
- (e) field trials to determine the appropriate size of exclusion zone required in respect of the vessels deployed on the NEP Project.

“good carbon storage practice” means the maintenance of all apparatus and appliances in good repair and condition and the execution of all operations in or in connection with the area subject to the licence in a proper and workmanlike manner in accordance with methods and practice customarily used in good industry practice (as defined in the licence) and taking all steps practicable in order to prevent damage to adjoining strata;

“good offshore wind farm construction practice” means the application of those methods and practices customarily used in the construction of wind farms in the United Kingdom continental shelf with that degree of diligence and prudence reasonably and ordinarily exercised by experienced operators and contractors engaged in the United Kingdom continental shelf in a similar activity under similar circumstances and conditions;

“interface agreement” means the agreement dated 14 February 2013 between (1) The Crown Estate Commissioners (2) Carbon Sentinel Limited and (3) Smart Wind Limited, as varied and adhered to by an agreement dated 12 September 2016 between (1) The Crown Estate Commissioners (2) Smart Wind Limited (3) Carbon Sentinel Limited and (4) the Undertaker and a Deed of Covenant and Adherence dated 10 February 2021 between (1) The Crown Estate Commissioners (2) the Undertaker (3) Smart Wind Limited (4) Carbon Sentinel Limited and (5) BP Exploration Operating Company Limited, or such other agreement as may be entered into by the parties in substitution for those agreements;

“licence” means United Kingdom Carbon Dioxide Appraisal and Storage Licence CS001;

“licensee” means the licensee from time to time of the licence (or any one of them);

“licensee’s works” means the installation, operation, monitoring and decommissioning of the NEP Project in the overlap zone;

“monitoring” means the monitoring of the licensee’s works within the overlap zone, including repeatable 3D seismic surveying undertaken over periods of up to 5 years, known as 4D monitoring;

“NEP Project” means the Northern Endurance Partnership project comprising an offshore transportation and geological storage facility which is, in part, proposed to be situated in the overlap zone and owned, occupied or maintained by or on behalf of the licensee, and authorised by the licence;

“overlap zone” means the area of seabed with the coordinates below and shown shaded orange on the Endurance protective provisions plan;

<i>Polygon Vertex</i>	<i>Longitude</i>	<i>Latitude</i>
1	1° 0’ 34.075” E	54° 8’ 51.929” N
2	1° 0’ 43.850” E	54° 9’ 13.497” N
3	0° 58’ 21.782” E	54° 10’ 49.480” N
4	0° 58’ 31.095” E	54° 12’ 37.143” N
5	1° 12’ 18.263” E	54° 12’ 17.413” N
6	1° 15’ 35.528” E	54° 10’ 48.297” N
7	1° 13’ 54.364” E	54° 9’ 52.770” N
8	1° 11’ 0.989” E	54° 8’ 17.458” N

“plan of the licensee’s works” means an exploration and development programme, method and details and location of licensee’s works and minimum requirements known at that time in accordance with good carbon storage practice and applicable laws to enable the licensee to, as applicable, explore, appraise, develop and/or decommission carbon dioxide storage as permitted by the licence;

“plan of the undertaker’s works” means a construction programme, method and details of the proposed location of the undertaker’s works and minimum requirements known at that time such as safety in accordance with good offshore wind farm construction practice and applicable laws to enable the undertaker to construct and operate the undertaker’s works;

“Relevant Activities” means all development activity relating to the carrying on of the undertaker’s and licensee’s businesses within, or adjacent to the overlap zone, including (but not limited to) the preparation of development proposals, the submission of applications for statutory consents associated with those proposals and consultation in respect thereof;

“Smart Wind Limited” means Smart Wind Limited, with Company Registration Number 07107382, whose registered office is at 5 Howick Place, London, England SW1P 1WG;

“The Crown Estate Commissioners” means The Crown Estate Commissioners on behalf of Her Majesty the Queen, acting in exercise of the powers of the Crown Estate Act 1961(a); and

“undertaker’s works” means the authorised development permitted by this order within the overlap zone, or to be installed within the overlap zone.

#### **Coexistence and Proximity Agreement**

4. Save as provided for in paragraphs 9, 11 and 13 no part of the undertaker’s works shall commence until in respect of the overlap zone, one of the following applies—

- (a) one or more coexistence and proximity agreement(s) has been concluded between the undertaker and the licensee in respect of the undertaker’s works and the licensee’s works;

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(a) 1961 c.55.

- (b) the undertaker and the licensee shall have agreed in writing that no coexistence and proximity agreement is required in respect of the undertaker's works and the licensee's works; or
- (c) the Secretary of State has determined that a coexistence and proximity agreement is not required.

**5.** Within four months of the coming into force of this Order (or such other timescale as may be agreed between the undertaker and the licensee) the undertaker must commence preparation of a coexistence and proximity agreement by serving notice on the licensee including a plan of the undertaker's works along with a request for the licensee to produce a plan of the licensee's works.

**6.** In response to the notice the licensee shall produce a plan of the licensee's works within 28 days of service of the notice.

**7.** Preparation of a coexistence and proximity agreement must be concluded within 3 months of the date for production of the plan of the licensee's works under paragraph 6 above unless otherwise agreed in writing between the undertaker and the licensee.

**8.** If either party ("the notifying party") considers that the plan of the works of the other party ("the receiving party") produced pursuant to paragraph 5 or 6 above (as relevant) provides insufficient detail of—

- (a) in respect of the plan of the licensee's works—
  - (i) the consents required to develop the NEP Project;
  - (ii) the level of brine release;
  - (iii) the nature and location of the licensee's works;
  - (iv) any area of sea and/or airspace required for the licensee's works; and/or
  - (v) any monitoring required for the licensee's works;
- (b) in respect of the plan of the undertaker's works—
  - (i) the nature and location of the undertaker's works;
  - (ii) any area of sea and/or airspace required for the undertaker's works; and/or
  - (iii) any maintenance required for the undertaker's works,

in each case having been minimised to avoid adverse effects on the programming siting design construction or operation of the other party's works then the notifying party must notify the receiving party of the additional detail required whereupon the receiving party must provide all such additional detail to the notifying party within 28 days of such notification.

**9.** Subject to paragraph 13 below, paragraph 4 shall not apply if the plan of the licensee's works or additional detail provided pursuant to paragraph 8 above provides insufficient detail for the purposes set out in paragraph 4 above. In the event of any dispute on the sufficiency of the detail provided by the licensee pursuant to paragraph 8 then paragraph 11 shall apply to that dispute.

**10.** The coexistence and proximity agreement must be based on the plan of the licensee's works and the plan of the undertaker's works and must take account of—

- (a) the nature and location of each party's works on any plan of each party's works as known at that time;
- (b) the location and extent of sea and/or airspace required for each party's works (including all applicable exclusive zones) as known at that time and a minimum distance between each wind turbine generator of 2,000 metres in all directions measured from the centre point of the wind turbine generator;
- (c) all such evidence as is available at the time to support the existence of a prospect for the storage of carbon dioxide (with a view to its permanent disposal) in the area subject to the licence in respect of the licensee's works;

- (d) the objectively assessed ability of the licensee to reduce or remove its sea and/or airspace area requirement under (b) above in light of evidence at (c) above, whether with immediate effect or at a specified later date;
- (e) the objectively assessed ability of the undertaker to reduce or remove its sea and/or airspace area requirement under (b) above;
- (f) the date by which the licensee will seek to commence operation, or at which works of appraisal will cease, as known at that time;
- (g) the siting and design of the undertaker's works on any plan of the undertaker's works as known at that time;
- (h) the minimum feasible exclusive zones, buffer zones or safety zones required for safe construction and operation between the undertaker's works and the licensee's works and compliant with the relevant law and guidance in force at the time of undertaking those works;
- (i) protocols protective of navigation communication and use of the sea or air by third parties;
- (j) possible future transfer of the benefit of the Order or of the licence;
- (k) the national policy requirements for co-existence and the ongoing commercial viability of the authorised development permitted under this Order and the NEP Project;
- (l) the means and programme of access by sea to the undertaker's works and the licensee's works; and
- (m) an allocation between the undertaker and/or the licensee of the cost of monitoring based on an objective and independently verified assessment of the difference in cost between monitoring undertaken with and without the authorised development in the overlap zone.

**11.** If there is a dispute pursuant to paragraph 9, or if no coexistence and proximity agreement is concluded, or the parties shall not have agreed whether a crossing and proximity agreement is required pursuant to paragraph 4(b) within the period specified in paragraph 7, the outstanding matters in dispute must be determined by the Secretary of State following the process in article 39 (arbitration) of this Order as modified by paragraph 11. The undertaker's and the licensee's works must not commence until the determination of the Secretary of State has been made and must only be implemented in accordance with that determination which is final and binding on the parties (save for manifest or legal error)—

- (a) the arbitration shall be conducted by a sole arbitrator appointed by the Secretary of State;
- (b) the Secretary of State must consult the parties on the candidates for the role of arbitrator;
- (c) the Secretary of State must appoint an arbitrator within 14 days of the delivery of a notice of arbitration;
- (d) unless otherwise agreed between the Secretary of State, the undertaker and the licensee, the arbitrator shall be a person (including one who has retired) with not less than fifteen years' aviation, radar or shipping and marine navigation experience (as applicable) associated with a combination of offshore oil and gas development and offshore wind farm development or as a lawyer or other professional advisor serving those industries and having that experience;
- (e) the arbitrator should make a recommendation to the Secretary of State as to the determination of the matters in dispute within 1 month of appointment;
- (f) the Secretary of State must determine the arbitration within 1 month of receiving the recommendation of the arbitrator; and
- (g) when determining the arbitration the Secretary of State must—
  - (i) have regard to the recommendation of the arbitrator, but may reach an alternative view; and
  - (ii) give reasons for the determination.

### **Provision of information**

12. Without prejudice to any other rights or obligations under this Part of this Schedule the licensee and the undertaker shall from time to time keep each other informed of relevant activities such that the licensee and the undertaker may seek to agree solutions to allow the undertaker's works and the licensee's works to successfully co-exist as far as reasonably practicable.

### **Interface agreement**

13. Nothing in this Part of the Schedule shall affect any rights or obligations of the licensee or the undertaker under the terms of the interface agreement, and should a conflict arise between the terms of these protective provisions and the terms of the interface agreement, the interface agreement shall prevail.

## **PART 9**

### **FOR THE PROTECTION OF NEO ENERGY (SNS) LIMITED**

#### **Application**

1. For the protection of the licensee from time to time of United Kingdom Petroleum Production Licence P.456 Block 48/2a, unless otherwise agreed in writing between the undertaker and the licensee the provisions of this Part of this Schedule shall have effect for so long as the licence shall remain in full force and effect.

2. In the event that the licence is terminated and no longer has effect, the obligations on the undertaker in this Schedule shall no longer have effect in so far as they relate to the licensee's works under the terminated licence(s).

#### **Interpretation**

3. In this Part of this Schedule—

“licence” means United Kingdom Petroleum Production Licence P.456 Block 48/2a;

“licensee” means the licensee from time to time of the licence;

“ministerial statement” means the written statement given by the Secretary of State for Energy and Climate Change to the UK Parliament regarding Crown Estate Leases for Offshore Renewables Projects on 12 July 2011, or any similar supplementary or replacement policy;

“the NEO Protective Provisions Plan” means the plan entitled NEO Protective Provisions Plan and certified as the NEO Protective Provisions Plan for the purposes of this Part of this Schedule;

“Restricted Area” means the spherical area of seabed having a radius of 2.7 nautical miles from UTM 383,268.00 East, UTM 5,981,086.00 North (International Spheroid, European Datum 1950, Zone 31, Central Meridian 3 degrees East) that point being the centre of the existing Babbage platform in Licence P.456 Block 48/2a operated by the Licensee shown delineated green on the NEO Protective Provisions Plan; and

“relevant activities” means all development activity relating to the carrying on of the undertaker's and licensee's businesses within, or adjacent to the restricted area, including (but not limited to) the preparation of development proposals, the submission of applications for statutory consents associated with those proposals and consultation in respect thereof, the acquisition of or application for new licence oil or gas blocks.

#### **Restriction on authorised development**

4. No wind turbine generator shall be erected in the restricted area, unless otherwise agreed in writing between the licensee and the undertaker.

### **Provision of information**

5. Without prejudice to any other rights or obligations under this Part of this Schedule the licensee and the undertaker shall from time to time keep each other informed of relevant activities such that the licensee and the undertaker may seek to agree solutions to allow those activities to successfully co-exist as far as reasonably practicable or if later until completion of activities required under any statutory decommissioning plan required under the Petroleum Act 1998 in relation to the licence and taking place within the areas subject to the licence.

### **Compensation**

6. Nothing in this Part of this Schedule shall affect any rights or obligations or assessment of compensation in accordance with the ministerial statement and the associated guidance.

## **PART 10**

### **FOR THE PROTECTION OF PERENCO UK LIMITED**

### **Application**

1. For the protection of the licensee from time to time of United Kingdom Petroleum Production Licence P.380, unless otherwise agreed in writing between the undertaker and the licensee the provisions of this Part of this Schedule shall have effect for so long as the licence shall remain in full force and effect.

2. In the event that the licence is terminated and no longer has effect, the obligations on the undertaker in this Schedule shall no longer have effect insofar as they relate to the licensee's works under the terminated licence.

### **Interpretation**

3. In this Part of this Schedule—

“licence” means United Kingdom Petroleum Production Licence P.380;

“licensee” means the licensee from time to time of the licence;

“ministerial statement” means the written statement given by the Secretary of State for Energy and Climate Change to the UK Parliament regarding Crown estate Leases for Offshore Renewables Projects on 12 July 2011, or any similar supplementary or replacement policy;

“the Perenco protective provisions plan” means the plan entitled Perenco protective provisions plan and certified as the Perenco protective provisions plan for the purposes of this Part of this Schedule;

“restricted area” means the spherical areas of seabed having a radius of 2.7 nautical miles from:

- (a) position 54 degrees 01 minutes 53.0 seconds North, 01 degrees 06 minutes 08.0 seconds East, (UTM coordinates E375 697.1 N5988 809.0), that point being the centre of the existing Ravenspurn North CC platform; and
- (b) position 54 degrees 03 minutes 00.0 seconds North, 01 degrees 02 minutes 00.0 seconds East, (UTM coordinates E371 330.0 N5991 530.0), that point being the centre of the existing Ravenspurn ST2 platform

in licence P.380 Block 43/26a operated by the licensee shown on the Perenco protective provisions plan;

“relevant activities” means all development activity relating to the carrying on of the undertaker's and licensee's businesses within or adjacent to the restricted area, including (but not limited to) the preparation of development proposals, the submission of applications for

statutory consents associated with those proposals and consultation in respect thereof, the acquisition of or application for new licence oil or gas blocks.

#### **Restriction on authorised development**

4. No wind turbine generator shall be erected in the restricted area unless otherwise agreed in writing between the licensee and the undertaker.

#### **Provision of information**

5. Without prejudice to any other rights or obligations under this Part of this Schedule the licensee and the undertaker shall from time to time keep each other informed of relevant activities such that the licensee and the undertaker may seek to agree solutions to allow those activities to successfully co-exist as far as reasonably practicable or if later until completion of activities required under any statutory decommissioning plan required under the Petroleum Act 1998 in relation to the licence and taking place within the areas subject to the licence.

#### **Compensation**

6. Nothing in this Part of this Schedule shall affect any rights or obligations or assessment of compensation in accordance with the ministerial statement and the guidance (as applicable). #

## **PART 11**

### **FOR THE PROTECTION OF NORTHERN POWERGRID (YORKSHIRE) PLC**

#### **Application**

1. For the protection of Northern Powergrid referred to in this Part of this Schedule the following provisions must, unless otherwise agreed in writing between the undertaker and the affected undertaking concerned, have effect.

2. In this Part of this Schedule—

“alternative apparatus” means alternative apparatus adequate to enable Northern Powergrid to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means electric lines or electrical plant (as defined in the 1989 Act), belonging to or maintained by Northern Powergrid;

“functions” includes powers and duties;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over or upon land; and

“Northern Powergrid” means Northern Powergrid (Yorkshire) PLC (Company Number 04112320) whose registered address is Lloyds Court, 78 Grey Street, Newcastle upon Tyne, NE1 6AF.

#### **Precedence of the 1991 Act in respect of apparatus in the streets**

3. This Part of this Schedule does not apply to apparatus in respect of which the relations between the undertaker and the Northern Powergrid are regulated by the provisions of Part 3 of the 1991 Act.

#### **No acquisition etc. except by agreement**

4.—(1) Regardless of any provision in this Order or anything shown on the land plan or contained in the book of reference, the undertaker shall not acquire any apparatus or override any easement or other interest of Northern Powergrid or acquire any land or other interest of Northern

Powergrid or create any new rights over the same otherwise than by agreement of the relevant Northern Powergrid such agreement not to be unreasonably withheld or delayed (having regard to Northern Powergrid's existing and future requirements for such land or interests).

(2) Regardless of any provision in this Order or anything shown on the land plans or contained in the book of reference, the undertaker shall not interfere with any communications cables or equipment used by Northern Powergrid in relation to its apparatus or acquire or interfere with any rights or interests supporting the use, maintenance or renewal of such equipment otherwise than by agreement of Northern Powergrid (such agreement not to be unreasonably withheld or delayed).

### **Removal of apparatus**

5.—(1) If, in the exercise of the powers conferred by this Order, the undertaker acquires any interest in any land in which any apparatus is placed, that apparatus must not be removed under this Part of this Schedule and any right of Northern Powergrid to maintain that apparatus in that land must not be extinguished until alternative apparatus has been constructed and is in operation to the reasonable satisfaction of Northern Powergrid.

(2) If, for the purpose of executing any works in, on or under any land purchased, held, or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it must give to Northern Powergrid 56 days advance written notice of that requirement, together with a plan and section of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order Northern Powergrid reasonably needs to remove any of its apparatus) the undertaker must, subject to sub-paragraph (3), afford to Northern Powergrid the necessary facilities and rights for the construction of alternative apparatus in other land of the undertaker and subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed—

- (a) the undertaker must in the first instance use reasonable endeavors to acquire all necessary land interests or rights as Northern Powergrid may reasonably require for the relocation and construction of alternative apparatus and must use reasonable endeavours to procure all necessary rights to access and maintain Northern Powergrid's apparatus and alternative apparatus thereafter the terms of such access and maintenance to be agreed by Northern Powergrid (acting reasonably); and
- (b) in the event the undertaker is not able to procure the necessary land interests or rights referred to in sub-paragraph (3)(i) Northern Powergrid must, on receipt of a written notice to that effect from the undertaker, as soon as reasonably possible use reasonable endeavours to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed save that this obligation shall not extend to the requirement for Northern Powergrid to use its compulsory purchase powers to this end unless it elects to do so.

(4) Any alternative apparatus to be constructed in land of the undertaker under this Part of this Schedule must be constructed in such manner and in such line or situation as may be agreed between Northern Powergrid and the undertaker or in default of agreement settled by arbitration in accordance with article 39 (arbitration).

(5) Northern Powergrid must, after the alternative apparatus to be provided or constructed has been agreed or settled by arbitration in accordance with article 39 (arbitration) and after the grant to Northern Powergrid of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this Part of this Schedule.



## **Facilities and rights for alternative apparatus**

6.—(1) Where, in accordance with the provisions of this Part of this Schedule, the undertaker affords to Northern Powergrid facilities and rights for the construction and maintenance in land of the undertaker of alternative apparatus in substitution for apparatus to be removed, those facilities and rights must be granted upon such terms and conditions as may be agreed between the undertaker and Northern Powergrid or in default of agreement settled by arbitration in accordance with article 39 (arbitration).

(2) If the facilities and rights to be afforded by the undertaker in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are in the opinion of the arbitrator less favourable on the whole to Northern Powergrid than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to which those facilities and rights are subject, the arbitrator must make such provision for the payment of compensation by the undertaker to Northern Powergrid as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case.

## **Retained apparatus**

7.—(1) Not less than 56 days before starting the execution of any works in, on or under any land purchased, held, appropriated or used under this Order that are within 15 metres of, or will or may affect, any apparatus the removal of which has not been required by the undertaker under paragraph 5, the undertaker must submit to Northern Powergrid a plan, section and description of the works to be executed.

(2) Those works must be executed only in accordance with the plan, section and description submitted under sub-paragraph (1) and in accordance with such reasonable requirements as may be made in accordance with sub-paragraph (3) by Northern Powergrid for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and Northern Powergrid is entitled to watch and inspect the execution of those works.

(3) Any requirements made by Northern Powergrid under sub-paragraph (2) must be made within a period of 49 days beginning with the date on which a plan, section and description under sub-paragraph (1) are submitted to it.

(4) If Northern Powergrid in accordance with sub-paragraph (2) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs 1 to 6 apply as if the removal of the apparatus had been required by the undertaker under paragraph 5.

(5) Nothing in this paragraph precludes the undertaker from submitting at any time or from time to time, but in no case less than 35 days before commencing the execution of any works, a new plan, section and description instead of the plan, section and description previously submitted, and having done so the provisions of this paragraph apply to and in respect of the new plan, section and description.

(6) The undertaker is not required to comply with sub-paragraph (1) in a case of emergency but in that case it must give to Northern Powergrid notice as soon as is reasonably practicable and a plan, section and description of those works as soon as reasonably practicable subsequently and must comply with sub-paragraph (2) in so far as is reasonably practicable in the circumstances.

8.—(1) Save where otherwise agreed in writing between Northern Powergrid and the undertaker and subject to the following provisions of this paragraph, the undertaker must repay to Northern Powergrid within 30 days of receipt of an itemised invoice or claim all charges costs and expenses reasonably incurred by Northern Powergrid in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus which may be required in consequence of the execution of any such works as authorised by this Order including without limitation—

- (a) any costs reasonably incurred or compensation properly paid in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation in the event that Northern Powergrid elects to use compulsory purchase

powers to acquire any necessary rights under paragraph 7(3) all costs incurred as a result of such action;

- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus;
- (c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works;
- (f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Schedule.

(2) If in accordance with the provisions of this Part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or, in default of agreement, is not determined by arbitration in accordance with article 39 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this Part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to Northern Powergrid by virtue of sub-paragraph (1) must be reduced by the amount of that excess save where it is not possible in the circumstances to obtain the existing type of operations, capacity, dimensions or place at the existing depth in which case full costs shall be borne by the undertaker.

(3) For the purposes of sub-paragraph (2)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus is not to be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole is to be treated as if it also had been agreed or had been so determined.

### **Expenses and costs**

**9.**—(1) Subject to sub-paragraphs (2) to (5), if by reason or in consequence of the construction of any such works referred to in this Part of this Schedule, or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by it) in the course of carrying out such works, including without limitation works carried out by the undertaker or Northern Powergrid under this Schedule or any subsidence resulting from any of these works, any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works) or property of Northern Powergrid, or there is any interruption in any service provided, or in the supply of any goods, by Northern Powergrid, or Northern Powergrid becomes liable to pay any amount to a third party the undertaker must—

- (a) bear and pay the cost reasonably incurred by Northern Powergrid in making good such damage or restoring the supply; and
- (b) indemnify Northern Powergrid for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from Northern Powergrid, by

reason or in consequence of any such damage or interruption or Northern Powergrid becoming liable to any third party.

(2) The fact that any act or thing may have been done by Northern Powergrid on behalf of the undertaker or in accordance with a plan approved by Northern Powergrid or in accordance with any requirement of Northern Powergrid as a consequence of the authorised development or under its supervision will not (unless sub-paragraph (3) applies), excuse the undertaker from liability under the provisions of this sub-paragraph (2) where the undertaker fails to carry out and execute the works properly with due care and attention and in a skilful and workman like manner or in a manner that does not materially accord with the approved plan or as otherwise agreed between the undertaker and Northern Powergrid.

(3) Nothing in sub-paragraph (1) imposes any liability on the undertaker with respect to—

- (a) any damage or interruption to the extent that it is attributable to the act, neglect or default of Northern Powergrid, its officers, servants, contractors or agents; or
- (b) any authorised development and/or any other works authorised by this Part of this Schedule carried out by Northern Powergrid as an assignee, transferee or lessee of the undertaker with the benefit of the Order subject to the proviso that once such works become apparatus (“new apparatus”) any works yet to be executed by the undertaker and not falling within this paragraph 9(3)(b) will be subject to the full terms of this Part of this Schedule including this paragraph 9 in respect of such new apparatus.

(4) Northern Powergrid must give the undertaker reasonable notice of any such claim or demand and no settlement or compromise may be made without the consent of the undertaker which, if it withholds such consent, shall have the sole conduct of any settlement or compromise or of any proceedings necessary to resist the claim or demand.

(5) Northern Powergrid must use its reasonable endeavours to mitigate in whole or in part and to minimise any costs, expenses, loss, demands and penalties to which the indemnity under sub-paragraph (1) applies. If request to do so by the undertaker, Northern Powergrid must provide an explanation of how the claim has been minimised. The undertaker is only liable under sub-paragraph (1) for claim reasonably incurred by Northern Powergrid.

**10.** Nothing in this Part of this Schedule affects the provisions of any enactment or agreement regulating the relations between the undertaker and Northern Powergrid in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

### **Co-operation**

**11.** Where in consequence of the proposed construction of any of the authorised development, the undertaker or Northern Powergrid requires the removal of apparatus under paragraph 5(2) or otherwise or Northern Powergrid makes requirements for the protection or alteration of apparatus under paragraph 7, the undertaker shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the need to ensure the safe and efficient operation of Northern Powergrid’s undertaking taking into account the undertaker’s desire for the efficient and economic execution of the authorised development and the undertaker and Northern Powergrid shall use best endeavours to co-operate with each other for those purposes.

### **Access**

**12.** If in consequence of an agreement reached in accordance with paragraph 4(1) or the powers granted under this Order the access to any apparatus or alternative apparatus is materially obstructed, the undertaker shall provide such alternative means of access to such apparatus or alternative apparatus as will enable Northern Powergrid to maintain or use the said apparatus no less effectively than was possible before such obstruction.

## Notices

13. The plans submitted to Northern Powergrid by the undertaker pursuant to this Part of the Schedule must be sent to Northern Powergrid at [property@northernpowergrid.com](mailto:property@northernpowergrid.com) or such other address as Northern Powergrid may from time to time appoint instead for that purpose and notify to the undertaker in writing.

## PART 12

### FOR THE PROTECTION OF BRIDGE PETROLEUM 2 LIMITED

#### Application

1. For the protection of the licensee from time to time of United Kingdom Petroleum Production Licence P.2426, unless otherwise provided for in this Schedule or otherwise agreed in writing between the licensee and the undertaker the provisions of this Part of this Schedule shall have effect for so long as the licence shall remain in full force and effect.

2. In the event that—

- (a) the licence is terminated and no longer has effect;
- (b) within four months of the coming into force of this Order, the licensee has not obtained the necessary consents;
- (c) the licensee fails to serve notice on the undertaker as required by paragraph 5,

the obligations on the undertaker in this Part of this Schedule shall no longer have effect.

#### Interpretation

3. In this Part of this Schedule—

“Bridge protected area plan” means the plan entitled Bridge Petroleum: Kumatage Protective Provisions and certified as the Bridge protected area plan for the purposes of this Part of this Schedule;

“emergency works” means works whose execution at the time when they are executed is required in order to put an end to, or to prevent the occurrence of, circumstances then existing or imminent (or which the person responsible for the works believes on reasonable grounds to be existing or imminent) which are likely to cause danger to persons, property or the environment;

“exclusion zones” means an area on, under or above the seabed within a distance of 500m of the outer edge of an installed platform or centre point of installed subsea infrastructure (excluding an installed pipeline) and an area of 200m either side of an installed pipeline, in each case forming part of the licensee’s works;

“licence” means United Kingdom Petroleum Production Licence P.2426;

“licensee” means the licensee from time to time of the licence;

“licensee’s works” means exploration, appraisal, development, production, maintenance, interventions and/or decommissioning activity in accordance with and pursuant to the licence;

“necessary consents” means regulatory approval from the North Sea Transition Agency (or any successor in function) and the Offshore Petroleum Regulator for Environment and Decommissioning (or any successor in function) for one or more appraisal well(s) and approval from the North Sea Transition Agency (or any successor in function) of a field development plan;

“pipeline route A” means the route coloured pale yellow on the Bridge protected area plan;

“pipeline route B” means the route coloured red on the Bridge protected area plan;

“primary lines of orientation” means the lines identified as the primary lines of orientation for wind turbine generators comprised in the authorised development running south east to north west on bearing 326.5 degrees as shown on the Bridge protected area plan;

“protected area” means the area of seabed with the coordinates below and shown shaded grey/blue on the Bridge protected area plan, excluding any relinquished area

<i>X_UTM31N</i>	<i>Y_UTM31N</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Lat_DMS</i>	<i>Long_DMS</i>
369758.7442	6001005.102	54.14062859	1.006235389	54° 8' 26.263" N	1° 0' 22.447" E
370895.6849	6000130.985	54.13306382	1.024002362	54° 7' 59.030" N	1° 1' 26.409" E
371000.6638	6000185.22	54.13357734	1.025584881	54° 8' 0.878" N	1° 1' 32.106" E
371114.236	6000217.83	54.13389873	1.027308113	54° 8' 2.035" N	1° 1' 38.309" E
371232.0093	6000227.549	54.13401555	1.029105395	54° 8' 2.456" N	1° 1' 44.779" E
371349.3879	6000214.002	54.13392326	1.030906567	54° 8' 2.124" N	1° 1' 51.264" E
371461.8379	6000177.714	54.13362543	1.032642027	54° 8' 1.052" N	1° 1' 57.511" E
371564.9957	6000120.091	54.13313363	1.03424441	54° 7' 59.281" N	1° 2' 3.280" E
371654.8603	6000043.37	54.13246692	1.035651552	54° 7' 56.881" N	1° 2' 8.346" E
371727.9464	5999950.524	54.13165119	1.03680887	54° 7' 53.944" N	1° 2' 12.512" E
371780.158	5999848.371	54.13074663	1.037650827	54° 7' 50.688" N	1° 2' 15.543" E
371811.9723	5999738.148	54.12976449	1.03818421	54° 7' 47.152" N	1° 2' 17.463" E
371822.2261	5999623.885	54.12874068	1.038389537	54° 7' 43.466" N	1° 2' 18.202" E
371810.5448	5999509.758	54.12771263	1.03825933	54° 7' 39.765" N	1° 2' 17.734" E
371777.3552	5999399.942	54.12671793	1.037798369	54° 7' 36.185" N	1° 2' 16.074" E
371723.8708	5999298.449	54.12579294	1.03702353	54° 7' 32.855" N	1° 2' 13.285" E
371652.0469	5999208.992	54.12497147	1.035963155	54° 7' 29.897" N	1° 2' 9.467" E
371564.5095	5999134.84	54.12428355	1.03465602	54° 7' 27.421" N	1° 2' 4.762" E
371707.0735	5999034.998	54.12342232	1.036878551	54° 7' 24.320" N	1° 2' 12.763" E
371814.9826	5998898.439	54.12222259	1.03858664	54° 7' 20.001" N	1° 2' 18.912" E
371879.1565	5998736.653	54.12078534	1.039636569	54° 7' 14.827" N	1° 2' 22.692" E
371894.1948	5998563.256	54.11923155	1.03994004	54° 7' 9.234" N	1° 2' 23.784" E
371869.3359	5998424.266	54.11797689	1.039618876	54° 7' 4.717"	1° 2' 22.628"

				N	E
371812.684	5998294.935	54.11680105	1.038807534	54° 7' 0.484" N	1° 2' 19.707" E
371727.3768	5998182.423	54.11576916	1.037550984	54° 6' 56.769" N	1° 2' 15.184" E
371618.1385	5998092.963	54.11493834	1.035918829	54° 6' 53.778" N	1° 2' 9.308" E
371517.1978	5998041.233	54.11444847	1.034397558	54° 6' 52.014" N	1° 2' 3.831" E
371408.3254	5998009.424	54.11413554	1.032746584	54° 6' 50.888" N	1° 1' 57.888" E
371295.412	5997998.673	54.11401073	1.031024889	54° 6' 50.439" N	1° 1' 51.690" E
371182.4928	5998009.363	54.1140785	1.029293977	54° 6' 50.683" N	1° 1' 45.458" E
371073.6033	5998041.114	54.11433642	1.027615684	54° 6' 51.611" N	1° 1' 39.416" E
370972.635	5998092.79	54.11477528	1.026049969	54° 6' 53.191" N	1° 1' 33.780" E
370883.1961	5998162.545	54.1153794	1.024652768	54° 6' 55.366" N	1° 1' 28.750" E
370808.4831	5998247.885	54.11612721	1.023474009	54° 6' 58.058" N	1° 1' 24.506" E
370748.8624	5998350.778	54.11703645	1.022518453	54° 7' 1.331" N	1° 1' 21.066" E
370710.7056	5998463.407	54.11803854	1.021886867	54° 7' 4.939" N	1° 1' 18.793" E
370695.5115	5998581.35	54.11909413	1.02160408	54° 7' 8.739" N	1° 1' 17.775" E
370703.8771	5998699.973	54.12016175	1.021681229	54° 7' 12.582" N	1° 1' 18.052" E
370735.4737	5998814.617	54.12119946	1.02211531	54° 7' 16.318" N	1° 1' 19.615" E
370789.0601	5998920.777	54.1221665	1.022889294	54° 7' 19.799" N	1° 1' 22.401" E
370862.5312	5999014.283	54.12302486	1.023972795	54° 7' 22.889" N	1° 1' 26.302" E
370953.001	5999091.462	54.12374082	1.02532326	54° 7' 25.467" N	1° 1' 31.164" E
370856.0517	5999152.369	54.12426358	1.023814676	54° 7' 27.349" N	1° 1' 25.733" E
370772.4368	5999230.583	54.12494512	1.022502564	54° 7' 29.802" N	1° 1' 21.009" E
370705.2009	5999323.255	54.12576063	1.021434697	54° 7' 32.738" N	1° 1' 17.165" E
370656.7919	5999427.012	54.12668043	1.02064996	54° 7' 36.050" N	1° 1' 14.340" E
369290.5479	5999425.493	54.12632131	0.999756873	54° 7' 34.757" N	0° 59' 59.125" E
369409.1471	5999825.625	54.12994553	1.00139754	54° 7' 47.804" N	1° 0' 5.031" E
370629.9711	5999826.982	54.13026636	1.02006844	54° 7'	1° 1' 12.246"

				48.959" N	E
369634.1373	6000584.701	54.13682085	1.004510756	54° 8' 12.555" N	1° 0' 16.239" E
369758.7442	6001005.102	54.14062859	1.006235389	54° 8' 26.263" N	1° 0' 22.447" E

“offshore wind infrastructure” means all infrastructure permitted by this Order excluding offshore wind activities and the overhanging of a wind turbine generator blade;

“offshore wind activities” means investigation survey or other activity relating to the evaluation of development construction operation and maintenance and/or decommissioning of the authorised development and shall include the use of a jack-up or other vessel;

“relinquished area” means any part of the protected area that is relinquished by the licensee pursuant to the licence or otherwise removed from the scope of the licence, but which shall not include the exclusion zones; and

“remaining overlap area” means the area of seabed with the coordinates below and shown cross-hatched on the Bridge protected area plan

<i>ETRS89_X</i>	<i>ETRS89_Y</i>	<i>Latitude</i>	<i>Longitude</i>	<i>DDLat</i>	<i>DDLlong</i>
369290.5479	5999425.493	54° 7' 34.757" N	0° 59' 59.125" E	54.12632131	0.999756873
370656.7919	5999427.012	54° 7' 36.050" N	1° 1' 14.340" E	54.12668043	1.02064996
370705.2009	5999323.255	54° 7' 32.738" N	1° 1' 17.165" E	54.12576063	1.021434697
370772.4368	5999230.583	54° 7' 29.802" N	1° 1' 21.009" E	54.12494512	1.022502564
370856.0517	5999152.369	54° 7' 27.349" N	1° 1' 25.733" E	54.12426358	1.023814676
370953.001	5999091.462	54° 7' 25.467" N	1° 1' 31.164" E	54.12374082	1.02532326
370862.5312	5999014.283	54° 7' 22.889" N	1° 1' 26.302" E	54.12302486	1.023972795
370789.0601	5998920.777	54° 7' 19.799" N	1° 1' 22.401" E	54.12216649	1.022889294
370735.4737	5998814.617	54° 7' 16.318" N	1° 1' 19.615" E	54.12119946	1.02211531
370703.8771	5998699.973	54° 7' 12.582" N	1° 1' 18.052" E	54.12016175	1.021681229
370695.5115	5998581.35	54° 7' 8.739" N	1° 1' 17.775" E	54.11909413	1.02160408
370710.7056	5998463.407	54° 7' 4.939" N	1° 1' 18.793" E	54.11803854	1.021886867
370748.8624	5998350.777	54° 7' 1.331" N	1° 1' 21.066" E	54.11703645	1.022518453
370808.4831	5998247.885	54° 6' 58.058" N	1° 1' 24.506" E	54.11612721	1.023474009
370883.1961	5998162.545	54° 6' 55.366" N	1° 1' 28.750" E	54.1153794	1.024652768
370972.635	5998092.79	54° 6' 53.191" N	1° 1' 33.780" E	54.11477528	1.026049969
371073.6033	5998041.114	54° 6' 51.611" N	1° 1' 39.416" E	54.11433642	1.027615684
371182.4928	5998009.363	54° 6'	1° 1' 45.458"	54.1140785	1.029293977

		50.683" N	E		
371295.412	5997998.672	54° 6' 50.439" N	1° 1' 51.690" E	54.11401073	1.031024889
371408.3254	5998009.424	54° 6' 50.888" N	1° 1' 57.888" E	54.11413554	1.032746584
371517.1978	5998041.233	54° 6' 52.014" N	1° 2' 3.831" E	54.11444847	1.034397558
371618.1385	5998092.963	54° 6' 53.778" N	1° 2' 9.308" E	54.11493834	1.035918829
371727.3768	5998182.423	54° 6' 56.769" N	1° 2' 15.184" E	54.11576916	1.037550984
371812.684	5998294.934	54° 7' 0.484" N	1° 2' 19.707" E	54.11680105	1.038807534
371869.3359	5998424.266	54° 7' 4.717" N	1° 2' 22.628" E	54.11797689	1.039618876
371894.1948	5998563.256	54° 7' 9.234" N	1° 2' 23.784" E	54.11923155	1.03994004
371879.1565	5998736.653	54° 7' 14.827" N	1° 2' 22.692" E	54.12078534	1.039636569
371814.9826	5998898.439	54° 7' 20.001" N	1° 2' 18.912" E	54.12222259	1.03858664
371707.0735	5999034.998	54° 7' 24.320" N	1° 2' 12.763" E	54.12342232	1.036878551
371564.5095	5999134.84	54° 7' 27.421" N	1° 2' 4.762" E	54.12428355	1.03465602
371652.0469	5999208.992	54° 7' 29.897" N	1° 2' 9.467" E	54.12497147	1.035963155
371723.8708	5999298.449	54° 7' 32.855" N	1° 2' 13.285" E	54.12579294	1.03702353
371777.3552	5999399.942	54° 7' 36.185" N	1° 2' 16.074" E	54.12671793	1.037798369
371810.5448	5999509.758	54° 7' 39.765" N	1° 2' 17.734" E	54.12771263	1.03825933
371822.2261	5999623.885	54° 7' 43.466" N	1° 2' 18.202" E	54.12874068	1.038389537
371811.9723	5999738.148	54° 7' 47.152" N	1° 2' 17.463" E	54.12976449	1.03818421
371780.158	5999848.371	54° 7' 50.688" N	1° 2' 15.543" E	54.13074663	1.037650827
371727.9464	5999950.524	54° 7' 53.944" N	1° 2' 12.512" E	54.13165119	1.03680887
371654.8603	6000043.37	54° 7' 56.881" N	1° 2' 8.346" E	54.13246692	1.035651552
371564.9957	6000120.091	54° 7' 59.281" N	1° 2' 3.280" E	54.13313363	1.03424441
371461.8379	6000177.714	54° 8' 1.052" N	1° 1' 57.511" E	54.13362543	1.032642027
371349.3879	6000214.002	54° 8' 2.124" N	1° 1' 51.264" E	54.13392326	1.030906567
371232.0093	6000227.548	54° 8' 2.456" N	1° 1' 44.779" E	54.13401555	1.029105395
371114.236	6000217.83	54° 8' 2.035" N	1° 1' 38.309" E	54.13389873	1.027308113
371000.6638	6000185.22	54° 8' 0.878" N	1° 1' 32.106" E	54.13357734	1.025584881



		N	E		
370895.6849	6000130.985	54° 7' 59.030" N	1° 1' 26.409" E	54.13306382	1.024002362
369758.744	6001005.102	54° 8' 26.263" N	1° 0' 22.447" E	54.14062859	1.006235386
370188.1134	6002453.716	54° 9' 13.497" N	1° 0' 43.850" E	54.15374908	1.012180474
369052.38	6003839.014	54° 9' 57.254" N	0° 59' 39.116" E	54.1659038	0.994198772
374775.9162	6003680.049	54° 9' 57.253" N	1° 4' 54.768" E	54.1659037	1.081880049
374549.6554	5995336.516	54° 5' 27.244" N	1° 4' 54.777" E	54.09090122	1.081882594
373037.8605	5995377.85	54° 5' 27.247" N	1° 3' 31.553" E	54.09090193	1.058764698
372386.8054	5996013.946	54° 5' 47.237" N	1° 2' 54.774" E	54.09645475	1.048548266
372395.3332	5996323.166	54° 5' 57.244" N	1° 2' 54.773" E	54.09923444	1.048548168
372060.5767	5996332.517	54° 5' 57.247" N	1° 2' 36.341" E	54.09923534	1.043428091
369201.7237	5999125.817	54° 7' 24.985" N	0° 59' 54.702" E	54.12360695	0.998528288
369409.1471	5999825.625	54° 7' 47.804" N	1° 0' 5.031" E	54.12994553	1.00139754
369634.1371	6000584.702	54° 8' 12.555" N	1° 0' 16.239" E	54.13682085	1.004510753
370629.9711	5999826.982	54° 7' 48.959" N	1° 1' 12.246" E	54.13026636	1.02006844

#### Protected area

4.—(1) Subject to paragraph 7, no offshore wind infrastructure shall be constructed within the protected area.

(2) The undertaker may perform offshore wind activities in the protected area provided that—

- (a) the undertaker provides advance written notice of its activities in the protected area as soon as reasonably practicable and in any event no later than six months prior to the scheduled commencement of such activities;
- (b) the undertaker's notice must describe the nature, extent, anticipated start date and duration of the activities;
- (c) following commencement of the offshore wind activities in the protected area, the undertaker must provide regular updates (no less frequently than every fourteen days) to the licensee throughout the duration of the offshore wind activities in the protected area as to their progress; and
- (d) within 24 hours of the completion of the offshore wind activities, the undertaker provides notice to the licensee that the activities have been completed and the protected area has been vacated.

(3) The requirement for advance notice in sub-paragraph (2)(a) above shall not apply to any offshore wind activities which are emergency works, in which case the undertaker must provide notice as soon as reasonably practicable after commencement of the activities.

(4) Following completion of the relevant offshore wind activities the undertaker shall use reasonable endeavours not to restrict, delay, hinder or prevent in any way the licensee's or its agents' ability to access safely the protected area and to carry out any drilling, development,

production or decommissioning activities that the licensee, acting as a reasonable and prudent operator deems necessary from time to time.

5. No later than four months after the coming into force of this Order, the licensee shall notify the undertaker of its proposed location of its pipeline, such location being either pipeline route A or pipeline route B. From the date the undertaker receives the licensee's notification, the protected area shall include either pipeline route A or pipeline route B (as elected by the licensee).

#### **Line of orientation**

6. The licensee shall not carry out, nor procure the carrying out of, the licensee's works in any way that would prevent the undertaker from constructing and maintaining the wind turbine generators comprised in the authorised development in a layout consistent with the primary lines of orientation.

#### **Crossing and proximity**

7. The undertaker and the licensee shall use reasonable endeavours to enter into a crossing and/or proximity agreement on standard UK oil and gas industry terms in relation to the licensee's works and the authorised development in relation to the protected area and the remaining overlap area, such agreement to be entered as soon as reasonably practicable after the coming into force of this Order.

## **PART 13**

### **FOR THE PROTECTION OF HARBOUR ENERGY LIMITED, PERENCO UK LIMITED, PREMIER OIL E&P UK EU LIMITED, DANA PETROLEUM (E&P) LIMITED AND DANA PETROLEUM LIMITED**

#### **Application**

1. For the protection of the licensee from time to time of United Kingdom Petroleum Production Licences P686 and P380, unless otherwise agreed in writing between the undertaker and the licensee the provisions of this Part of this Schedule shall have effect for so long as the licence shall remain in full force and effect.

#### **Interpretation**

2. In this Part of this Schedule—

“aviation access area” means the area coloured pink and annotated and shown as the aviation access area on the Johnston protective provisions plan, and within which the undertaker shall provide an aviation access corridor;

“aviation access corridor” means an 800m aviation access corridor of clear airspace measured tip to tip from any wind turbine generator, to the aviation corridor, notified by the undertaker to the licensee prior to the commencement of the undertaker's works;

“aviation corridor” means an 800m aviation corridor of clear airspace measured tip to tip from any wind turbine generator shown coloured blue and annotated and shown as the aviation corridor (along the route of the Johnston pipeline) on the Johnston protective provisions plan;

“block” means a block of the United Kingdom Continental Shelf designated as such on the map deposited at the principal office of the North Sea Transition Authority;

“coexistence and proximity agreement” means an agreement entered on reasonable terms between the undertaker and the licensee in respect of the undertaker's works and licensee's works to reconcile and protect the interests of the parties as are known at the time to secure the implementation of the undertaker's works and the licensee's works;

“licences” means United Kingdom Petroleum Production Licences P686 block 43/27a and P380 block 43/26a;

“licensee” means the licensee from time to time of the licence;

“licensee’s works” means the decommissioning of the Johnston Field in accordance with the Johnston Decommissioning Programme (Rev B01, March 2022) as approved by the Offshore Petroleum Regulator for Environment and Decommissioning and as amended from time to time, but excluding any post-decommissioning monitoring and evaluation;

“marine corridor” means a 1000m corridor measured from centre to centre from any wind turbine generator (along the route of the Johnston pipeline);

“ministerial statement” means the written statement given by the Secretary of State for Energy and Climate Change to the UK Parliament regarding Crown Estate Leases for Offshore Renewables Projects on 12 July 2011, or any similar supplementary or replacement policy;

“Johnston Assets” means any and all facilities and infrastructure owned, operated, leased and/or otherwise contracted to the licensee from time to time for the purposes of the licences including but not limited to one exploration well, six producer wells, four pipelines and 15 umbilicals located in the Johnston Field and shown on the Johnston protective provisions plan;

“Johnston Field” means the area to which the licensee’s rights granted by the licences relate, being at the date hereof, that area shown by the coordinates detailed on the Johnston protective provisions plan;

“the Johnston protective provisions plan” means the plan entitled Johnston protective provisions plan and certified as the Johnston protective provisions plan for the purposes of this Part of this Schedule;

“relevant activities” means all development activity relating to the carrying on of the undertaker’s and licensee’s businesses within, or adjacent to the aviation corridor or a WTG exclusion zone, including (but not limited to) the preparation of development proposals, the submission of applications for statutory consents associated with those proposals and consultation in respect thereof, the acquisition of or application for new licence oil or gas blocks;

“undertaker’s works” means the offshore works permitted by this Order;

“WTG exclusion zone” means an area of 900m radius of clear airspace measured from the centre of each of the Johnston production wellheads and coloured yellow and annotated and shown as a WTG exclusion zone on the Johnston protective provisions plan.

### **Restriction on authorised development**

3. Prior to the completion of the licensee’s works, no wind turbine generator shall be erected in the marine corridor, the aviation corridor, the aviation access corridor or in any WTG exclusion zone, unless otherwise agreed in writing between the licensee and the undertaker.

4. In the event the licensee’s works commence prior to the undertaker’s works, the undertaker must not build, construct, erect or lay any temporary infrastructure and/or carry out any activities within the marine corridor, the aviation corridor, the aviation access corridor or in any WTG exclusion zone that would interfere with the licensee’s works causing a delay.

### **Coexistence and proximity agreement**

5. If, at any time the undertaker plans to undertake the undertaker’s works and/or any other work which is within five hundred metres (500m) of the Johnston Assets, the undertaker shall notify the licensee and the undertaker and the licensee must, unless agreed otherwise, acting reasonably, agree and enter into a crossing and proximity agreement as soon as reasonably practicable.

**Provision of information**

6. Without prejudice to any other rights or obligations under this Part of this Schedule the licensee and the undertaker shall from time to time keep each other informed of relevant activities such that the licensee and the undertaker may seek to agree solutions to allow those activities to successfully co-exist as far as reasonably practicable until completion of activities required under any statutory decommissioning plan required under the Petroleum Act 1998 in relation to the licence and taking place within the areas subject to the licence.

**Compensation**

7. Nothing in this Part of this Schedule shall affect any rights or obligations or assessment of compensation in accordance with the ministerial statement and the associated guidance.

**SCHEDULE 10**  
**HEDGEROWS**

**PART 1**  
**REMOVAL OF HEDGEROWS**

<i>(1)</i> <i>Area</i>	<i>(2)</i> <i>Location of hedgerow</i>
East Riding of Yorkshire District	The hedgerow shown between points 1a and 1b on sheet 1 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 2a and 2b on sheet 1 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 3a and 3b on sheet 1 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 4a and 4b on sheets 1 and 2 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 5a and 5b on sheet 2 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 6a and 6b on sheets 2 and 3 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 7a and 7b on sheets 2 and 3 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 8a and 8b on sheet 3 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 10a and 10b on sheet 3 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 11a and 11b on sheets 3 and 4 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 12a and 12b on sheets 3 and 4 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 13a and 13b on sheet 4 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 14a and 14b on sheet 4 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 15a and 15b on sheet 5 of the tree preservation order and hedgerow plan

East Riding of Yorkshire District	The hedgerow shown between points 18a and 18b on sheet 6 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 19a and 19b on sheet 6 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 20a and 20b on sheet 6 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 20c and 20d on sheet 6 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 21a and 21b on sheet 6 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 22a and 22b on sheets 6 and 7 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 23a and 23b on sheet 7 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 24a and 24b on sheet 7 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 25a and 25b on sheet 7 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 26a and 26b on sheets 7 and 8 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 27a and 27b on sheets 7 and 8 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 28a and 28b on sheet 8 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 29a and 29b on sheet 8 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 30a and 30b on sheet 8 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 31a and 31b on sheets 8 and 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 32a and 32b on sheets 8 and 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 33a and 33b on sheets 8 and 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 33c and 33d on sheets 8 and 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 34a and

	34b on sheets 8 and 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 35a and 35b on sheet 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 36a and 36b on sheet 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 37a and 37b on sheet 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 38a and 38b on sheet 9 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 39a and 39b on sheet 10 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 40a and 40b on sheet 10 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 41a and 41b on sheet 10 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 42a and 42b on sheet 10 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 43a and 43b on sheet 11 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 43c and 43d on sheet 11 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 44a and 44b on sheets 11 and 12 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 45a and 45b on sheet 12 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 46a and 46b on sheet 12 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 47a and 47b on sheet 13 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 48a and 48b on sheet 13 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 49a and 49b on sheet 13 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 50a and 50b on sheet 14 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 51a and 51b on sheet 14 of the tree preservation order

	and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 52a and 52b on sheet 15 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 53a and 53b on sheet 15 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 54a and 54b on sheet 15 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 55a and 55b on sheet 15 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 56a and 56b on sheet 15 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 57a and 57b on sheet 15 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 58a and 58b on sheets 15 and 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 59a and 59b on sheets 15 and 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 60a and 60b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 61a and 61b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 62a and 62b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 63a and 63b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 64a and 64b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 65a and 65b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 66a and 66b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 67a and 67b on sheet 16 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 73a and 73b on sheets 16 and 17 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown at point 73c on sheet 17 of the tree preservation order and hedgerow plan



East Riding of Yorkshire District	The hedgerow shown between points 74a and 74b on sheet 17 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 75a and 75b on sheet 17 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 76a and 76b on sheets 17 and 18 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 77a and 77b on sheet 18 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 78a and 78b on sheet 18 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 79a and 79b on sheets 18 and 19 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 80a and 80b on sheet 19 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 80c and 80d on sheet 19 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 81a and 81b on sheets 19 and 20 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 82a and 82b on sheet 20 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 83a and 83b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 84a and 84b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 85a and 85b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 86a and 86b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 87a and 87b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 88a and 88b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 129a and 129b on sheet 21 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 89a and 89b on sheet 22 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 90a and

	90b on sheet 22 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 91a and 91b on sheet 22 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 92a and 92b on sheets 22 and 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 93a and 93b on sheets 22 and 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 94a and 94b on sheet 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 94c and 94d on sheet 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 95a and 95b on sheet 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 96a and 96b on sheet 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 97a and 97b on sheet 23 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 98a and 98b on sheets 23 and 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 99a and 99b on sheets 23 and 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 100a and 100b on sheet 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 101a and 101b on sheet 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 101c and 101d on sheet 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 102a and 102b on sheet 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 105a and 105b on sheet 25 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 106a and 106b on sheet 25 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 107a and 107b on sheet 25 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 108a and 108b on sheets 25 and 26 of the tree

	preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 110a and 110b on sheets 25 and 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 111a and 111b on sheets 25 and 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 112a and 112b on sheets 25 and 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 114a and 114b on sheet 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 115a and 115b on sheet 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 116a and 116b on sheet 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 117a and 117b on sheet 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 118a and 118b on sheet 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 119a and 119b on sheets 26 and 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 120a and 120b on sheets 26 and 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 121a and 121b on sheet 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 121c and 121d on sheet 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 122a and 122b on sheet 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 123a and 123b on sheet 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 124a and 124b on sheets 27 and 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 125a and 125b on sheets 27 and 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 126a and 126b on sheets 26, 27 and 28 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 127a and 127b on sheets 26, 27 and 28 of the tree preservation order and hedgerow plan

East Riding of Yorkshire District	The hedgerow shown between points 128a and 128b on sheet 27 of the tree preservation order and hedgerow plan
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## PART 2

### REMOVAL OF IMPORTANT HEDGEROWS

<i>(1)</i> <i>Area</i>	<i>(2)</i> <i>Location of hedgerow</i>
East Riding of Yorkshire District	The hedgerow shown between points 9a and 9b on sheet 3 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 16a and 16b on sheet 5 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 17a and 17b on sheet 6 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 103a and 103b on sheet 24 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 104a and 104b on sheets 24 and 25 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 109a and 109b on sheets 25 and 26 of the tree preservation order and hedgerow plan
East Riding of Yorkshire District	The hedgerow shown between points 113a and 113b on sheets 25 and 26 of the tree preservation order and hedgerow plan

**SCHEDULE 11**  
**DEEMED MARINE LICENCE UNDER THE 2009 ACT—**  
**GENERATION ASSETS**

**PART 1**  
**LICENSED MARINE ACTIVITIES**

**1.—(1) In this licence—**

“the 2004 Act” means the Energy Act 2004**(a)**;

“the 2008 Act” means the Planning Act 2008**(b)**;

“the 2009 Act” means the Marine and Coastal Access Act 2009**(c)**;

“2017 Regulations” means the Conservation of Offshore Marine Habitats and Species Regulations 2017;

“array area” means the area covered by Work No. 1 as shown on the offshore works plan;

“array area disposal site” means the site to be used for disposal of inert material of natural origin produced during construction drilling and seabed preparation for foundation works and cable sandwave clearance to be located within the array area;

“array cable” means the network of offshore subsea cables connecting the wind turbine generators in Work No. 1 and the offshore substations in Work No. 2;

“authorised deposits” means the substances and articles specified in paragraph 4 of Part 1 of this licence;

“authorised development” means the development and associated development described in Part 1 of Schedule 1 (authorised development) of the Order and any other development authorised by this Order that is development within the meaning of section 32 (meaning of “development”) of the 2008 Act;

“authorised project” means Work No. 1 described in paragraph 3 of Part 1 of this licence or any stage of that work;

“bridge link” means a steel truss structure with provision for overhead clearance for personnel, lighting fixtures and ancillary cabling, which can be used as a link for interconnection between any combination of permanent offshore electrical installations and/or offshore accommodation platform;

“buoy” means any floating device used for navigational purposes or measurement purposes, including LIDAR and wave buoys;

“cable crossings” means a crossing of existing sub-sea cables or pipelines or other existing infrastructure by a cable or, where cables run together in parallel, a set of cables, authorised by this Order together with cable protection;

“cable protection” means physical measures for the protection of cables including but not limited to concrete mattresses, and/or rock placement (including material used for cable crossings);

“cable protection replenishment” means the restoration to a former level or condition of cable protection lost by natural seabed processes or human activity;

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**(a)** 2004 c.20.  
**(b)** 2008 c.29.  
**(c)** 2009 c.23.

“commence” means the first carrying out of any licensed marine activities authorised by this marine licence, save for pre-construction surveys and monitoring approved under this licence and the activities set out in article 2(d), and “commenced” and “commencement” must be construed accordingly;

“commissioning” means the process of assuring that all systems and components of the authorised development are tested to verify that they function and are operable in accordance with the design objectives, specifications and operational requirements of the undertaker;

“condition” means a condition in Part 2 of this licence;

“Defence Infrastructure Organisation Safeguarding” means Ministry of Defence Safeguarding, Defence Infrastructure Organisation – Safeguarding, St George’s House, DIO Head Office, DMS Whittington, Lichfield, Staffordshire, WS14 9PY and any successor body to its functions;

“Defra” means the Department for Environment, Food and Rural Affairs;

“dropped object procedure form” means the MMO notification proforma with reference MLDIR1 for reporting the loss or dumping of synthetic materials and other refuse at sea or any other format advised in writing by the MMO;

“enforcement officer” means a person authorised to carry out enforcement duties under Chapter 3 Part 4 (marine licensing) of the 2009 Act;

“environmental statement” means the document certified as the environmental statement by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

“European site” has the meaning given in regulation 27 (meaning of European site) of the 2017 Regulations;

“gravity base structures” means a structure principally of steel, concrete, or steel and concrete with a base which tapers as it rises which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“habitats of principal importance” means a habitat designated as being of principal importance in accordance with section 41 (biodiversity lists and action (England)) of the Natural Environment and Rural Communities Act 2006(a);

“HAT” means highest astronomical tide;

“IHO S44ed5 Order 1a” means order 1a from the fifth edition of the International Hydrographic Organisation’s Standards for Hydrographics Surveys;

“interconnector cables” means a network of cables between the offshore substations;

“jacket foundation” means a lattice type structure constructed of steel, which may include additional equipment such as, J-tubes, corrosion protection systems and access platforms;

“JNCC” means the Joint Nature Conservation Committee;

“Kingfisher bulletin” means the bulletin published by the Humber Seafood Institute or such other alternative publication approved in writing by the MMO for the purposes of this licence;

“Kingfisher Information Service” means the information service from non-departmental government body Seafish;

“large offshore transformer substation” means the larger version of the offshore transformer substations assessed in the environment statement;

“LAT” means lowest astronomical tide;

“layout principles” means the document certified as the layout principles by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

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(a) 2006 c.16.

“licensed activities” means the activities specified in Part 1 of this licence;

“maintain” includes inspect, upkeep, repair, adjust, and alter and further includes remove, reconstruct and replace (including replenishment of cable protection) but does not include the removal, reconstruction or replacement of foundations associated with the authorised project, to the extent assessed in the environmental statement and “maintenance” must be construed accordingly;

“Marine Management Organisation” or “MMO” means the Marine Management Organisation, Lancaster House, Hampshire Court, Newcastle upon Tyne, NE4 7YH who is the body created under the 2009 Act and who is responsible for the monitoring and enforcement of this licence;

“marine noise registry” means the database developed and maintained by JNCC on behalf of Defra to record the spatial and temporal distribution of impulsive noise generating activities in UK seas;

“MCA” means the Maritime and Coastguard Agency, an executive agency for the Department for Transport;

“mean high water springs” or “MHWS” means the highest level which spring tides reach on average over a period of time;

“mean low water springs” or “MLWS” means the lowest level which spring tides reach on average over a period of time;

“monopile foundation” means a steel pile, typically cylindrical, driven and/or drilled into the seabed and associated equipment including J-tubes, corrosion protection systems and access platforms and equipment;

“mono suction bucket foundation” means a steel cylindrical structure which partially or fully penetrates the seabed and remains in place using its own weight and hydrostatic pressure differential, and may include additional equipment such as J-tubes;

“offshore accommodation platform” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing housing accommodation, storage, workshop, auxiliary equipment, and facilities for operating, maintaining and controlling the wind turbine generators and offshore electrical installations;

“offshore HVAC booster station” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing—

- (a) electrical equipment required to provide reactive power compensation; and
- (b) housing accommodation, storage, workshop, auxiliary equipment, and facilities for operating, maintaining and controlling the substation;

“the offshore Order limits and grid coordinates plan” means the plan certified as the offshore Order limits and grid coordinates plan by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents etc.);

“Offshore Renewables Protocol for Reporting Archaeological Discoveries” means the Offshore Renewables Protocol for Reporting Archaeological Discoveries, the Crown Estate (2014), *Protocol for Archaeological Discoveries: Offshore Renewables Projects*, Salisbury, Wessex Archaeology as amended, updated or superseded from time to time;

“offshore transformer substation” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing—

- (a) electrical equipment required to switch, transform, convert electricity generated at the wind turbine generators to a higher voltage and provide reactive power compensation; and
- (b) housing accommodation, storage, workshop auxiliary equipment, radar and facilities for operating, maintaining and controlling the substation or wind turbine generators;

“offshore works plan” means the plan certified as the offshore works plan by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents etc.);

“operation” means the undertaking of the licensed activities which are not part of the construction, commissioning or decommissioning of the authorised development;

“Order” means the Hornsea Four Offshore Wind Farm Order 202[ ];

“the Order limits” means the limits shown on the offshore Order limits and grid coordinates plans and the onshore Order limits plan within which the authorised project may be carried out, whose grid coordinates seaward of MHWS are set out in paragraph 5 of Part 1 of this Schedule;

“ornithological monitoring plan” means the document certified as the ornithological monitoring plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“outline cable specification and installation plan” means the document certified as the outline cable specification and installation plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“outline marine mammal mitigation protocol” means the document certified as the outline marine mammal mitigation protocol by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“outline marine written scheme of investigation” means the document certified as the outline marine written scheme of investigation by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“outline marine monitoring plan” means the document certified as the outline marine monitoring plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“outline operations and maintenance plan” means the document certified as the outline operations and maintenance plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“outline southern north sea special area of conservation site integrity plan” means the document certified as the outline southern north sea special area of conservation site integrity plan by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents etc.);

“pin piles” means steel cylindrical piles driven and/or drilled into the seabed to secure jacket foundations;

“pontoon gravity base type 1 structure” means a structure principally of steel, concrete, or steel and concrete with a base made up of up to two rectangular pontoons which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“pontoon gravity base type 2 structure” means a structure principally of steel, concrete, or steel and concrete with a base made up of a pontoon arranged in a rectangle around an open centre which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“pro-rata annex” means the document certified as the pro-rata annex by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“small offshore transformer substation” means the smaller version of the offshore transformer substations assessed in the environment statement;

“statutory historic body” means Historic England or its successor in function;

“statutory nature conservation body” means the appropriate nature conservation body as defined in Regulation 5 of the Conservation of Habitats and Species Regulations 2017 or its equivalent in the Conservation of Offshore Marine Habitats and Species Regulations 2017;



“suction bucket” means a steel cylindrical structure attached to the legs of a jacket foundation which partially or fully penetrates the seabed and remains in place using its own weight and hydrostatic pressure differential;

“transition piece” means the metal structure attached to the top of the foundation where the base of the wind turbine generator is connected and may include additional equipment such as J-tubes, corrosion protection systems, boat access systems, access platforms, craneage, radar, electrical transmission equipment and associated equipment;

“Trinity House” means the Corporation of Trinity House of Deptford Strond;

“UK Hydrographic Office” means the UK Hydrographic Office of Admiralty Way, Taunton, Somerset, TA1 2DN;

“undertaker” means Orsted Hornsea Project Four Limited (company number 08584182);

“vessel” means every description of vessel, however propelled or moved, and includes a non-displacement craft, a personal watercraft, a seaplane on the surface of the water, a hydrofoil vessel, a hovercraft or any other amphibious vehicle and any other thing constructed or adapted for movement through, in, on or over water and which is at the time in, on or over water;

“wind turbine generator” means a structure comprising a tower, rotor with three blades connected at the hub, nacelle and ancillary electrical and other equipment which may include J-tube(s), transition piece, access and rest platforms, access ladders, boat access systems, corrosion protection systems, fenders and maintenance equipment, helicopter landing facilities and other associated equipment, fixed to a foundation or transition piece;

“working day” means a day which is not a weekend, bank holiday or public holiday in England; and

“Work No. 2” means—

- (a) up to six small offshore transformer substations each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, gravity base structures or jacket foundations and which may be connected to each other or one of the offshore accommodation platforms within Work No. 1(b) by a bridge link;
- (b) up to three large offshore transformer substations each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, jacket foundations, box-type gravity base structures, gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures, and which may be connected to each other or one of the offshore accommodation platforms within Work No. 1(b) by a bridge link;
- (c) in the event that the mode of transmission is HVDC, either up to three large HVDC converter substations or up to six small HVDC converter substations fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, jacket foundations, box-type gravity base structures, gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures;
- (d) a network of interconnector cables;
- (e) up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No. 5 consisting of offshore export cables along routes within the Order limits seaward of MLWS including one or more cable crossings; and
- (f) up to eight temporary horizontal directional drilling exit pits and associated cofferdams.

“Work No. 3(a)” means, in the event that the mode of transmission is HVAC, up to three offshore HVAC booster stations fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, jacket foundations, gravity base structures, pontoon gravity base type 1 structures or pontoon gravity base type 2 structures; and

“UK Standard Marking Schedule for Offshore Installations” means the Standard Marking Schedule for Offshore Installations published by the Department of Energy & Climate Change with reference DECC 04/11.

(2) A reference to any statute, order, regulation or similar instrument is construed as a reference to a statute, order, regulation or instrument as amended by any subsequent statute, order, regulation or instrument or as contained in any subsequent re-enactment.

(3) Unless otherwise indicated—

- (a) all times are taken to be Greenwich Mean Time;
- (b) all co-ordinates are taken to be latitude and longitude degrees and minutes to two decimal places.

(4) Except where otherwise notified in writing by the relevant organisation, the primary point of contact with the organisations listed below and the address for returns and correspondence are—

(a) Civil Aviation Authority

Aviation House  
Beehive Ringroad  
Crawley  
West Sussex

(b) Historic England

37 Tanner Road  
York  
YO1 6WP

(c) Marine Management Organisation

Marine Licensing Team  
Lancaster House Hampshire Court  
Newcastle Business Park  
Newcastle upon Tyne  
NE4 7YH

Tel: [REDACTED];

(d) Marine Management Organisation (Local Office)

Room 13, Ground Floor  
Crosskill House  
Mill Lane  
Beverley  
HU17 9JB

Tel: [REDACTED];

(e) Maritime and Coastguard Agency

Navigation Safety Branch  
Bay 2/20, Spring Place  
105 Commercial Road  
Southampton  
SO15 1EG

Tel: [REDACTED];

(f) Ministry of Defence (as requested by Defence Infrastructure Organisation – Safeguarding)

St George's House  
DIO Head Office  
DMS Whittington

Lichfield  
Staffordshire  
WS14 9PY;

(g) Natural England  
4th Floor  
Foss House  
1-2 Peasholme Green  
York  
YO1 7PX  
Tel: [REDACTED];

(h) Trinity House  
Tower Hill  
London  
EC3N 4DH  
Tel: [REDACTED]

(i) The United Kingdom Hydrographic Office  
Admiralty Way  
Taunton  
Somerset  
TA1 2DN  
Tel: [REDACTED].

(5) Unless otherwise advised in writing by the MMO, the address for electronic communication with the MMO for the purposes of this licence is [marine.consents@marinemanagement.org.uk](mailto:marine.consents@marinemanagement.org.uk), or where contact to the Local Office if the MMO is required, [beverley@marinemanagement.org.uk](mailto:beverley@marinemanagement.org.uk).

(6) Unless otherwise advised in writing by the MMO, the Marine Case Management System (“MCMS”) must be used for all licence returns or applications to vary this licence. The MCMS address is: <https://marinelicensing.marinemanagement.org.uk/>.

(7) Any reference in this licence or the documents certified by the Secretary of State for the purposes of the Order under article 38 to a dimension measured from LAT may be converted to a measurement from HAT by subtracting 4.71m from the measurement from LAT.

### **Details of licensed marine activities**

2. Subject to the licence conditions at Part 4, this licence authorises the undertaker (and any agent or contractor acting on their behalf) to carry out the following licensable marine activities under section 66(1) (licensable marine activities) of the 2009 Act—

- (a) the deposit at sea within the Order limits seaward of MHWS of the substances and articles specified in paragraph 4 below and within Work No. 1 when combined with the disposal authorised within the array area disposal site by the deemed marine licence granted under Schedule 12 of the Order of up to 7,211,601 cubic metres (being a maximum, not an approximate upper figure) of inert material of natural origin produced during construction drilling or seabed preparation for foundation works and cable installation preparation works within the array area disposal site;
- (b) the construction of works in or over the sea and/or on or under the seabed;
- (c) dredging for the purposes of seabed preparation for foundation works and/or electrical circuit works;
- (d) the removal of sediment samples for the purposes of informing environmental monitoring under this licence during pre-construction, construction and operation;

- (e) boulder clearance works by displacement ploughing or subsea grab technique or any other comparable method;
- (f) removal of static fishing equipment; and
- (g) site preparation works.

**3.** Such activities described in paragraph 2 are authorised in relation to the construction, maintenance and operation of—

*Work No. 1—*

- (a) an offshore wind turbine generating station with a gross electrical output of over 100 megawatts comprising up to 180 wind turbine generators each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, gravity base structures or jacket foundations;
- (b) one offshore accommodation platform fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, a gravity base structure or jacket foundation and which may be connected to each other or one of the offshore substations within Work No. 2 by a bridge link; and
- (c) a network of cables between the wind turbine generators, and between the wind turbine generators and Work No. 2, including one or more cable crossings.

In connection with such Work No. 1 and to the extent that they do not otherwise form part of any such work, further associated development within the meaning of section 115(2) (development for which development consent may be granted) of the 2008 Act comprising such other works as may be necessary or expedient for the purposes of or in connection with the relevant part of the authorised project and which fall within the scope of the work assessed by the environmental statement and the provisions of this licence including—

- (a) scour protection around the foundations of the offshore structures;
- (b) cable protection measures such as the placement of rock and/or concrete mattresses; and
- (c) temporary landing places, moorings or other means of accommodating or anchoring vessels in the construction and/or maintenance of the authorised development.

**4.** The substances or articles authorised for deposit at sea are—

- (a) iron and steel, copper and aluminium;
- (b) stone and rock;
- (c) concrete;
- (d) sand and gravel;
- (e) plastic and synthetic;
- (f) material extracted from within the offshore Order limits during construction drilling or seabed preparation for foundation works and cable installation preparation works;
- (g) weights used for the calibration of vessels, consisting of a hessian sack, metal shackles or chains; and
- (h) marine coatings, other chemicals and timber.

**5.** The grid coordinates for that part of the authorised development comprising Work No. 1 are specified below and more particularly on the offshore Order limits and grid coordinates plan—

<i>Point ID</i>	<i>Latitude (DMS)</i>	<i>Longitude (DMS)</i>	<i>Point ID</i>	<i>Latitude (DMS)</i>	<i>Longitude (DMS)</i>
1	54° 0' 23.321" N	1° 12' 48.805" E	5	54° 12' 37.143" N	0° 58' 31.095" E
2	54° 7' 24.985" N	0° 59' 54.702" E	6	54° 12' 17.413" N	1° 12' 18.263" E
3	54° 9' 13.497" N	1° 0' 43.850" E	7	54° 4' 13.012" N	1° 30' 5.270" E
4	54° 10' 49.480" N	0° 58' 21.782" E	8	53° 59' 15.598" N	1° 17' 20.651" E

## **General provisions**

6. This licence remains in force until the authorised project has been decommissioned in accordance with a programme approved by the Secretary of State under section 106 (approval of decommissioning programmes) of the 2004 Act, including any modification to the programme under section 108 (reviews and revisions of decommissioning programmes) of the 2004 Act, and the completion of such programme has been confirmed by the Secretary of State in writing.

7. The provisions of section 72 (variation, suspension, revocation and transfer) of the 2009 Act apply to this licence except that the provisions of section 72(7) and (8) relating to the transfer of the licence only apply to a transfer not falling within article 5 (benefit of the Order).

8. With respect to any condition which requires the licensed activities be carried out in accordance with the plans, protocols or statements approved under this Schedule, the approved details, plan or scheme are taken to include any amendments that may subsequently be approved in writing by the MMO.

9. Any amendments to or variations from the approved details must be in accordance with the principles and assessments set out in the environmental statement. Such agreement may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the MMO that it is unlikely to give rise to any materially new or materially greater environmental effects from those assessed in the environmental statement.

## **PART 2**

### **CONDITIONS**

#### **Design parameters**

1.—(1) The total number of wind turbine generators comprised in the authorised project must not exceed 180.

(2) Subject to sub-paragraph (3), each wind turbine generator forming part of the authorised project must not—

- (a) exceed a height of 370 metres when measured from LAT to the tip of the vertical blade;
- (b) exceed a rotor diameter of 305 metres;
- (c) be less than 42.43 metres from LAT to the lowest point of the rotating blade; and
- (d) be less than 810 metres from the nearest wind turbine generator in all directions.

(3) The minimum distance in sub-paragraph 1(2)(d) between each wind turbine generator is to be measured from the centre point of the wind turbine generator.

(4) Wind turbine generator foundation structures forming part of the authorised project must be one of the following foundation options—

- (a) monopile foundations;
- (b) mono suction bucket foundations;
- (c) gravity base structures; or
- (d) jacket foundations.

(5) No wind turbine generator—

- (a) jacket foundation employing pin piles forming part of the authorised project may—
  - (i) have a pin pile diameter of greater than four meters; and
  - (ii) employ more than 16 pin piles per jacket foundation; and
- (b) monopile foundation forming part of the authorised project may have a diameter greater than 15 metres.

(6) The total seabed footprint area for wind turbine generator foundations must not exceed—

- (a) 302,180 square metres excluding scour protection; and
- (b) 985,240 square metres including scour protection.

(7) The total volume of scour protection material for wind turbine generator foundations must not exceed 1,582,040 cubic metres.

(8) The total number of gravity base structures for wind turbine generators may not exceed 80.

(9) The wind turbine generators comprised in the authorised project must be constructed in accordance with the parameters set out in the pro-rata annex.

**2.**—(1) The total number of offshore accommodation platforms forming part of the authorised project must not exceed one.

(2) The dimensions of any offshore accommodation platform forming part of the authorised project must not exceed—

- (a) 64 metres in height when measured from LAT;
- (b) 60 metres in length; and
- (c) 60 metres in width.

(3) Offshore accommodation platform foundation structures forming part of the authorised project must be one of either monopile foundations, mono suction bucket foundations, gravity base structures, jacket foundations or box-type gravity base structures.

(4) No offshore accommodation platform—

- (a) jacket foundation employing pin piles forming part of the authorised project may—
  - (i) have a pin pile diameter of greater than four metres; and
  - (ii) employ more than 16 pin piles per jacket foundation; and

(b) monopile foundation forming part of the authorised project may have a diameter greater than 15 metres.

(5) The total permanent seabed footprint area for offshore accommodation platform foundations must not exceed—

- (a) 5,625 square metres excluding scour protection; and
- (b) 30,625 square metres including scour protection.

(6) The offshore accommodation platform comprised in the authorised project must be constructed in accordance with parameters set out in the pro-rata annex.

(7) A bridge link forming part of the authorised project must be installed at a minimum height of 20 metres when measured from LAT.

**3.**—(1) The total length of the cables in Work No. 1(c) and the volume of their cable protection (including cable crossings) must not exceed the following—

<i>Work</i>	<i>Length</i>	<i>Cable protection</i>
Work No. 1(c)	600 kilometres	624,000 square metres

(2) The total number of cable crossings associated with the cables in Work No. 1(c) when combined with Work No. 2(d) as licenced under the licence in Schedule 12 of the Order must not exceed 32.

(3) The cables and cable circuits comprised in the authorised development must be constructed in accordance with the parameters set out in the pro-rata annex.

**Maintenance of the authorised development**

**4.**—(1) The undertaker may at any time maintain the authorised development, except to the extent that this licence or an agreement made under this licence provides otherwise.

(2) Maintenance works include but are not limited to—

- (a) major wind turbine component or offshore accommodation platform replacement;

- (b) painting and applying other coatings to wind turbine generators or offshore accommodation platforms;
- (c) bird waste and marine growth removal;
- (d) cable remedial burial;
- (e) cable repairs and replacement;
- (f) cable protection replenishment;
- (g) access ladder and boat landing replacement;
- (h) wind turbine generator and accommodation platform anode replacement; and
- (i) J-tube repair/replacement.

(3) In undertaking activities under condition 4(2)(f), the undertaker must not reduce water depth by more than 5% unless agreed with the MMO in writing.

(4) No maintenance works authorised by this licence may be carried out until an operations and maintenance plan substantially in accordance with the outline operations and maintenance plan has been submitted to and approved by the MMO in writing.

### **Vessels under the undertaker's control**

5.—(1) The undertaker must issue to operators of vessels under its control operating within the Order limits a code of conduct to prevent collision risk or injury to marine mammals.

(2) The undertaker must ensure appropriate co-ordination of vessels within its control operating within the Order limits so as to reduce collision risk to other vessels including advisory safe passing distances for vessels.

### **Extension of time periods**

6. Any time period given in this licence given to either the undertaker or the MMO may be extended with the agreement of the other party in writing such agreement not to be unreasonably withheld or delayed.

### **Notifications and inspections**

7.—(1) The undertaker must ensure that—

- (a) a copy of this licence (issued as part of the grant of the Order) and any subsequent amendments or revisions to it is provided to—
  - (i) all agents and contractors notified to the MMO in accordance with condition 16; and
  - (ii) the masters and offshore operations managers responsible for the vessels notified to the MMO in accordance with condition 16;
- (b) within 28 days of receipt of a copy of this licence those persons referred to in paragraph (a) above must provide a completed confirmation form to the MMO confirming receipt of this licence.

(2) Only those persons and vessels notified to the MMO in accordance with condition 16 are permitted to carry out the licensed activities.

(3) Copies of this licence must also be available for inspection at the following locations—

- (a) the undertaker's registered address;
- (b) any site office located at or adjacent to the construction site and used by the undertaker or its agents and contractors responsible for the loading, transportation or deposit of the authorised deposits; and
- (c) on board each vessel and at the office of any offshore operations managers with responsibility for vessels from which authorised deposits or removals are to be made.

(4) The documents referred to in sub-paragraph (1)(a) must be available for inspection by an authorised enforcement officer at the locations set out in sub-paragraph (3)(b) above.

(5) The undertaker must ensure that a copy of this licence and any subsequent revisions or amendments has been read and understood by the masters of any vessel being used to carry on any licensed activity set out in condition 16(3), and that a copy of this licence is held on board any such vessel.

(6) The undertaker must provide access, and if necessary appropriate transportation, to the offshore construction site or any other associated works or vessels to facilitate any inspection that the MMO considers necessary to inspect the works during construction and operation of the authorised project.

(7) The undertaker must inform the MMO Local Office in writing at least five days prior to the commencement of the licensed activities and within five days of the completion of the licensed activity.

(8) The undertaker must inform the Kingfisher Information Service of details regarding the vessel routes, timings and locations relating to the construction of the authorised project or relevant stage—

(a) at least fourteen days prior to the commencement of offshore activities, for inclusion in the Kingfisher Bulletin and offshore hazard awareness data; and

(b) as soon as reasonably practicable, and in any event no later than 24 hours after completion of construction of all offshore activities,

confirmation of notification must be provided to the MMO in writing within five days.

(9) The undertaker must ensure that a local notification to mariners is issued at least 14 days prior to the commencement of the authorised project or any relevant stage advising of the start date of Work No. 1 and the expected vessel routes from the construction ports to the relevant location. Copies of all notices must be provided to the MMO, MCA and UK Hydrographic Office within five days of issue.

(10) The undertaker must ensure that local notifications to mariners are updated and reissued at weekly intervals during construction activities and at least five days before any planned operations and maintenance works and the notices must be supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme approved under deemed marine licence condition 13(1)(b) and monitoring plan approved under condition 13(1)(f). Copies of all local notifications must be provided to the MMO and UK Hydrographic Office within five days of issue, save for in the case of a notice relating to operations and maintenance, which must be provided within 24 hours of issue.

(11) The undertaker must notify the UK Hydrographic Office of the commencement (within fourteen days), progress and completion of construction (within fourteen days) of the licensed activities in order that all necessary amendments to nautical and aeronautical charts are made and the undertaker must send a copy of such notifications to the MMO within five days of the notification.

(12) In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, the undertaker must as soon as reasonably practicable and no later than 24 hours following the undertaker becoming aware of any such damage, destruction or decay, notify the MMO, the MCA, Trinity House, the Kingfisher Information Service and the UK Hydrographic Office.

(13) In case of exposure of cables on or above the seabed, the undertaker must within three days following identification of a potential cable exposure, notify mariners and inform the Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the MMO, the MCA, Trinity House and the UK Hydrographic Office within five days.

(14) The undertaker must notify the MMO in writing a minimum of five days in advance of the commencement of each discrete incident of cable repair, replacement, or protection replenishment activity. Such a notification must include proposed timings and a description of proposed methodologies.

(15) The undertaker must ensure that the MMO, the MMO Local Office, local mariners, local fishermen's organisations and the Source Data Receipt Team at the UK Hydrographic Office,



Taunton, Somerset, TA1 2DN (sdr@ukho.gov.uk) are notified within five days of completion of each instance of cable repair, replacement or protection replenishment activity.

### **Aids to navigation**

**8.**—(1) The undertaker must during the whole period from commencement of the licensed activities to completion of decommissioning of the authorised project seaward of MHWS exhibit such lights, marks, sounds, signals and other aids to navigation, and take such other steps for the prevention of danger to navigation as Trinity House may from time to time direct.

(2) The undertaker must during the period from the start of construction of the authorised project to completion of decommissioning of the authorised project seaward of MHWS keep Trinity House and the MMO informed in writing of progress of the authorised project seaward of MHWS including the following—

- (a) notice of commencement of construction of the authorised project within 24 hours of commencement having occurred;
- (b) notice within 24 hours of any aids to navigation being established by the undertaker; and
- (c) notice within five days of completion of construction of the authorised project.

(3) The undertaker must provide reports to Trinity House on the availability of aids to navigation in accordance with the frequencies set out in the aids to navigation management plan agreed pursuant to condition 13(1)(i) using the reporting system provided by Trinity House.

(4) The undertaker must during the whole period from commencement of the licensed activities to completion of decommissioning of the authorised project seaward of MHWS notify Trinity House and the MMO in writing of any failure of the aids to navigation and the timescales and plans for remedying such failures, as soon as possible and no later than 24 hours following the undertaker becoming aware of any such failure.

(5) In the event that the provisions of condition 7(12) are invoked, the undertaker must lay down such buoys, exhibit such lights and take such other steps for preventing danger to navigation as directed by Trinity House.

(6) Any jack up barges or vessels utilised during the licensed activities, when jacked up, must exhibit signals in accordance with the UK Standard Marking Schedule for Offshore Installations.

### **Colouring of structures**

**9.**—(1) The undertaker must colour all structures yellow (colour code RAL 1023) from at least highest astronomical tide to a height directed by Trinity House, or must colour the structure as directed by Trinity House from time to time.

(2) Subject to sub-paragraph (1) above, unless the MMO otherwise directs, the undertaker must ensure that the wind turbine generators are painted light grey (colour code RAL 7035).

### **Aviation safety**

**10.**—(1) The undertaker must exhibit such lights, with such shape, colour and character as are required in writing by Air Navigation Order 2016<sup>(a)</sup> and determined necessary for aviation safety in consultation with the Defence Infrastructure Organisation Safeguarding and as directed by the Civil Aviation Authority. Lighting installed specifically to meet Ministry of Defence aviation safety requirements must remain operational for the life of the authorised development unless otherwise agreed in writing with the Ministry of Defence.

(2) The undertaker must notify the Defence Infrastructure Organisation Safeguarding, the Civil Aviation Authority and the MMO, at least 14 days prior to the commencement of the licensed activities, in writing of the following information—

- (a) the date of the commencement of the licensed activities;

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(a) S.I. 2016/765.

- (b) the date any wind turbine generators are to be installed;
- (c) the maximum height of any construction equipment or vessels to be used;
- (d) the maximum heights of any wind turbine generator and offshore accommodation platform to be constructed (including any antennae);
- (e) the latitude and longitude of each wind turbine generator and offshore accommodation platform to be constructed,

and the Defence Infrastructure Organisation Safeguarding and the Civil Aviation Authority must be notified of any changes to the information supplied under this paragraph of this condition and of the completion of the construction of the authorised project. Copies of notifications must be provided to the MMO.

### **Chemicals, drilling and debris**

**11.**—(1) Unless otherwise agreed in writing by the MMO all chemicals used in the construction of the authorised project must be selected from the List of Notified Chemicals approved for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002(a) (as amended) as maintained by the Centre for Environment, Fisheries and Aquaculture Science.

(2) The undertaker must ensure that any coatings/treatments are suitable for use in the marine environment and are used in accordance with relevant guidelines approved by Health and Safety Executive.

(3) The storage, handling, transport and use of fuels, lubricants, chemicals and other substances must be undertaken so as to prevent releases into the marine environment, including bunding of 110% of the total volume of all reservoirs and containers.

(4) The undertaker must inform the MMO of the location and quantities of material disposed of each month under the Order, by submission of a disposal return by 31 January each year for the months August to January inclusive, and by 31 July each year for the months February to July inclusive.

(5) The undertaker must ensure that only inert material of natural origin, produced during the drilling installation of or seabed preparation for foundations, and drilling mud is disposed of within the Order limits seaward of MHWS.

(6) The undertaker must ensure that any rock material used in the construction of the authorised project is from a recognised source, free from contaminants and containing minimal fines.

(7) In the event that any rock material used in the construction of the authorised project is misplaced or lost below MHWS, the undertaker must report the loss to the MMO Local Office in writing within 48 hours of becoming aware of it and if the MMO, in consultation with the MCA and Trinity House, reasonably considers such material to constitute a navigation or environmental hazard (dependent on the size and nature of the material) the undertaker must endeavour to locate the material and recover it at its own expense.

(8) The undertaker must ensure that no waste concrete slurry or wash water from concrete or cement works are discharged into the marine environment. Concrete and cement mixing and washing areas should be contained to prevent run off entering the marine environment through the freeing ports.

(9) The undertaker must ensure that any oil, fuel or chemical spill within the marine environment is reported in writing to the MMO, Marine Pollution Response Team in accordance with the marine pollution contingency plan agreed under condition 13(1)(d)(i).

(10) All dropped objects within the Order limits must be reported to the MMO using the dropped object procedure form as soon as reasonably practicable following the undertaker becoming aware of an incident. On receipt of the dropped object procedure form, the MMO may require relevant surveys to be carried out by the undertaker (such as side scan sonar) if reasonable

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(a) S.I. 2002/1355.

to do so and the MMO may require obstructions to be removed from the seabed at the undertaker's expense if reasonable to do so.

### **Force majeure**

**12.**—(1) If, due to stress of weather or any other cause the master of a vessel determines that it is necessary to deposit the authorised deposits within or outside of the Order limits because the safety of human life and/or of the vessel is threatened, within 48 hours full details of the circumstances of the deposit must be notified to the MMO in the manner provided in condition 11(10).

(2) The unauthorised deposits must be removed at the expense of the undertaker unless written approval is obtained from the MMO.

### **Pre-construction plans and documentation**

**13.**—(1) The licensed activities for each stage of construction of the authorised project must not commence until the following (insofar as relevant to that activity or stage of activity) has been submitted to and approved in writing by the MMO, in consultation with, where relevant, Trinity House, the MCA and the UK Hydrographic Office—

- (a) A design plan, prepared in accordance with the layout principles at a scale of between 1:25,000 and 1:50,000, or in such other format as may be appropriate, including detailed representation on the most suitably scaled chart, which shows for the relevant stage—
  - (i) the proposed location, including grid co-ordinates of the centre point of the proposed location for each wind turbine generator, and offshore accommodation platform within the relevant stage, subject to any micro-siting required due to anthropological constraints, environmental constraints or difficult ground conditions discovered post approval under this condition and choice of foundation types for all wind turbine generators and offshore accommodation platforms within the relevant stage;
  - (ii) the number, specifications and dimensions of the wind turbine generators to be installed within the relevant stage;
  - (iii) the length and arrangement of cable comprising Work No. 1(c) within the relevant stage;
  - (iv) the dimensions of all monopile foundations, mono suction bucket foundations, jacket foundations or gravity base structures within the relevant stage; and
  - (v) any exclusion zones or micro-siting requirements identified in any mitigation project pursuant to sub-paragraph 13(2)(d) or relating to any habitats of principal importance identified as part of surveys undertaken in accordance with condition 17;to ensure conformity with the description of Work No. 1 and compliance with conditions 1, 2 and 3 above;
- (b) a construction programme to include details for the relevant stage of—
  - (i) the proposed construction start date;
  - (ii) proposed timings for mobilisation of plant delivery of materials and installation works; and
  - (iii) an indicative written construction programme for all wind turbine generators offshore accommodation platforms and cable comprised in the works at paragraph 1 to 3(b) of Part 1 (licensed marine activities) of this Schedule (insofar as not shown in paragraph (ii) above),  
unless otherwise agreed in writing with the MMO;
- (c) a construction method statement in accordance with the construction methods assessed in the environmental statement and including details for the relevant stage of—
  - (i) foundation installation methodology, including drilling methods and disposal of drill arisings and material extracted during seabed preparation for foundation and cable

- installation works and having regard to any mitigation scheme pursuant to subparagraph 13(1)(f);
- (ii) advisory safe passing distances for vessels around construction sites;
  - (iii) cable (including fibre optic cable) installation;
  - (iv) contractors;
  - (v) vessels and vessels transit corridors;
  - (vi) codes of conduct for vessel operators;
  - (vii) associated ancillary works;
  - (viii) guard vessels to be employed;
  - (ix) details of means to address impacts on European sites, habitats of principal importance and any international or nationally designated sites, where relevant; and
  - (x) measures to ensure appropriate co-ordination with the Marine Helicopter Coordination Centre;
- (d) a construction project environmental management and monitoring plan covering the period of construction for the relevant stage to include details of—
- (i) a marine pollution contingency plan to address the risks, methods and procedures to deal with and report any spills and collision incidents of the authorised project in relation to all activities carried out;
  - (ii) a chemical risk review to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance;
  - (iii) a marine biosecurity plan detailing how the risk of introduction and spread of invasive non-native species will be minimised;
  - (iv) waste management and disposal arrangements;
  - (v) a vessel management plan, to determine vessel routing to and from construction sites and ports, to include a code of conduct for vessel operators; and
  - (vi) the appointment and responsibilities of a company fisheries liaison officer;
- (e) a scour protection management plan for the relevant stage providing details of the need, type, sources, quantity and installation methods for scour protection, which must be updated and resubmitted in writing for approval if changes to it are proposed following cable laying operations;
- (f) details for the relevant stage of proposed pre-construction monitoring surveys, construction monitoring, post-construction monitoring and related reporting in accordance with conditions 17, 18 and 19;
- (g) in the event that driven or part-driven pile foundations are proposed to be used for the relevant stage, a piling marine mammal mitigation protocol for that stage, in accordance with the outline marine mammal mitigation protocol, the intention of which is to prevent injury to marine mammals, including details of soft start procedures with specified duration periods following current best practice as advised by the relevant statutory nature conservation bodies;
- (h) a cable specification and installation plan for the relevant stage which accords with the principles of the outline cable specification and installation plan, to include—
- (i) technical specification of offshore cables (including fibre optic cable) below MHWS within that stage, including a desk-based assessment of attenuation of electromagnetic field strengths, shielding and cable burial depth in accordance with good industry practice;
  - (ii) a detailed cable laying plan for the Order limits within that stage, incorporating a burial risk assessment encompassing the identification of any cable protection that exceeds 5% of navigable depth referenced to Chart Datum and, in the event that any area of cable protection exceeding 5% of navigable depth is identified, details of any

steps (to be determined following consultation with the MCA and Trinity House) to be taken to ensure existing and future safe navigation is not compromised or similar such assessment to ascertain suitable burial depths and cable laying techniques, including cable protection;

- (iii) proposals for the volume and areas of cable protection to be used for each cable crossing, and proposals for timing and methodology for reporting on actual volumes and areas post construction within that stage; and
- (iv) proposals for monitoring offshore cables within that stage including cable protection during the operational lifetime of the authorised project which includes a risk based approach to the management of unburied or shallow buried cables;
- (i) an aids to navigation management plan for that stage to be agreed in writing by the MMO following consultation with Trinity House, to include details of how the undertaker will comply with the provisions of condition 8 relating to that stage for the lifetime of the authorised project;
- (j) in the event that driven or part-driven pile foundations are proposed to be used, the licensed activities, or any stage of those activities must not commence until a site integrity plan for that stage which accords with the principles set out in the outline southern north sea special area of conservation site integrity plan has been submitted in writing to the MMO and the MMO is satisfied that the plan provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Regulations) of a relevant site, to the extent that harbour porpoise are a protected feature of that site; and
- (k) an ornithological monitoring plan for the relevant stage which accords with the principles set out in the outline ornithological monitoring plan setting out the circumstances in which ornithological monitoring will be required and the monitoring to be carried out in such circumstances.

(2) Subject to condition 13(3), the licensed activities or any relevant stage of those activities must not commence unless no later than six months prior to the commencement of the relevant stage a marine written scheme of archaeological investigation for the stage in construction has been submitted to and approved by the MMO in writing, in accordance with the outline marine written scheme of investigation, and in accordance with industry good practice, in consultation with the statutory historic body to include—

- (a) details of responsibilities of the undertaker, archaeological consultant and contractor;
- (b) a method statement for further site investigation including any specifications for geophysical, geotechnical and diver or remotely operated vehicle investigations;
- (c) archaeological analysis of survey data, and timetable for reporting, which is to be submitted to the MMO within six months of any survey being completed;
- (d) delivery of any mitigation including, where necessary, identification and modification of archaeological exclusion zones prior to construction;
- (e) monitoring of archaeological exclusion zones during and post construction, including provision of a report on such monitoring;
- (f) a requirement for the undertaker to ensure that a copy of any agreed archaeological report is deposited with the National Record of the Historic Environment, by submitting a Historic England OASIS ('online access to the index of archaeological investigations') form with a digital copy of the report within six months of completion of construction of the authorised project, and to notify the MMO that the OASIS form has been submitted to the National Record of the Historic Environment within two weeks of submission;
- (g) a reporting and recording protocol, designed in reference to the Offshore Renewables Protocol for Reporting Archaeological Discoveries as set out by the Crown Estate and reporting of any wreck or wreck material during construction, operation and decommissioning of the authorised project; and
- (h) a timetable for all further site investigations, which must allow sufficient opportunity to establish a full understanding of the historic environment within the offshore Order limits

and the approval of any necessary mitigation required as a result of the further site investigations prior to commencement of licensed activities.

(3) Pre-construction archaeological investigations and pre-commencement material operations which involve intrusive seabed works must only take place in accordance with a written scheme of investigation specific to the relevant pre-construction activities (which must accord with the details set out in the outline marine written scheme of investigation) which has been submitted to and approved by the MMO in consultation with the statutory historic body.

(4) In the event that driven or part-driven pile foundations are proposed to be used, the hammer energy used to drive or part-drive monopile foundations must not exceed 5,000kJ and the hammer energy used to drive or part-drive pin pile foundations must not exceed 3,000kJ.

(5) No more than two vessels may be engaged at any time in activities related to piling for the licenced activities. There will only be a maximum installation of two piled foundations within a 24-hour period. It is possible for installation of the two piled foundations to occur concurrently i.e. within a 24-hour period at up to two locations within the area of Work No. 3(a) or up to two locations within the array. The two piled foundation locations may also be piled simultaneously.

(6) The licensed activities or any part of those activities must not commence until a fisheries coexistence and liaison plan in accordance with the outline fisheries coexistence and liaison plan has been submitted to and approved by the MMO in writing.

(7) The undertaker must, before submitting any pre-construction plans and documentation required under this condition, provide a copy of the plans and documentation to any other undertaker to whom part of the benefit of this Order has been transferred or leased pursuant to article 5 of the Order.

(8) The undertaker to whom part of the benefit of the Order has been transferred or leased pursuant to article 5 must provide any comments on the plans and documentation to the undertaker within 14 days of receipt.

(9) The undertaker and any other undertaker must participate in liaison meetings as requested from time to time by the MMO in writing in advance and must consider such matters as are determined by the MMO relating to the efficient operation of a deemed marine licence issued under this Order (including as varied or transferred).

**14.—**(1) Except where otherwise stated or agreed in writing with the MMO, each programme, statement, plan, protocol or scheme required to be approved under condition 13 (save for that required under condition 13(1)(f)) must be submitted for approval at least four months prior to the intended commencement of the relevant stage of the licensed activities, save for the following documents, which must be submitted to the MMO for approval at least six months prior to the intended commencement of the relevant stage of the licenced activities—

- (a) marine written scheme of archaeological investigation pursuant to condition 13(2);
- (b) fisheries coexistence and liaison plan pursuant to condition 13(6);
- (c) design plan pursuant to condition 13(1)(a); and
- (d) cable specification and installation plan pursuant to condition 13(1)(h).

(2) The pre-construction monitoring surveys, construction monitoring, post-construction monitoring and related reporting required under condition 13(1)(f) must be submitted in accordance with the following, unless otherwise agreed in writing with the MMO—

- (a) at least four months prior to the first survey of the relevant stage, detail of any pre-construction surveys and an outline of all proposed monitoring;
- (b) at least four months prior to construction of the relevant stage, detail on construction monitoring; and
- (c) at least four months prior to commissioning of the relevant stage, detail of post-construction (and operational) monitoring.

(3) The MMO must determine an application for approval made under condition 13 within a period of four months commencing on the date the application is received by the MMO, unless

otherwise agreed in writing with the undertaker such agreement not to be unreasonably withheld or delayed.

(4) The licensed activities for the relevant stage must be carried out in accordance with the approved plans, protocols, statements, schemes and details approved under condition 13, unless otherwise agreed in writing by the MMO.

(5) The plans, protocols, statements, schemes and details submitted under condition 13 must ensure that any residual effects fall within the scope of those predicted in the environmental statement.

### **Offshore safety management**

**15.** No stage of the authorised project may commence until the MMO, in consultation with the MCA, has confirmed in writing that the undertaker has taken into account and, so far as is applicable to that stage of the authorised project adequately addressed all MCA recommendations as appropriate to the authorised project contained within MGN654 “Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues” and its annexes.

### **Reporting of engaged agents, contractors and vessels**

**16.—**(1) The undertaker must provide the following information to the MMO—

- (a) the name, company number, address and function of any agent, contractor or sub-contractor appointed to engage in the licensed activities not less than ten working days prior to such agent or contractor commencing any licensed activity; and
- (b) each week during the construction of the authorised project a list of the vessels currently and to be used in relation to the licensed activities, including the master’s name, vessel type, vessel IMO number and vessel owner or operating company.

(2) Any changes to the supplied details must be notified to the MMO in writing prior to the agent, contractor or vessel engaging in the licensed activities.

(3) The undertaker must notify the MMO in writing not less than 24 hours prior to the commencement of major component exchanges, ladder replacements or cable related works—

- (a) any agents, contractors or subcontractors that will carry out such works; and
- (b) any vessel proposed to be used for such works, including the master’s name, vessel type, vessel IMO number and vessel owner or operating company.

### **Pre-construction monitoring and surveys**

**17.—**(1) The undertaker must in discharging condition 13(1)(f) for each stage of construction submit a monitoring plan or plans for that stage in accordance with an outline marine monitoring plan for written approval by the MMO in consultation with the relevant statutory bodies, which must contain details of proposed surveys, including methodologies and timings, and a proposed format and content for a pre-construction baseline report and—

- (a) the survey proposals must be in accordance with the principles set out in the outline marine monitoring plan and must specify each survey’s objectives and explain how it will assist in either informing a useful and valid comparison with the post-construction position or will enable the validation or otherwise of key predictions in the environmental statement; and
- (b) the baseline report proposals must ensure that the outcome of the agreed surveys together with existing data and reports are drawn together to present a valid statement of the preconstruction position, with any limitations, and must make clear what post-construction comparison is intended and the justification for this being required.

(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition, the pre-construction survey proposals must comprise, in outline—

- (a) a full sea floor coverage swath–bathymetry survey that meets the requirements of IHO S44ed5 Order 1a, of the Order limits and a buffer outside to—
- (i) determine the location, extent and composition of any biogenic or geogenic reef features, as set out within the outline marine monitoring plan;
  - (ii) inform future navigation risk assessments as part of the cable specification and installation plan; and
  - (iii) inform the identification of any archaeological exclusion zone and post consent monitoring of any such archaeological exclusion zone;
- (b) any ornithological monitoring required by the ornithological monitoring plans submitted in accordance with condition 13(1)(k).
- (c) a bathymetric survey that meets the requirements of IHO S44ed5 Order 1a of the area within the following coordinates—

<i>Development area node point</i>	<i>WGS84 UTM Zone 31N (metres)</i>		<i>WGS84 (DMS)</i>		<i>WGS84 (decimal degrees)</i>	
	<i>Easting</i>	<i>Northing</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Latitude</i>	<i>Longitude</i>
1	401818	5992480	54° 4' 16.157" N	1° 29' 58.386" E	54.07115	1.49955
2	411109	5984944	54° 0' 18.479" N	1° 38' 37.320" E	54.00513	1.64370
3	397695	5985627	54° 0' 31.626" N	1° 26' 19.993" E	54.00878	1.43889
4	397800	5978992	53° 56' 57.085" N	1° 26' 33.766" E	53.94919	1.44271
5	387657	5983579	53° 59' 17.868" N	1° 17' 11.556" E	53.98830	1.28654
6	401818	5992480	54° 4' 16.157" N	1° 29' 58.386" E	54.07115	1.49955

(3) The pre-construction survey(s) carried out pursuant to condition 17(2)(a)(ii) and 17(2)(c) must fulfil the requirements of MGN654 and its supporting ‘Hydrographic Guidelines for Offshore Renewable Energy Developer’ (as relevant).

(4) The undertaker must carry out the surveys specified within the monitoring plan or plans in accordance with that plan or plans, unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.

(5) Following completion of a survey carried out pursuant to this condition and prior to construction of the relevant stage, the undertaker must provide a report and full density data of the survey outcomes to the MMO, the relevant statutory nature conservation body, the MCA and UK Hydrographic Office as relevant.

### **Construction monitoring**

**18.—(1)** The undertaker must in discharging condition 13(1)(f) for each stage of construction submit a construction monitoring plan or plans for that stage in accordance with an outline marine monitoring plan for written approval by the MMO in consultation with the relevant statutory nature conservation body, which must include details of any proposed construction monitoring, including methodologies and timings, and a proposed format, content and timings for providing reports on the results. The survey proposals must be in accordance with the principles set out in the outline marine monitoring plan and must specify each survey’s objectives and explain how it will assist in either informing a useful and valid comparison with the pre-construction position and/or will enable the validation or otherwise of key predictions in the environmental statement.



(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition the construction monitoring plan must include, in outline—

- (a) vessel traffic monitoring by automatic identification system for the duration of the construction period, with provision for a report to be submitted to the MMO, Trinity House, and the MCA annually during the construction period for the authorised development; and
- (b) where piled foundations are to be employed, unless otherwise agreed by the MMO in writing, details of proposed monitoring of the noise generated by the installation of the first four piled foundations of each piled foundation type to be constructed collectively under this licence and the licence granted under Schedule 12 of the Order.

(3) The results of the initial noise measurements monitored in accordance with sub-paragraph 18(2)(b) must be provided in writing to the MMO within six weeks of the installation (unless otherwise agreed) of the first four piled foundations of each piled foundation type. The assessment of this report by the MMO will determine whether any further noise monitoring is required. If, in the opinion of the MMO in consultation with the statutory nature conservation body, the assessment shows impacts significantly in excess to those assessed in the environmental statement and there has been a failure of the mitigations set out in the marine mammal mitigation protocol, all piling activity must cease until an update to the marine mammal mitigation protocol and further monitoring requirements have been agreed.

(4) The undertaker must carry out the surveys specified within the construction monitoring plan or plans in accordance with that plan or plans, including any further noise monitoring required in writing by the MMO under condition 18(3), unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.

### **Post-construction monitoring**

**19.**—(1) The undertaker must in discharging condition 13(1)(f) for each stage of construction submit a post-construction monitoring plan or plans for that stage in accordance with an outline marine monitoring plan for written approval by the MMO in consultation with the relevant statutory nature conservation body including details of proposed post-construction surveys, including methodologies (including appropriate buffers, where relevant) and timings, and a proposed format, content and timings for providing reports on the results. The survey proposals must be in accordance with the principles set out in the outline marine monitoring plan and must specify each survey's objectives and explain how it will assist in either informing a useful and valid comparison with the preconstruction position and/or will enable the validation or otherwise of key predictions in the environmental statement.

(2) Subject to receipt of specific proposals the post-construction survey plan or plans must include, in outline—

- (a) details of a survey to determine any change in the location, extent and composition of any biogenic or geogenic reef feature identified in the pre-construction survey in the parts of the offshore Order limits in which construction works were carried out. The survey design must be informed by the results of the pre-construction benthic survey;
- (b) a bathymetric survey to monitor the effectiveness of archaeological exclusion zones. The data will be analysed by an accredited archaeologist as defined in the offshore written scheme of investigation required under condition 13(2);
- (c) any ornithological monitoring required by the ornithological monitoring plans submitted in accordance with condition 13(1)(k); and
- (d) vessel traffic monitoring by automatic identification system for a duration of three consecutive years following the completion of construction of the authorised project, unless otherwise agreed in writing by the MMO, with provision for a report to be submitted annually to the MMO, Trinity House, and the MCA.

(3) The undertaker must carry out the surveys agreed under the post-construction monitoring plan or plans in accordance with that plan or plans and provide the agreed reports in the agreed

format, unless otherwise agreed in writing with the MMO in consultation with the relevant statutory nature conservation body.

(4) Within 12 weeks of completion of any cable repair or replacement works, the undertaker must undertake a post installation survey along the section of cable that has undergone repair or replacement to demonstrate the successful burial of the cable, and submit a report to the MMO in writing on its findings.

### **Timing of monitoring report**

**20.** Any monitoring report compiled in accordance with the monitoring plans provided under conditions 17, 18 and 19 must be provided to the relevant body no later than four months following receipt by the undertaker of the results of monitoring to which it relates, unless otherwise agreed with the relevant body in writing.

### **Reporting of impact pile driving**

**21.—**(1) Only when driven or part-driven pile foundations are proposed to be used as part of the foundation installation the undertaker must provide the following information to the Marine Noise Registry—

- (a) prior to the commencement of each stage of construction of the licensed activities, information on the expected location, start and end dates of impact pile driving to satisfy the Marine Noise Registry’s Forward Look requirements;
- (b) at six month intervals following the commencement of pile driving, information on the locations and dates of impact pile driving to satisfy the Marine Noise Registry’s Close Out requirements; and
- (c) within 12 weeks of completion of impact pile driving, information on the locations and dates of impact pile driving to satisfy the Marine Noise Registry’s Close Out requirements.

(2) The undertaker must notify the MMO in writing of the successful submission of Forward Look or Close Out data pursuant to paragraph (1) above within 7 days of the submission.

(3) For the purpose of this condition, “Forward Look” and “Close Out” mean the requirements as set out in the UK Marine Noise Registry Information Document Version 1 (July 2015) as amended, updated or superseded from time to time.

### **Maintenance reporting**

**22.—**(1) An annual maintenance report must be submitted to the MMO in writing within one month following the first anniversary of the date of commencement of operations, and every year thereafter until the permanent cessation of operation.

(2) The report must provide a record of the licensed activities as set out in condition 4 during the preceding year, the timing of activities and methodologies used.

(3) Every fifth year, the undertaker must submit to the MMO in writing, within one month of that date, a consolidated maintenance report, which will—

- (a) include a review of licensed activities undertaken during the preceding five years with reference to the reports submitted in accordance with condition 22(1) of this licence;
- (b) reconfirm the applicability of the methodologies and frequencies of the licensable activities permitted by this licence for the remaining duration of this licence.

### **Stages of construction**

**23.—**(1) The licenced activities must not be commenced until a written scheme setting out the stages of construction of the authorised development seaward of MHWS has been submitted to and approved by the MMO in writing.

(2) The stages of construction referred to in sub-paragraph (1) will not permit the authorised development to be constructed in more than one overall phase.

(3) The scheme must be implemented as approved.

(4) The written scheme referred to in sub-paragraph (1) must be submitted to the MMO in writing four months prior to the planned commencement of the licenced activities.

### **Completion of construction**

**24.**—(1) The undertaker must submit a close out report in writing to the MMO and the relevant statutory nature conservation body within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following details—

- (a) the final number of installed wind turbine generators; and
- (b) the installed wind turbine generator parameters relevant for ornithological collision risk modelling.

(2) Following completion of construction, no further construction activities can be undertaken under this licence.

**25.** The undertaker must submit a close out report to the MCA and the UK Hydrographic Office within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following—

- (a) the final number of installed wind turbine generators;
- (b) a plan of the layout of installed wind turbine generators and offshore accommodation platform; and
- (c) latitude and longitude coordinates of the centre point of the location of each wind turbine generator and offshore accommodation platform, provided as Geographical Information System data referenced to WGS84 datum.

### **Deployment of cable protection**

**26.** Any cable protection authorised under this licence must be deployed within 15 years from the date of the grant of the Order unless otherwise agreed by the MMO in writing.

**SCHEDULE 12**  
**DEEMED MARINE LICENCE UNDER THE 2009 ACT –**  
**TRANSMISSION ASSETS**

**PART 1**  
**LICENSED MARINE ACTIVITIES**

**1.—(1) In this licence—**

“the 2004 Act” means the Energy Act 2004**(a)**;

“the 2008 Act” means the Planning Act 2008**(b)**;

“the 2009 Act” means the Marine and Coastal Access Act 2009**(c)**;

“2017 Offshore Regulations” means the Conservation of Offshore Marine Habitats and Species Regulations 2017;

“2017 Onshore Regulations” means the Conservation of Habitats and Species Regulations 2017;

“ancillary works” means those works listed in Schedule 1 Part 2 of the Order;

“array area” means the area covered by Work No. 1 as shown on the offshore works plan;

“array area disposal site” means the site to be used for disposal of inert material of natural origin produced during construction drilling and seabed preparation for foundation works and cable sandwave clearance to be located within the array area;

“authorised deposits” means the substances and articles specified in paragraph 4 of Part 1 of this licence;

“authorised development” means the development and associated development described in Part 1 of Schedule 1 (authorised development) of the Order and any other development authorised by this Order that is development within the meaning of section 32 (meaning of “development”) of the 2008 Act;

“authorised project” means Work Nos. 2, 3, 4 and 5 as described in paragraph 3 of Part 1 of this licence or any stage of that work;

“box-type gravity base structure” means a structure principally of steel, concrete, or steel and concrete with a square base which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“bridge link” means a steel truss structure with provision for overhead clearance for personnel, lighting fixtures and ancillary cabling, which can be used as a link for interconnection between any combination of permanent offshore electrical installations and/or offshore accommodation platform

“buoy” means any floating device used for navigational or measurement purposes, including LIDAR and wave buoys;

“cable corridor” means that area of Work No. 2 which lies outside of the array area, along with the area of Work Nos. 3, 4 and 5;

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**(a)** 2004 c.20.  
**(b)** 2008 c.29.  
**(c)** 2009 c.23.

“cable corridor disposal site” means the site, within the cable corridor, to be used for disposal of inert material of natural origin produced during construction drilling and seabed preparation for foundation works and cable sandwave clearance;

“cable protection” means physical measures for the protection of cables including but not limited to concrete mattresses, and/or rock placement (including material used for cable crossings);

“cable protection replenishment” means the restoration to a former level or condition of cable protection lost by natural seabed processes or human activity;

“commence” means the first carrying out of any licensed marine activities authorised by this marine licence, save for pre-construction surveys and monitoring approved under this licence and the activities set out in article 2(e) and “commenced” and “commencement” must be construed accordingly;

“commissioning” means the process of assuring that all systems and components of the authorised development are tested to verify that they function and are operable in accordance with the design objectives, specifications and operational requirements of the undertaker;

“condition” means a condition in Part 2 of this licence;

“Defence Infrastructure Organisation Safeguarding” means Ministry of Defence Safeguarding, Defence Infrastructure Organisation – Safeguarding, St George’s House, DIO Head Office, DMS Whittington, Lichfield, Staffordshire, WS14 9PY and any successor body to its functions;

“Defra” means the Department for Environment, Food and Rural; Affairs;

“dropped object procedure form” means the MMO notification proforma with reference MLDIR1 for reporting the loss or dumping of synthetic materials and other refuse at sea or any other format advised in writing by the MMO;

“enforcement officer” means a person authorised to carry out enforcement duties under Chapter 3 of Part 4 (marine licensing) of the 2009 Act;

“environmental statement” means the document certified as the environmental statement by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

“European site” has the meaning given in regulation 27 of the 2017 Offshore Regulations or regulation 8 of the 2017 Onshore Regulations as appropriate;

“gravity base structure” means a structure principally of steel, concrete, or steel and concrete with a base which tapers as it rises which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“habitats of principal importance” means a habitat designated as being of principal importance in accordance with section 41 (biodiversity lists and action (England)) of the Natural Environment and Rural Communities Act 2006;

“HAT” means highest astronomical tide;

“HVAC booster station lighting plan” means the plan certified as the HVAC booster station lighting plan by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

“HVDC” means high voltage direct current;

“IHO S44ed5 Order 1a” means order 1a from the fifth edition of the International Hydrographic Organisation’s Standards for Hydrographics Surveys;

“interconnector cables” means a network of cables between the offshore substations;

“jacket foundation” means a lattice type structure constructed of steel, which may include additional equipment such as, J-tubes, corrosion protection systems and access platforms;

“JNCC” means the Joint Nature Conservation Committee;

“Kingfisher Bulletin” means the bulletin published by the Humber Seafood Institute or such other alternative publication approved in writing by the MMO for the purposes of this licence;

“Kingfisher Information Service” means the information service from non-departmental government body Seafish;

“large offshore HVDC converter substation” means the larger version of the offshore converter substations assessed in the environment statement;

“large offshore transformer substation” means the larger version of the offshore transformer substations assessed in the environment statement;

“LAT” means lowest astronomical tide;

“layout principles” means the document certified as the layout principles by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

“licensed activities” means the activities specified in Part 1 of this licence;

“maintain” includes inspect, upkeep, repair, adjust, and alter and further includes remove, reconstruct and replace (including replenishment of cable protection) but does not include the removal, reconstruction or replacement of foundations associated with the authorised project, to the extent assessed in the environmental statement; and “maintenance” must be construed accordingly;

“Marine Management Organisation” or “MMO” means the Marine Management Organisation, Lancaster House, Hampshire Court, Newcastle upon Tyne, NE4 7YH who is the body created under the 2009 Act and who is responsible for the monitoring and enforcement of this licence;

“marine noise registry” means the database developed and maintained by JNCC on behalf of Defra to record the spatial and temporal distribution of impulsive noise generating activities in UK seas;

“MCA” means the Maritime and Coastguard Agency, an executive agency for the Department for Transport;;

“mean high water springs” or “MHWS” means the highest level which spring tides reach on average over a period of time;

“mean low water springs” or “MLWS” means the lowest level which spring tides reach on average over a period of time;

“monopile foundation” means a steel pile, typically cylindrical, driven and/or drilled into the seabed and associated equipment including J-tubes, corrosion protection systems and access platforms and equipment;

“mono suction bucket foundation” means a steel cylindrical structure which partially or fully penetrates the seabed and remains in place using its own weight and hydrostatic pressure differential, and may include additional equipment such as J-tubes;

“offshore accommodation platform” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing housing accommodation, storage, workshop, auxiliary equipment, and facilities for operating, maintaining and controlling the wind turbine generators and offshore electrical installations;

“offshore electrical installations” means the small offshore transformer substations, the large offshore transformer substations, the offshore HVAC booster stations, the small offshore HVDC converter substations and the large offshore HVDC converter substations forming part of the authorised development;

“offshore export cable” means a network of cables for as described in Work No. 2(e) and Work No. 3(d);

“offshore HVAC booster station” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing—

(a) electrical equipment required to provide reactive power compensation; and

(b) housing accommodation, storage, workshop, auxiliary equipment, and facilities for operating, maintaining and controlling the substation;

“the offshore Order limits and grid coordinates plan” means the plan certified as the offshore Order limits and grid coordinates plan by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

“Offshore Renewables Protocol for Reporting Archaeological Discoveries” means the Offshore Renewables Protocol for Reporting Archaeological Discoveries, the Crown Estate (2014), *Protocol for Archaeological Discoveries: Offshore Renewables Projects*, Salisbury, Wessex Archaeology as amended, updated or superseded from time to time;

“offshore transformer substation” means a structure above LAT and attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents), containing—

(a) electrical equipment required to switch, transform, convert electricity generated at the wind turbine generators to a higher voltage and provide reactive power compensation; and

(b) housing accommodation, storage, workshop auxiliary equipment, radar and facilities for operating, maintaining and controlling the substation or wind turbine generators;

“offshore works plan” means the plan certified as the offshore works plan by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.);

“operation” means the undertaking of licensed activities which are not part of the construction, commissioning or decommissioning of the authorised development;

“Order” means the Hornsea Four Offshore Wind Farm Order 20[];

“the Order limits” means the limits shown on the offshore Order limits and grid coordinates plans and the onshore Order limits plan within which the authorised project may be carried out, whose grid coordinates seaward of MHWS are set out in paragraph 5 of Part 1 of this Schedule;

“outline cable specification and installation plan” means the document certified as the outline cable specification and installation plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline marine mammal mitigation protocol” means the document certified as the outline marine mammal mitigation protocol by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline marine monitoring plan” means the document certified as the outline marine monitoring plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline marine written scheme of investigation” means the document certified as the outline marine written scheme of investigation by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline operations and maintenance plan” means the document certified as the outline operations and maintenance plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“outline southern north sea special area of conservation site integrity plan” means the document certified as the outline southern north sea special area of conservation site integrity plan by the Secretary of State for the purposes of this Order;

“pin piles” means steel cylindrical piles driven and/or drilled into the seabed to secure jacket foundations;

“pontoon gravity base type 1 structure” means a structure principally of steel, concrete, or steel and concrete with a base made up of up to two rectangular pontoons which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“pontoon gravity base type 2 structure” means a structure principally of steel, concrete, or steel and concrete with a base made up of a pontoon arranged in a rectangle around an open centre which rests on the seabed due to its own weight with or without added ballast or additional skirts and associated equipment including J-tubes, corrosion protection systems and access platform(s) and equipment;

“pro-rata annex” means the document certified as the pro-rata annex by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents, etc.);

“small offshore HVDC converter substation” means the smaller version of the offshore transformer substations assessed in the environment statement;

“small offshore transformer substation” means the smaller version of the offshore transformer substations assessed in the environment statement;

“statutory historic body” means Historic England, the relevant local authority or its successor in function;

“statutory nature conservation body” means the appropriate nature conservation body as defined in Regulation 5 of the Conservation of Offshore Marine Habitats and Species Regulations 2017;

“suction bucket” means a steel cylindrical structure attached to the legs of a jacket foundation which partially or fully penetrates the seabed and remains in place using its own weight and hydrostatic pressure differential;

“transition piece” means the metal structure attached to the top of the foundation where the base of the wind turbine generator is connected and may include additional equipment such as J-tubes, corrosion protection systems, boat access systems, access platforms, craneage, radar, electrical transmission equipment and associated equipment;

“Trinity House” means the Corporation of Trinity House of Deptford Strond;

“UK Hydrographic Office” means the UK Hydrographic Office of Admiralty Way, Taunton, Somerset, TA1 2DN;

“undertaker” means Orsted Hornsea Project Four Limited (company number 08584182);

“vessel” means every description of vessel, however propelled or moved, and includes a non-displacement craft, a personal watercraft, a seaplane on the surface of the water, a hydrofoil vessel, a hovercraft or any other amphibious vehicle and any other thing constructed or adapted for movement through, in, on or over water and which is at the time in, on or over water;

“wind turbine generator” means a structure comprising a tower, rotor with three blades connected at the hub, nacelle and ancillary electrical and other equipment which may include J-tube(s), transition piece, access and rest platforms, access ladders, boat access systems, corrosion protection systems, fenders and maintenance equipment, helicopter landing facilities and other associated equipment, fixed to a foundation or transition piece; and

“working day” means a day which is not a weekend, bank or public holiday in England; and

“UK Standard Marking Schedule for Offshore Installations” means the Standard Marking Schedule for Offshore Installations published by the Department of Energy & Climate Change with reference DECC 04/11.

(2) A reference to any statute, order, regulation or similar instrument is construed as a reference to a statute, order, regulation or instrument as amended by any subsequent statute, order, regulation or instrument or as contained in any subsequent re-enactment.

(3) Unless otherwise indicated—

(a) all times are taken to be Greenwich Mean Time; and

(b) all co-ordinates are taken to be latitude and longitude degrees and minutes to two decimal places.

(4) Except where otherwise notified in writing by the relevant organisation, the primary point of contact with the organisations listed below and the address for returns and correspondence are—

(a) Civil Aviation Authority



- Aviation House  
Beehive Ringroad  
Crawley  
West Sussex  
RH6 0YR
- (b) Historic England  
37 Tanner Road  
York  
YO1 6WP
- (c) Marine Management Organisation  
Marine Licensing Team  
Lancaster House Hampshire Court  
Newcastle Business Park  
Newcastle upon Tyne  
NE4 7YH  
Tel: [REDACTED]
- (d) Marine Management Organisation (Local Office)  
Room 13, Ground Floor  
Crosskill House  
Mill Lane  
Beverley  
HU17 9JB  
Tel: [REDACTED]
- (e) Maritime and Coastguard Agency  
Navigation Safety Branch  
Bay 2/20, Spring Place  
105 Commercial Road  
Southampton  
SO15 1EG  
Tel: [REDACTED]
- (f) Ministry of Defence (as represented by Defence Infrastructure Organisation –  
Safeguarding)  
St George's House  
DIO Head Office  
DMS Whittington  
Lichfield  
Staffordshire  
WS14 9PY;
- (g) Natural England  
4th Floor  
Foss House  
1-2 Peasholme Green  
York

YO1 7PX

Tel: [REDACTED]

(h) Trinity House

Tower Hill

London

EC3N 4DH

Tel: [REDACTED]

(i) The United Kingdom Hydrographic Office

Admiralty Way

Taunton

Somerset

TA1 2DN

Tel: [REDACTED]

(5) Unless otherwise advised in writing by the MMO, the address for electronic communication with the MMO for the purposes of this licence is [marine.consents@marinemanagement.org.uk](mailto:marine.consents@marinemanagement.org.uk), or where contact to the Local Office of the MMO is required, [beverley@marinemanagement.org.uk](mailto:beverley@marinemanagement.org.uk).

(6) Unless otherwise advised in writing by the MMO, the Marine Case Management System (“MCMS”) must be used for all licence returns or applications to vary this licence. The MCMS address is: <https://marinelicensing.marinemanagement.org.uk/>.

(7) Any reference in this licence or the documents certified by the Secretary of State for the purposes of the Order under article 38 (certification of plans and documents, etc.) to a dimension measured from LAT may be converted to a measurement from HAT by subtracting 4.71m from the measurement from LAT.

### **Details of licensed marine activities**

2. Subject to the licence conditions at Part 4, this licence authorises the undertaker (and any agent or contractor acting on their behalf) to carry out the following licensable marine activities under section 66(1) (licensable marine activities) of the 2009 Act—

- (a) the deposit at sea within the Order limits seaward of MHWS of the substances and articles specified in paragraph 4 below and within—
  - (i) the array area disposal site, when combined with the disposal authorised by the deemed marine licence granted under Schedule 11 of the Order, up to 7,211,601 cubic metres (being a maximum, not an approximate upper figure) of inert material of natural origin produced during construction drilling or seabed preparation for foundation works and cable installation preparation and excavation of horizontal directional drilling pits works within the parts of Work No. 2 that lie within the array area; and
  - (ii) the cable corridor disposal site of up to 4,105,735 cubic metres (being a maximum, not an approximate upper figure) of inert material of natural origin produced during construction drilling or seabed preparation for foundation works and cable installation preparation and excavation of horizontal directional drilling pits works within Work Nos. 2 (which lie within the cable corridor), 3, 4 and 5;
- (b) the construction of works in or over the sea or on or under the sea bed;
- (c) dredging for the purposes of seabed preparation for foundation works and/or electrical circuit works;
- (d) boulder clearance works by displacement ploughing or subsea grab technique or any other equivalent method;
- (e) the removal of sediment samples for the purposes of informing environmental monitoring under this licence during pre-construction, construction and operation;

- (f) removal of static fishing equipment; and
- (g) site preparation works.

**3.** Such activities are authorised in relation to the construction, maintenance and operation of—

*Work No. 2—*

- (a) up to six small offshore transformer substations each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, gravity base structures or jacket foundations, and which may be connected to each other or one of the offshore accommodation platforms within Work No. 1(b) by a bridge link;
- (b) up to three large offshore transformer substations each fixed to the seabed by one of monopile foundations, mono suction bucket foundations, box-type gravity base structures, or jacket foundations, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures, and which may be connected to each other or one of the offshore accommodation platforms within Work No. 1(b) by a bridge link;
- (c) in the event that the mode of transmission is HVDC, either up to three either large HVDC converter substations or up to six small HVDC converter substations fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, jacket foundations, box-type gravity base structures, gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures;
- (d) a network of interconnector cables;
- (e) up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No. 5 consisting of offshore export cables along routes within the Order limits seaward of MLWS including one or more cable crossings; and
- (f) up to eight temporary horizontal directional drilling exit pits and associated cofferdams.

*Work No. 3—*

- (a) in the event that the mode of transmission is HVAC, up to three offshore HVAC booster stations fixed to the seabed within the area shown on the offshore works plan by one of monopile foundations, mono suction bucket foundations, jacket foundations, gravity base structures, pontoon gravity base type 1 structures or pontoon gravity base type 2 structures; and
- (b) in the event that the mode of transmission is HVAC, up to six cable circuits between Work No. 2 and Work No. 3, and between Work No. 3 and Work No. 5 consisting of offshore export cables along routes within the Order limits seaward of MHWS including one or more cable crossings.

*Work No. 4—* a temporary work area associated with Work No. 2 and Work No. 3 for vessels to carry out anchoring and positioning alongside Work No. 2 or Work No. 3.

*Work No. 5—* works consisting of—

- (a) up to six cable circuits and associated electrical circuit ducts between Work No. 3 to Work No. 6; and
- (b) up to eight horizontal directional drilling exit pits, unless Work No. 2(f) is constructed.

*Work No. 9—* temporary works as follows—

- (a) temporary vehicular access tracks as shown on the offshore works plans;
- (b) *not used*
- (c) *not used*
- (d) temporary construction ramp as shown on the offshore works plans.

In connection with such Works Nos. 2, 3, 4 and 5 and to the extent that they do not otherwise form part of any such work, further associated development within the meaning of section 115(2) (development for which consent may be granted) of the 2008 Act comprising such other works as may be necessary or expedient for the purposes of or in connection with the relevant part of the

authorised project and which fall within the scope of the work assessed by the environmental statement and the provisions of this license, including—

- (a) scour protection around the foundations of the offshore electrical installations;
- (b) cable protection measures such as the placement of rock and/or concrete mattresses;
- (c) the removal of material from the seabed within the Order limits the disposal within—
  - (i) the array area disposal site, in combination with the disposal authorised by the deemed marine licence granted under Schedule 11 of the Order, up to 7,211,601 cubic metres of inert material of natural origin produced during construction drilling or seabed preparation for foundation works and cable installation preparation works (such as sandwave clearance and boulder clearance) and excavation of horizontal directional drilling pits works within the parts of Work No. 2 that lie within the array area; and
  - (ii) the cable corridor disposal site up to 4,105,735 cubic metres of inert material of natural origin within Order limits produced during construction drilling and seabed preparation for foundation works and cable sandwave clearance works required or the construction of Work Nos. 2 (which lie within the cable corridor), 3, 4 and 5; and
- (d) temporary landing places, moorings or other means of accommodating vessels in the construction and/or maintenance of the authorised development.

4. The substances or articles authorised for deposit at sea are—

- (a) iron and steel, copper and aluminium;
- (b) stone and rock;
- (c) concrete;
- (d) sand and gravel;
- (e) plastic and synthetic;
- (f) material extracted from within the offshore Order limits during construction drilling and seabed preparation for foundation works cable installation preparation works and excavation of horizontal directional drilling pits; and
- (g) marine coatings, other chemicals and timber.

5. The grid coordinates for that part of the authorised development comprising Work Nos. 2, 3, 4, 5, 9a and 9d are specified below and more particularly on the offshore Order limits and grid coordinates plan—

<i>Point ID</i>	<i>Latitude (DMS)</i>	<i>Longitude (DMS)</i>	<i>Point ID</i>	<i>Latitude (DMS)</i>	<i>Longitude (DMS)</i>
1	54° 2' 7.166" N	0° 12' 58.381" W	68	53° 59' 17.868" N	1° 17' 11.556" E
2	54° 2' 7.022" N	0° 12' 48.680" W	69	53° 58' 55.615" N	1° 16' 14.402" E
3	54° 2' 28.905" N	0° 12' 23.610" W	70	53° 58' 54.680" N	1° 16' 10.907" E
4	54° 3' 4.330" N	0° 9' 20.564" W	71	53° 58' 54.305" N	1° 16' 7.041" E
5	54° 3' 2.961" N	0° 8' 57.136" W	72	53° 58' 48.150" N	1° 9' 3.489" E
6	54° 3' 46.646" N	0° 6' 22.355" W	73	53° 58' 49.099" N	1° 8' 56.253 E
7	54° 3' 55.011" N	0° 6' 0.668" W	74	53° 59' 33.340" N	1° 5' 22.618" E
8	54° 4' 5.592" N	0° 5' 7.239" W	75	53° 59' 16.728" N	1° 0' 29.597" E
9	54° 4' 7.120" N	0° 4' 56.079" W	76	53° 59' 10.802" N	0° 59' 53.488" E
10	54° 4' 7.947" N	0° 4' 12.149" W	77	53° 59' 0.241" N	0° 59' 7.651" E
11	54° 4' 7.646" N	0° 4' 2.450" W	78	53° 58' 58.446" N	0° 58' 57.385" E
12	54° 3' 39.131" N	0° 1' 17.603" E	79	53° 58' 53.673" N	0° 57' 53.130" E
13	54° 3' 36.602" N	0° 1' 19.983" E	80	53° 58' 53.613" N	0° 57' 45.865" E
14	54° 3' 36.653" N	0° 1' 27.388" E	81	53° 58' 54.420" N	0° 57' 26.213" E
15	54° 3' 37.742" N	0° 1' 33.117" E	82	53° 58' 58.248" N	0° 56' 45.174" E

16	54° 3' 31.432" N	0° 2' 43.501" E	83	53° 59' 56.956" N	0° 50' 1.171" E
17	54° 3' 21.791" N	0° 4' 54.431" E	84	54° 0' 12.504" N	0° 48' 1.381" E
18	54° 3' 20.107" N	0° 5' 29.470" E	85	54° 0' 12.515" N	0° 47' 27.367" E
19	54° 3' 20.504" N	0° 5' 36.188" E	86	54° 0' 13.296" N	0° 46' 40.673" E
20	54° 3' 29.852" N	0° 6' 6.995" E	87	54° 0' 12.634" N	0° 46' 30.459" E
21	54° 4' 17.513" N	0° 8' 11.780" E	88	54° 0' 11.415" N	0° 46' 24.233" E
22	54° 4' 19.804" N	0° 8' 20.650" E	89	53° 59' 39.945" N	0° 44' 55.026" E
23	54° 4' 29.084" N	0° 9' 5.618" E	90	53° 59' 33.773" N	0° 44' 35.130" E
24	54° 4' 30.902" N	0° 9' 18.035" E	91	53° 59' 28.402" N	0° 44' 15.020" E
25	54° 4' 31.360" N	0° 9' 29.006" E	92	53° 59' 26.858" N	0° 44' 5.508" E
26	54° 4' 30.770" N	0° 11' 14.823" E	93	53° 59' 23.738" N	0° 43' 35.842" E
27	54° 4' 41.436" N	0° 13' 46.313" E	94	53° 59' 23.191" N	0° 42' 42.267" E
28	54° 4' 51.664" N	0° 18' 10.115" E	95	53° 59' 23.584" N	0° 42' 32.090" E
29	54° 4' 49.674" N	0° 22' 20.794" E	96	53° 59' 29.653" N	0° 41' 39.599" E
30	54° 4' 34.602" N	0° 25' 8.241" E	97	53° 59' 31.433" N	0° 41' 30.497" E
31	54° 3' 47.343" N	0° 28' 41.594" E	98	53° 59' 34.340" N	0° 41' 20.783" E
32	54° 3' 29.522" N	0° 29' 45.309" E	99	54° 1' 11.539" N	0° 37' 38.060" E
33	54° 3' 12.983" N	0° 30' 41.496" E	100	54° 1' 53.954" N	0° 30' 4.210" E
34	54° 3' 11.866" N	0° 30' 46.755" E	101	54° 1' 55.082" N	0° 29' 58.960" E
35	54° 2' 29.831" N	0° 38' 16.384" E	102	54° 2' 16.836" N	0° 28' 45.068" E
36	54° 2' 28.252" N	0° 38' 27.328" E	103	54° 2' 34.272" N	0° 27' 42.729" E
37	54° 2' 25.710" N	0° 38' 37.464" E	104	54° 3' 14.191" N	0° 24' 52.548" E
38	54° 2' 22.467" N	0° 38' 46.275" E	105	54° 3' 28.906" N	0° 22' 9.330" E
39	54° 0' 46.742" N	0° 42' 25.062" E	106	54° 3' 30.827" N	0° 18' 25.085" E
40	54° 0' 44.114" N	0° 42' 47.823" E	107	54° 3' 25.965" N	0° 15' 11.395" E
41	54° 0' 44.168" N	0° 42' 53.983" E	108	54° 3' 10.152" N	0° 11' 26.334" E
42	54° 0' 37.964" N	0° 43' 8.166" E	109	54° 3' 9.658" N	0° 11' 1.640" E
43	54° 0' 33.962" N	0° 43' 31.109" E	110	54° 3' 10.393" N	0° 9' 39.559" E
44	54° 0' 51.704" N	0° 44' 6.496" E	111	54° 3' 7.676" N	0° 9' 26.386" E
45	54° 0' 57.175" N	0° 44' 19.901" E	112	54° 3' 13.846" N	0° 8' 47.985" E
46	54° 1' 20.169" N	0° 45' 45.285" E	113	54° 1' 59.146" N	0° 5' 34.054" E
47	54° 1' 22.890" N	0° 46' 0.288" E	114	54° 1' 59.193" N	0° 5' 24.927" E
48	54° 1' 33.372" N	0° 47' 34.265" E	115	54° 2' 1.399" N	0° 4' 39.525" E
49	54° 1' 33.357" N	0° 48' 6.711" E	116	54° 2' 14.627" N	0° 1' 34.678" E
50	54° 1' 32.702" N	0° 48' 19.691" E	117	54° 2' 13.616" N	0° 1' 29.370" E
51	54° 1' 26.938" N	0° 49' 8.341" E	118	54° 2' 9.931" N	0° 1' 16.745" W
52	54° 1' 15.588" N	0° 50' 33.236" E	119	54° 1' 43.569" N	0° 0' 7.896" W
53	54° 0' 17.357" N	0° 57' 13.969" E	120	54° 1' 31.663" N	0° 0' 25.766" W
54	54° 0' 15.266" N	0° 57' 36.824" E	121	54° 1' 7.679" N	0° 1' 51.463" W
55	54° 0' 14.766" N	0° 57' 48.644" E	122	54° 1' 0.011" N	0° 2' 21.082" W
56	54° 0' 17.493" N	0° 58' 26.081" E	123	54° 1' 0.055" N	0° 4' 18.699" W
57	54° 0' 27.621" N	0° 59' 10.323" E	124	54° 1' 25.632" N	0° 12' 25.517" W
58	54° 0' 36.596" N	1° 0' 6.568" E	125	54° 1' 41.883" N	0° 12' 50.086" W
59	54° 0' 53.351" N	1° 4' 59.324" E	126	54° 1' 39.112" N	0° 12' 50.078" W
60	54° 2' 51.236" N	1° 8' 18.052" E	127	54° 1' 39.246" N	0° 12' 59.069" W
61	54° 7' 24.985" N	0° 59' 54.702" E	128	54° 1' 39.257" N	0° 12' 59.850" W
62	54° 9' 13.497" N	1° 0' 43.850" E	129	54° 1' 39.742" N	0° 12' 59.821" W
63	54° 10' 49.480" N	0° 58' 21.782" E	130	54° 1' 39.731" N	0° 12' 59.103" W

64	54° 12' 37.143" N	0° 58' 31.095" E	131	54° 1' 43.574" N	0° 12' 59.118" W
65	54° 12' 17.413" N	1° 12' 18.263" E	132	54° 1' 43.811" N	0° 12' 59.860" W
66	54° 4' 13.012" N	1° 30' 5.270" E	133	54° 2' 7.201" N	0° 13' 0.387" W
67	53° 59' 15.598" N	1° 17' 20.651" E			

### General provisions

6. This licence remains in force until the authorised project has been decommissioned in accordance with a programme approved by the Secretary of State under section 106 (approval of decommissioning programmes) of the 2004 Act, including any modification to the programme under section 108 (reviews and revisions of decommissioning programmes), and the completion of such programme has been confirmed by the Secretary of State in writing.

7. The provisions of section 72 (variation, suspension, revocation and transfer) of the 2009 Act apply to this licence except that the provisions of sections 72(7) and (8) relating to the transfer of the licence only apply to a transfer not falling within article 5 (benefit of the Order).

8. With respect to any condition which requires the licensed activities be carried out in accordance with the plans, protocols or statements approved under this Schedule, the approved details, plan or scheme are taken to include any amendments that may subsequently be approved in writing by the MMO.

9. Any amendments to or variations from the approved details must be in accordance with the principles and assessments set out in the environmental statement. Such agreement may only be given in relation to immaterial changes where it has been demonstrated to the satisfaction of the MMO that it is unlikely to give rise to any materially new or materially greater environmental effects from those assessed in the environmental statement.

## PART 2 CONDITIONS

### Design parameters

1.—(1) The total number of offshore electrical installations must not exceed nine, and consisting of a combination of no more than—

- (a) six small offshore transformer substations;
- (b) three large offshore transformer substations;
- (c) three offshore HVAC booster stations;
- (d) six small offshore HVDC converter substations; and
- (e) three large offshore HVDC converter substations.

(2) The dimensions of any small offshore transformer substations (including auxiliary structures, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—

- (a) 100 metres in height when measured from LAT;
- (b) 90 metres in length; and
- (c) 90 metres in width.

(3) The dimensions of any large offshore transformer substations (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—

- (a) 100 metres in height when measured from LAT;
- (b) 180 metres in length; and

- (c) 90 metres in width.
- (4) The dimensions of any offshore HVAC booster station (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
  - (a) 100 metres in height when measured from LAT;
  - (b) 90 metres in length; and
  - (c) 90 metres in width.
- (5) The dimensions of any small offshore HVDC converter substations (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
  - (a) 90 metres in height when measured from LAT;
  - (b) 100 metres in length; and
  - (c) 100 metres in width.
- (6) The dimensions of any large offshore HVDC converter substations (including auxiliary structures, such as a helipad, crane, lightning protection, but excluding masts, radar and antennae) forming part of the authorised project must not exceed—
  - (a) 100 metres in height when measured from LAT;
  - (b) 180 metres in length; and
  - (c) 90 metres in width.
- (7) Offshore electrical installation foundation structures forming part of the authorised project must be one of the following foundation options—
  - (a) for small offshore transformer substations and offshore HVAC booster stations either monopile foundations, mono suction bucket foundations, gravity base structures, jacket foundations or box-type gravity base structures; and
  - (b) for large offshore transformer substations and offshore HVDC converter stations either monopile foundations, mono suction bucket foundations, jacket foundations, box-type gravity base structures, gravity base structures, pontoon gravity base type 1 structures, or pontoon gravity base type 2 structures.
- (8) No offshore electrical installation—
  - (a) jacket foundation employing pin piles forming part of the authorised project may—
    - (i) have a pin pile diameter of greater than four metres; and
    - (ii) employ more than 16 pin piles per jacket foundation; and
  - (b) monopile foundation forming part of the authorised project may have a diameter greater than 15 metres.
- (9) The total seabed footprint area for offshore electrical installation foundations must not exceed—
  - (a) 101,250 square metres excluding scour protection; and
  - (b) 371,250 square metres including scour protection.
- (10) The area of scour protection material for offshore electrical installation foundations must not exceed 270,000 square metres.
- (11) The total number of cable crossings when combined with the deemed marine licence granted under Schedule 11 of the Order must not exceed 86, unless otherwise agreed in writing between the undertaker and the MMO.
- (12) The total number of gravity base structures must not exceed ten for offshore electrical installations, or nine where the offshore accommodation platform authorised by the deemed marine licence granted under Schedule 11 of the Order utilises a gravity base structure.
- (13) The offshore electrical installations comprised in the authorised project must be constructed in accordance with the parameters set out in the pro-rata annex.

(14) A bridge link forming part of the authorised project must be installed at a minimum height of 20 metres when measured from LAT.

2. The total length of the cables and the volume of their cable protection (including cable crossings) must not exceed the following—

<i>Work</i>	<i>Length</i>	<i>Cable protection</i>
Work Nos. 2 and 3 and 5	744 kilometres	1,068,500 cubic metres

3.—(1) The total length of the cables in Work No. 2(d) and (e) and the volume of their cable protection when combined with the cable authorised under Work No. 1(c) of the deemed marine licence granted under Schedule 11 of the Order must not exceed the following—

<i>Length</i>	<i>Cable protection</i>
1,344 kilometres	1,449,000 cubic metres

(2) No more than 5% of the length of cables within Work No. 2(e) and Work No. 3(b) falling within the Smithic Bank, being the area bounded by the following coordinates, shall be subject to cable protection, unless otherwise agreed in writing with the MMO—

<i>Coordinate ID</i>	<i>Easting (ETRS89 UTM31N)</i>	<i>Northing (ETRS89 UTM31N)</i>	<i>Longitude (WGS84)</i>	<i>Latitude (WGS84)</i>
1	298274.67	5990918.71	-0.07990	54.02704
2	298127.19	5990333.27	-0.08175	54.02172
3	294845.62	5990773.47	-0.13207	54.02438
4	294845.60	5990773.48	-0.13207	54.02438
5	293307.25	5990979.83	-0.15565	54.02562
6	293307.23	5990979.84	-0.15565	54.02562
7	293234.22	5990989.63	-0.15677	54.02568
8	293248.01	5991617.59	-0.15699	54.03132
9	293357.03	5992381.64	-0.15585	54.03822
10	293485.99	5993033.45	-0.15432	54.04412
11	293595.22	5993351.56	-0.15288	54.04702
12	295812.89	5993972.30	-0.11947	54.05347
13	295814.17	5993972.66	-0.11945	54.05348
14	295815.45	5993973.03	-0.11943	54.05348
15	296409.98	5994139.44	-0.11048	54.05521
16	296416.88	5994141.37	-0.11037	54.05523
17	297196.58	5994359.61	-0.09863	54.05749
18	297201.62	5994361.02	-0.09855	54.05751
19	297686.58	5994496.76	-0.09124	54.05892
20	297703.95	5994501.62	-0.09098	54.05897
21	297879.77	5994550.84	-0.08833	54.05948
22	297897.33	5994556.10	-0.08807	54.05953
23	297914.68	5994562.01	-0.08781	54.05959
24	297931.81	5994568.54	-0.08755	54.05966
25	297948.69	5994575.70	-0.08730	54.05973
26	298025.95	5994610.17	-0.08614	54.06007
27	298102.19	5994644.18	-0.08500	54.06040
28	298382.32	5994769.14	-0.08081	54.06163
29	298391.64	5993962.56	-0.08013	54.05440
30	298294.20	5992800.25	-0.08085	54.04393
31	298298.27	5991819.11	-0.08013	54.03513
32	298274.67	5990918.71	-0.07990	54.02704



(3) No cable protection may be employed within 350 metres seaward of MLWS tidal datum, measured as a straight line.

(4) The cables and cable circuits comprised in the authorised development must not exceed the parameters set out in the pro-rata annex.

#### **Maintenance of the authorised development**

4.—(1) The undertaker may at any time maintain the authorised development, except to the extent that this licence or an agreement made under this licence provides otherwise.

(2) Maintenance works include but are not limited to—

- (a) offshore electrical installation component replacement;
- (b) offshore electrical installation painting and applying other coatings;
- (c) bird waste and marine growth removal;
- (d) cable remedial burial;
- (e) cable repairs and replacement;
- (f) cable protection replenishment;
- (g) access ladder and boat landing replacement;
- (h) replacement of offshore electrical installation anodes; and
- (i) J-tube repair/replacement.

(3) In undertaking activities under condition 4(2)(f), the undertaker must not reduce water depth by more than 5% unless agreed with the MMO in writing.

(4) No maintenance works authorised by this licence may be carried out until an operations and maintenance plan substantially in accordance with the outline operations and maintenance plan has been submitted to and approved by the MMO in writing.

#### **Vessels under the undertaker's control**

5.—(1) The undertaker must issue to operators of vessels under its control operating within the Order limits a code of conduct to prevent collision risk or injury to marine mammals.

(2) The undertaker must ensure appropriate co-ordination of vessels within its control operating within the Order limits so as to reduce collision risk to other vessels including advisory safe passing distances for vessels.

#### **Extension of time periods**

6. Any time period given in this licence given to either the undertaker or the MMO may be extended with the agreement of the other party in writing such agreement not to be unreasonably withheld or delayed.

#### **Notifications and inspections**

7.—(1) The undertaker must ensure that—

- (a) a copy of this licence (issued as part of the grant of the Order) and any subsequent amendments or revisions to it is provided to—
  - (i) all agents and contractors notified to the MMO in accordance with condition 16; and
  - (ii) the masters and offshore operations managers responsible for the vessels notified to the MMO in accordance with condition 16.
- (b) within 28 days of receipt of a copy of this licence those persons referred to in subparagraph (a) above must provide a completed confirmation form to the MMO confirming receipt of this licence.

(2) Only those persons and vessels notified to the MMO in accordance with condition 16 are permitted to carry out the licensed activities.

(3) Copies of this licence must also be available for inspection at the following locations—

- (a) the undertaker's registered address;
- (b) any site office located at or adjacent to the construction site and used by the undertaker or its agents and contractors responsible for the loading, transportation or deposit of the authorised deposits; and
- (c) on board each vessel and at the office of any offshore operations manager with responsibility for vessels from which authorised deposits or removals are to be made.

(4) The documents referred to in sub-paragraph (1)(a) must be available for inspection by an authorised enforcement officer at the locations set out in sub-paragraph (3)(b) above.

(5) The undertaker must ensure that a copy of this licence and any subsequent revisions or amendments has been read and understood by the masters of any vessel being used to carry on any licensed activity set out in condition 16(3), and that a copy of this licence is held on board any such vessel.

(6) The undertaker must provide access, and if necessary appropriate transportation, to the offshore construction site or any other associated works or vessels to facilitate any inspection that the MMO considers necessary to inspect the works during construction and operation of the authorised project.

(7) The undertaker must inform the MMO Local Office in writing at least five days prior to the commencement of the licensed activities or any stage of them and within five days of the completion of the licensed activity.

(8) The undertaker must inform the Kingfisher Information Service of details regarding the vessel routes, timings and locations relating to the construction of the authorised project or relevant stage—

- (a) at least fourteen days prior to the commencement of offshore activities, for inclusion in the Kingfisher Bulletin and offshore hazard awareness data; and
- (b) as soon as reasonably practicable, and in any event no later than 24 hours after completion of construction of all offshore activities,

confirmation of notification must be provided to the MMO in writing within five days.

(9) The undertaker must ensure that a local notification to mariners is issued at least 14 days prior to the commencement of the authorised project or any relevant stage advising of the start date of Work No. 1 and the expected vessel routes from the construction ports to the relevant location. Copies of all notices must be provided to the MMO, MCA and UK Hydrographic Office within five days of issue.

(10) The undertaker must ensure that local notifications to mariners are updated and reissued at weekly intervals during construction activities and at least five days before any planned operations and maintenance works and the notices must be supplemented with VHF radio broadcasts agreed with the MCA in accordance with the construction and monitoring programme approved under deemed marine licence condition 13(1)(b) and monitoring plan approved under condition 13(1)(f). Copies of all local notifications must be provided to the MMO and UK Hydrographic Office within five days of issue, save for in the case of a notice relating to operations and maintenance, which must be provided within 24 hours of issue.

(11) The undertaker must notify the UK Hydrographic Office both of the commencement (within fourteen days), progress and completion of construction (within fourteen days) of the licensed activities in order that all necessary amendments to nautical and aeronautical charts are made and the undertaker must send a copy of such notifications to the MMO within five days of the notification.

(12) In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, the undertaker must as soon as reasonably practicable and no later than 24 hours following the undertaker becoming aware of any such

damage, destruction or decay, notify the MMO, the MCA, Trinity House, the Kingfisher Information Service and the UK Hydrographic Office.

(13) In case of exposure of cables on or above the seabed, the undertaker must within three days of identification of a potential cable exposure, notify mariners and inform the Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the MMO, the MCA, Trinity House and the UK Hydrographic Office within five days.

(14) The undertaker must notify the MMO in writing a minimum of five days in advance of the commencement of each discrete incident of cable repair, replacement, or protection replenishment activity. Such a notification must include proposed timings and a description of proposed methodologies.

(15) The undertaker must ensure that the MMO, the MMO Local Office, local mariners, local fishermen's organisations and the Source Data Receipt Team at the UK Hydrographic Office, Taunton, Somerset, TA1 2DN (sdr@ukho.gov.uk) are notified within five days of completion of each instance of cable repair, replacement or protection replenishment activity.

### **Aids to navigation**

8.—(1) The undertaker must during the whole period from commencement of the licensed activities to completion of decommissioning of the authorised project seaward of MHWS exhibit such lights, marks, sounds, signals and other aids to navigation, and take such other steps for the prevention of danger to navigation as Trinity House may from time to time direct.

(2) The undertaker must during the period from the start of construction of the authorised project to completion of decommissioning of the authorised project seaward of MHWS keep Trinity House and the MMO informed in writing of progress of the authorised project seaward of MHWS including the following—

- (a) notice of commencement of construction of the authorised project within 24 hours of commencement having occurred;
- (b) notice within 24 hours of any aids to navigation being established by the undertaker; and
- (c) notice within five days of completion of construction of the authorised project.

(3) The undertaker must provide reports to Trinity House on the availability of aids to navigation in accordance with the frequencies set out in the aids to navigation management plan agreed pursuant to condition 13(1)(i) using the reporting system provided by Trinity House.

(4) The undertaker must during the whole period from commencement of the licensed activities to completion of decommissioning of the authorised project seaward of MHWS notify Trinity House and the MMO in writing of any failure of the aids to navigation and the timescales and plans for remedying such failures, as soon as possible and no later than 24 hours following the undertaker becoming aware of any such failure.

(5) In the event that the provisions of condition 7(12) are invoked, the undertaker must lay down such buoys, exhibit such lights and take such other steps for preventing danger to navigation as directed by Trinity House.

(6) Any jack up barges or vessels utilised during the licensed activities, when jacked up, must exhibit signals in accordance with the UK Standard Marking Schedule for Offshore Installations.

### **Colouring of structures**

9. The undertaker must colour all structures yellow (colour code RAL 1023) from at least highest astronomical tide to a height directed by Trinity House, or must colour the structure as directed by Trinity House from time to time.

## Aviation safety

**10.**—(1) The undertaker must exhibit such lights, with such shape, colour and character as are required in writing by Air Navigation Order 2016<sup>(a)</sup> and determined necessary for aviation safety in consultation with the Defence Infrastructure Organisation Safeguarding and as directed by the Civil Aviation Authority. Lighting installed specifically to meet Ministry of Defence aviation safety requirements must remain operational for the life of the authorised development unless otherwise agreed in writing with the Ministry of Defence.

(2) The undertaker must notify the Defence Infrastructure Organisation Safeguarding, the Civil Aviation Authority and the MMO, at least 14 days prior to the commencement of the licensed activities, in writing of the following information—

- (a) the date of the commencement of licensed activities;
- (b) the date any offshore electrical installations are first used;
- (c) the maximum height of any construction equipment or vessels to be used;
- (d) the maximum heights of any offshore electrical installations to be constructed (including any antennae); and
- (e) the latitude and longitude of each offshore electrical installations to be constructed,

and the Defence Infrastructure Organisation Safeguarding and the Civil Aviation Authority must be notified of any changes to the information supplied under this paragraph of this condition and of the completion of the construction of the authorised project. Copies of notifications must be provided to the MMO within five days of the notification being made.

## Chemicals, drilling and debris

**11.**—(1) Unless otherwise agreed in writing by the MMO all chemicals used in the construction of the authorised project must be selected from the List of Notified Chemicals approved for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002<sup>(b)</sup> as maintained by the Centre for Environment, Fisheries and Aquaculture Science.

(2) The undertaker must ensure that any coatings or treatments are suitable for use in the marine environment and are used in accordance with relevant guidelines approved by Health and Safety Executive and the Environment Agency.

(3) The storage, handling, transport and use of fuels, lubricants, chemicals and other substances must be undertaken so as to prevent releases into the marine environment, including bunding of 110% of the total volume of all reservoirs and containers.

(4) The undertaker must inform the MMO of the location and quantities of material disposed of each month under the Order, by submission of a disposal return by 31 January each year for the months August to January inclusive, and by 31 July each year for the months February to July inclusive.

(5) The undertaker must ensure that only inert material of natural origin, produced during the drilling installation of or seabed preparation for foundations, and drilling mud is disposed of within the Order limits seaward of MHWS.

(6) The undertaker must ensure that any rock material used in the construction of the authorised project is from a recognised source, free from contaminants and containing minimal fines.

(7) In the event that any rock material used in the construction of the authorised project is misplaced or lost below MHWS, the undertaker must report the loss to the MMO's Local Office in writing within 48 hours of becoming aware of it and if the MMO in consultation with the MCA and Trinity House, reasonably considers such material to constitute a navigation or environmental hazard (dependent on the size and nature of the material) the undertaker must endeavour to locate the material and recover it at its own expense.

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(a) S.I. 2016/765.

(b) S.I. 2002/1355.

(8) The undertaker must ensure that no waste concrete slurry or wash water from concrete or cement works are discharged into the marine environment. Concrete and cement mixing and washing areas should be contained to prevent run off entering the marine environment through the freeing ports.

(9) The undertaker must ensure that any oil, fuel or chemical spill within the marine environment is reported in writing to the MMO, Marine Pollution Response Team in accordance with the marine pollution contingency plan agreed under condition 13(1)(d)(i).

(10) All dropped objects within the Order limits must be reported to the MMO using the dropped object procedure form as soon as reasonably practicable following the undertaker becoming aware of an incident. On receipt of the dropped object procedure form, the MMO may require relevant surveys to be carried out by the undertaker (such as side scan sonar) if reasonable to do so and the MMO may require obstructions to be removed from the seabed at the undertaker's expense if reasonable to do so.

### **Force majeure**

**12.—**(1) If, due to stress of weather or any other cause the master of a vessel determines that it is necessary to deposit the authorised deposits within or outside of the Order limits because the safety of human life or of the vessel is threatened, within 48 hours full details of the circumstances of the deposit must be notified to the MMO in the manner provided in condition 11(10).

(2) The unauthorised deposits must be removed at the expense of the undertaker unless written approval is obtained from the MMO.

### **Pre-construction plans and documentation**

**13.—**(1) The licensed activities for each stage of construction of the authorised project must not commence until the following (insofar as relevant to that activity or stage of activity) have been submitted to and approved in writing by the MMO in consultation with, where relevant, Trinity House, the MCA and the UK Hydrographic Office—

- (a) A design plan or plans prepared in accordance with the layout principles at a scale of between 1:25,000 and 1:50,000, or in such other format as may be appropriate, including detailed representation on the most suitably scaled chart, which shows, for the relevant stage—
  - (i) the proposed location, including grid co-ordinates of the centre point of the proposed location for each offshore electrical installation within the relevant stage, subject to any micro-siting required due to anthropological constraints, environmental constraints or difficult ground conditions discovered post approval under this condition and choice of foundation of all offshore electrical installations within the relevant stage;
  - (ii) the height, length and width of all offshore electrical installations (including any antennae) within the relevant stage;
  - (iii) the length and arrangement of all cables comprised in Work Nos. 2, 3, and 5 within the relevant stage;
  - (iv) the dimensions of all monopile foundations, mono suction bucket foundations, jacket foundations, gravity base structures, pontoon gravity base type 1 structures and pontoon gravity base type 2 structures;
  - (v) the proposed layout of all offshore electrical installations including any exclusion zones identified under sub-paragraph 13(2)(d); and
  - (vi) any exclusion zones or micrositing requirements identified in any mitigation scheme pursuant to sub-paragraph 13(2)(d) or relating to any habitats of principal importance identified as part of surveys undertaken in accordance with condition 17,to ensure conformity with the description of Work Nos. 2, 3, 4 and 5 and compliance with conditions 1, 2 and 3 above;

- (b) a construction programme to include details for the relevant stage of—
  - (i) the proposed construction start date;
  - (ii) proposed timings for mobilisation of plant delivery of materials and installation works; and
  - (iii) an indicative written construction programme for all offshore electrical installations and electrical circuits comprised in the works at paragraph 2 of Part 1 (licensed marine activities) of this Schedule (insofar as not shown in sub-paragraph (ii) above),  
unless otherwise agreed in writing with the MMO;
- (c) a construction method statement in accordance with the construction methods assessed in the environmental statement and including details for the relevant stage of—
  - (i) foundation installation methodology, including drilling methods and disposal of drill arisings and material extracted during seabed preparation for foundation works and having regard to any mitigation scheme pursuant to sub-paragraph 13(1)(f);
  - (ii) advisory safe passing distances for vessels around construction sites;
  - (iii) cable (including fibre optic cable) installation;
  - (iv) contractors;
  - (v) vessels and vessels transit corridors;
  - (vi) codes of conduct for vessel operators;
  - (vii) associated ancillary works;
  - (viii) guard vessels to be employed;
  - (ix) details of means to address impacts on European sites, habitats of principal importance and any international or nationally designated sites, where relevant; and
  - (x) measures to ensure appropriate co-ordination with the Marine Helicopter Coordination Centre;
- (d) a construction project environmental management and monitoring plan covering the period of construction of the relevant stage to include details of—
  - (i) a marine pollution contingency plan to address the risks, methods and procedures to deal with and report any spills and collision incidents of the authorised project in relation to all activities carried out;
  - (ii) a chemical risk review to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance;
  - (iii) a marine biosecurity plan detailing how the risk of introduction and spread of invasive non-native species will be minimised;
  - (iv) waste management and disposal arrangements;
  - (v) a vessel management plan, to determine vessel routing to and from construction sites and ports, to include a code of conduct for vessel operators; and
  - (vi) the appointment and responsibilities of a company fisheries liaison officer;
- (e) a scour protection management plan for the relevant stage providing details of the need, type, sources, quantity and installation methods for scour protection, which plan must be updated and resubmitted in writing for approval if changes to it are proposed following cable laying operations;
- (f) details for the relevant stage of proposed pre-construction surveys, construction monitoring, post-construction monitoring and related reporting in accordance with conditions 17, 18 and 19;
- (g) in the event that driven or part-driven pile foundations are proposed to be used for the relevant stage, a piling marine mammal mitigation protocol for that stage, in accordance with the outline marine mammal mitigation protocol, the intention of which is to prevent

injury to marine mammals, including details of soft start procedures with specified duration periods following current best practice as advised by the relevant statutory nature conservation bodies;

- (h) a cable specification and installation plan for the relevant stage which accords with the principles of the outline cable specification and installation plan, to include—
  - (i) technical specification of offshore cables (including fibre optic cable) below MHWS within that stage, including a desk-based assessment of attenuation of electromagnetic field strengths, shielding and cable burial depth in accordance with good industry practice;
  - (ii) a detailed cable laying plan for the Order limits within that stage, incorporating a burial risk assessment encompassing the identification of any cable protection that exceeds 5% of navigable depth referenced to Chart Datum and, in the event that any area of cable protection exceeding 5% of navigable depth is identified, details of any steps (to be determined following consultation with the MCA and Trinity House) to be taken to ensure existing and future safe navigation is not compromised or similar such assessment to ascertain suitable burial depths and cable laying techniques, including cable protection;
  - (iii) proposals for the volume and areas of cable protection to be used for each cable crossing, and proposals for timing and methodology for reporting on actual volumes and areas post construction within that stage; and
  - (iv) proposals for monitoring offshore cables within that stage including cable protection during the operational lifetime of the authorised project which includes a risk based approach to the management of unburied or shallow buried cables;
- (i) an aids to navigation management plan for that stage to be agreed in writing by the MMO following consultation with Trinity House, to include details of how the undertaker will comply with the provisions of condition 8 relating to that stage for the lifetime of the authorised project; and
- (j) in the event that driven or part-driven pile foundations are proposed to be used, the licensed activities, or any relevant stage of those activities must not commence until a site integrity plan for that stage which accords with the principles set out in the outline southern north sea special area of conservation site integrity plan has been submitted in writing to the MMO and the MMO is satisfied that the plan provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Offshore Regulations) of a relevant site, to the extent that harbour porpoise are a protected feature of that site.

(2) Subject to condition 13(3) the licensed activities or any relevant stage of those activities must not commence unless no later than six months prior to the commencement of a relevant stage a marine written scheme of archaeological investigation for the stage of construction has been submitted to and approved by the MMO in writing, in accordance with the outline marine written scheme of investigation, and in accordance with industry good practice, in consultation with the statutory historic body to include—

- (a) details of responsibilities of the undertaker, archaeological consultant and contractor;
- (b) a method statement for further site investigation including any specifications for geophysical, geotechnical and diver or remotely operated vehicle investigations;
- (c) archaeological analysis of survey data, and timetable for reporting, which is to be submitted to the MMO within six months of any survey being completed;
- (d) delivery of any mitigation including, where necessary, identification and modification of archaeological exclusion zones prior to construction;
- (e) monitoring of archaeological exclusion zones during and post construction;
- (f) a requirement for the undertaker to ensure that a copy of any agreed archaeological report is deposited with the National Record of the Historic Environment, by submitting a Historic England OASIS ('online access to the index of archaeological investigations') form with a digital copy of the report within six months of completion of construction of

the authorised project, and to notify the MMO (and East Riding of Yorkshire Council where the report relates to the intertidal area) that the OASIS form has been submitted to the National Record of the Historic Environment within two weeks of submission;

- (g) a reporting and recording protocol, designed in reference to the Offshore Renewables Protocol for Reporting Archaeological Discoveries as set out by the Crown Estate and reporting of any wreck or wreck material during construction, operation and decommissioning of the authorised project; and
- (h) a timetable for all further site investigations, which must allow sufficient opportunity to establish a full understanding of the historic environment within the offshore Order limits and the approval of any necessary mitigation required as a result of the further site investigations prior to commencement of licensed activities.

(3) Pre-construction archaeological investigations and pre-commencement material operations which involve intrusive seabed works must only take place in accordance with a written scheme of investigation specific to the relevant pre-construction activities (which must accord with the details set out in the outline marine written scheme of investigation) which has been submitted to and approved by the MMO in consultation with the statutory historic body.

(4) In the event that driven or part-driven pile foundations are proposed to be used, the hammer energy used to drive or part-drive monopile foundations must not exceed 5,000kJ and the hammer energy used to drive or part-drive pin pile foundations must not exceed 3,000kJ.

(5) No more than two vessels may be engaged at any time in activities related to piling for the licenced activities. There will only be maximum installation of two piled foundations within a 24-hour period. It is possible for installation of the two piled foundations to occur concurrently i.e. within a 24-hour period at up to two locations within the area of Work No. 3(a) or up to two locations within the array. The two piled foundation locations may also be piled simultaneously.

(6) The licensed activities or any part of those activities must not commence until a fisheries coexistence and liaison plan in accordance with the outline fisheries coexistence and liaison plan has been submitted to and approved by the MMO in writing.

(7) The undertaker must, before submitting any pre-construction plans and documentation required under this condition, provide a copy of the plans and documentation to any other undertaker to whom part of the benefit of this Order has been transferred or leased pursuant to article 5 (benefit of the Order) of the Order.

(8) The undertaker to whom part of the benefit of the Order has been transferred or leased pursuant to article 5 (benefit of the Order) must provide any comments on the plans and documentation to the undertaker within 14 days of receipt.

(9) The undertaker and any other undertaker must participate in liaison meetings as requested from time to time by the MMO in writing in advance and must consider such matters as are determined by the MMO relating to the efficient operation of a deemed marine licence issued under this Order (including as varied or transferred).

**14.—**(1) Except where otherwise stated or agreed in writing with the MMO, each programme, statement, plan, protocol or scheme required to be approved under condition 13 (save for that required under condition 13(1)(f)) must be submitted for approval at least four months prior to the intended commencement of the relevant stage of the licensed activities, save for the following documents, which must be submitted to the MMO for approval at least six months prior to the intended commencement of the relevant stage of the licenced activities—

- (a) marine written scheme of archaeological investigation pursuant to condition 13(2);
- (b) fisheries coexistence and liaison plan pursuant to condition 13(6);
- (c) design plan pursuant to condition 13(1)(a); and
- (d) cable specification and installation plan pursuant to condition 13(1)(h).

(2) The pre-construction monitoring surveys, construction monitoring, post-construction monitoring and related reporting required under condition 13(1)(f) must be submitted in accordance with the following, unless otherwise agreed in writing with the MMO—



- (a) at least four months prior to the first survey of the relevant stage, detail of any pre-construction surveys and an outline of all proposed monitoring;
- (b) at least four months prior to construction of the relevant stage, detail on construction monitoring; and
- (c) at least four months prior to commissioning of the relevant stage, detail of post-construction (and operational) monitoring.

(3) The MMO must determine an application for consent made under Condition 13 within a period of four months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker such agreement not to be unreasonably withheld or delayed.

(4) The licensed activities for the relevant stage must be carried out in accordance with the approved plans, protocols, statements, schemes and details approved under condition 13, unless otherwise agreed in writing by the MMO.

(5) The plans, protocols, statements, scheme and details submitted under condition 13 must ensure that any residual effects fall within the scope of those predicted in the environmental statement.

### **Offshore safety management**

**15.** No stage of the authorised project may commence until the MMO, in consultation with the MCA, has confirmed in writing that the undertaker has taken into account and, so far as is applicable to that stage of the authorised project adequately addressed all MCA recommendations as appropriate to the authorised project contained within MGN654 “Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues” and its annexes.

### **Reporting of engaged agents, contractors and vessels**

**16.—**(1) The undertaker must provide the following information to the MMO—

- (a) the name, company number, address and function of any agent, contractor or sub-contractor appointed to engage in the licensed activities not less than ten working days prior to such agent or contractor commencing any licensed activity; and
- (b) each week during the construction of the authorised project a list of the vessels currently and to be used in relation to the licensed activities, including the master’s name, vessel IMO number and vessel owner or operating company.

(2) Any changes to the supplied details must be notified to the MMO in writing prior to the agent, contractor or vessel engaging in the licensed activities.

(3) The undertaker must notify the MMO in writing not less than 24 hours prior to the commencement of major component exchanges, ladder replacements or cable related works—

- (a) any agents, contractors or subcontractors that will carry out such works; and
- (b) any vessel proposed to be used for such works, including the master’s name, vessel type, vessel IMO number and vessel owner or operating company.

### **Pre-construction monitoring and surveys**

**17.—**(1) The undertaker must, in discharging condition 13(1)(f), for each stage of construction submit a monitoring plan or plans for that stage in accordance with an outline marine monitoring plan for written approval by the MMO in consultation with the relevant statutory bodies, which will contain details of proposed surveys, including methodologies and timings, and a proposed format and content for a pre-construction baseline report, and;

- (a) the survey proposals must be in accordance with the principles set out in the outline marine monitoring plan and must specify each survey’s objectives and explain how it will assist in either informing a useful and valid comparison with the post-construction

position or will enable the validation or otherwise of key predictions in the environmental statement; and

- (b) the baseline report proposals must ensure that the outcome of the agreed surveys together with existing data and reports are drawn together to present a valid statement of the preconstruction position, with any limitations, and must make clear what post-construction comparison is intended and the justification for this being required.

(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition the pre-construction surveys must comprise, in outline—

- (a) a full sea floor coverage swath-bathymetry survey that meets the requirements of IHO S44ed5 Order 1a of the Order limits and an appropriate buffer outside to—
- (i) determine the location, extent and composition of any biogenic or geogenic reef features, as set out within the outline marine monitoring plan;
  - (ii) inform future navigation risk assessments as part of the cable specification and installation plan; and
  - (iii) inform the identification of any archaeological exclusion zone and post consent monitoring of any such archaeological exclusion zone.
- (b) a bathymetric survey that meets the requirements of IHO S44ed5 Order 1a of the area within the following coordinates—

<i>Development area node point</i>	<i>WGS84 UTM Zone 31N (metres)</i>		<i>WGS84 (DMS)</i>		<i>WGS84 (decimal degrees)</i>	
	<i>Easting</i>	<i>Northing</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Latitude</i>	<i>Longitude</i>
1	401818	5992480	54° 4' 16.157" N	1° 29' 58.386" E	54.07115	1.49955
2	411109	5984944	54° 0' 18.479" N	1° 38' 37.320" E	54.00513	1.64370
3	397695	5985627	54° 0' 31.626" N	1° 26' 19.993" E	54.00878	1.43889
4	397800	5978992	53° 56' 57.085" N	1° 26' 33.766" E	53.94919	1.44271
5	387657	5983579	53° 59' 17.868" N	1° 17' 11.556" E	53.98830	1.28654
6	401818	5992480	54° 4' 16.157" N	1° 29' 58.386" E	54.07115	1.49955

(3) The pre-construction survey(s) carried out pursuant to condition 17(2)(a)(ii) and 17(2)(b) must fulfil the requirements of MGN654 and its supporting 'Hydrographic Guidelines for Offshore Renewable Energy Developer' (as relevant).

(4) The undertaker must carry out the surveys specified within the monitoring plan or plans in accordance with that plan or plans, unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.

(5) Following completion of a survey carried out pursuant to this condition and prior to construction of the relevant stage, the undertaker must provide a report and full density data of the survey outcomes to the MMO, the relevant statutory nature conservation body, the MCA and UK Hydrographic Office (as relevant).

### **Construction monitoring**

**18.—**(1) The undertaker must in discharging condition 13(1)(f) for each stage of construction submit a construction monitoring plan or plans for that stage in accordance with an outline marine monitoring plan for written approval by the MMO in consultation with the relevant statutory nature conservation body, which will include details of any proposed construction monitoring,

including methodologies and timings, and a proposed format, content and timings for providing reports on the results. The survey proposals must be in accordance with the principles set out in the outline marine monitoring plan and must specify each survey's objectives and explain how it will assist in either informing a useful and valid comparison with the pre-construction position and/or will enable the validation or otherwise of key predictions in the environmental statement.

(2) Subject to receipt from the undertaker of specific proposals pursuant to this condition the construction monitoring plan must include in outline details of—

- (a) vessel traffic monitoring by automatic identification system for the duration of the construction period, with provision for a report to be submitted to the MMO, Trinity House, and the MCA annually during the construction period for the authorised development; and
- (b) where piled foundations are to be employed, unless otherwise agreed by the MMO in writing, details of proposed monitoring of the noise generated by the installation of the first four piled foundations of each piled foundation type to be constructed collectively under this licence and the licence granted under Schedule 11 of the Order.

(3) The results of the initial noise measurements monitored in accordance with sub-paragraph 18(2)(b) must be provided in writing to the MMO within six weeks of the installation (unless otherwise agreed) of the first four piled foundations of each piled foundation type. The assessment of this report by the MMO will determine whether any further noise monitoring is required. If, in the opinion of the MMO in consultation with the statutory nature conservation body, the assessment shows impacts significantly in excess to those assessed in the environmental statement and there has been a failure of the mitigations set out in the marine mammal mitigation protocol, all piling activity must cease until an update to the marine mammal mitigation protocol and further monitoring requirements have been agreed.

(4) The undertaker must carry out the surveys specified within the construction monitoring plan or plans in accordance with that plan or plans, including any further noise monitoring required in writing by the MMO under condition 18(3) unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.

### **Post-construction monitoring**

**19.**—(1) The undertaker must in discharging condition 13(1)(f) for each stage of construction submit a post-construction monitoring plan or plans for that stage in accordance with an outline marine monitoring plan for written approval by the MMO in consultation with the relevant statutory nature conservation body including details of proposed post-construction surveys, including methodologies (including appropriate buffers, where relevant) and timings, and a proposed format, content and timings for providing reports on the results. The survey proposals must be in accordance with the principles set out in the outline marine monitoring plan and must specify each survey's objectives and explain how it will assist in either informing a useful and valid comparison with the pre-construction position and/or will enable the validation or otherwise of key predictions in the environmental statement.

(2) Subject to receipt of specific proposals the post-construction survey plan or plans must include, in outline—

- (a) details of a survey to determine any change in the location, extent and composition of any biogenic or geogenic reef feature identified in the pre-construction survey in the parts of the offshore Order limits in which construction works were carried out. The survey design must be informed by the results of the pre-construction benthic survey;
- (b) a bathymetric survey to monitor the effectiveness of archaeological exclusion zones. The data will be analysed by an accredited archaeologist as defined in the offshore written scheme of investigation required under condition 13(2);
- (c) vessel traffic monitoring by automatic identification system for a duration of three consecutive years following the completion of construction of the authorised project, unless otherwise agreed in writing by the MMO, with provision for a report to be submitted annually to the MMO, Trinity House, and the MCA; and

- (d) a bathymetry survey of the installed export cable that meets the requirements of IHO S44ed5 Order 1a and MGN654 Annex 4 ‘Hydrography Guidelines for Offshore Renewable Energy Developers’.

(3) The undertaker must carry out the surveys specified within the post-construction monitoring plan or plans in accordance with that plan or plans, and provide the agreed reports in the agreed format unless otherwise agreed in writing by the MMO in consultation with the relevant statutory nature conservation body.

(4) Within 12 weeks of completion of any cable repair or replacement works, the undertaker must undertake a post installation survey along the section of cable that has undergone repair or replacement to demonstrate the successful burial of the cable, and submit a report to the MMO on its findings.

### **Timing of monitoring report**

20. Any monitoring report compiled in accordance with the monitoring plans provided under conditions 17, 18 and 19 must be provided to the MMO no later than four months following receipt by the undertaker of the results of the monitoring to which it relates, unless otherwise agreed with the MMO in writing.

### **Reporting of impact pile driving**

21.—(1) Only when driven or part-driven pile foundations are proposed to be used as part of the foundation installation the undertaker must provide the following information to the Marine Noise Registry—

- (a) prior to the commencement of the licensed activities, information on the expected location, start and end dates of impact pile driving to satisfy the Marine Noise Registry’s Forward Look requirements;
- (b) at six month intervals following the commencement of pile driving, information on the locations and dates of impact pile driving to satisfy the Marine Noise Registry’s Close Out requirements; and
- (c) within 12 weeks of completion of impact pile driving, information on the locations and dates of impact pile driving to satisfy the Marine Noise Registry’s Close Out requirements.

(2) The undertaker must notify the MMO in writing of the successful submission of Forward Look or Close Out data pursuant to sub-paragraph (1) above within 7 days of the submission.

(3) For the purpose of this condition “Forward Look” and “Close Out” means the requirements as set out in the UK Marine Noise Registry Information Document Version 1 (July 2015) as amended, updated or superseded from time to time.

### **HVAC booster station lighting plan**

22. The undertaker must ensure that all HVAC booster stations are lit in accordance with the HVAC booster station lighting plan.

### **Piling restriction**

23. In the event that driven or part driven pile foundations are to be used to install Work No. 3, no impact piling may be undertaken between 21<sup>st</sup> August and 23<sup>rd</sup> October each year within the area of Work No. 3 as shown on the offshore works plans unless otherwise agreed in writing by the MMO after consultation with the relevant statutory nature conservation body.

### **Maintenance reporting**

**24.**—(1) An annual maintenance report must be submitted to the MMO in writing within one month following the first anniversary of the date of commencement of operations, and every year thereafter until permanent cessation of operation.

(2) The report must provide a record of the licensed activities as set out in condition 4 during the preceding year, the timing of activities and methodologies used.

(3) Every fifth year, the undertaker must submit to the MMO in writing, within one month of that date, a consolidated maintenance report, which will—

- (a) include a review of licensed activities undertaken during the preceding five years with reference to the reports submitted in accordance with condition 24(1) of this licence;
- (b) reconfirm the applicability of the methodologies and frequencies of the licensable activities permitted by this licence for the remaining duration of this licence.

### **Stages of construction**

**25.**—(1) The licenced activities must not be commenced until a written scheme setting out the stages of construction of the authorised development seaward of MHWS has been submitted to and approved by the MMO in writing.

(2) The stages of construction referred to in sub-paragraph (1) will not permit the authorised development to be constructed in more than one overall phase.

(3) The scheme must be implemented as approved.

(4) The written scheme referred to in sub-paragraph (1) must be submitted to the MMO in writing four months prior to the planned commencement of the licenced activities.

### **Completion of construction**

**26.** The undertaker must submit a close out report to the MCA and the UK Hydrographic Office within three months of the date of completion of construction. The close out report must confirm the date of completion of construction and must include the following—

- (a) a plan of the layout of installed export and inter-array cables, offshore substations and booster stations; and
- (b) latitude and longitude coordinates of the location of export and inter-array cables, offshore substations and booster stations, provided as Geographical Information System data referenced to WGS84 datum.

### **Deployment of cable protection**

**27.** Any cable protection authorised under this licence must be deployed within 15 years from the date of the grant of the order unless otherwise agreed by the MMO in writing.

## SCHEDULE 13

### MODIFICATIONS TO AND AMENDMENTS OF THE DOGGER BANK CREYKE BECK OFFSHORE WIND FARM ORDER 2015

#### Schedule 12 to the Dogger Bank Creyke Beck Offshore Wind Farm Order 2015

1. After Part 5 of Schedule 12 insert new Part 6—

#### “PART 6

#### PROTECTION OF ORSTED HORNSEA PROJECT FOUR LIMITED

##### Application

1. The following provisions of this Part of this Schedule will have effect unless otherwise agreed in writing between the undertaker and Hornsea Four.

##### Interpretation

2. In this Part of this Schedule—

“acceptable insurance” means a third party liability insurance effected and maintained by the undertaker to a level of not less than £50,000,000 (fifty million pounds) (or such lower amount as may be agreed by Hornsea Four) per occurrence or series of occurrences arising out of one event. Such insurance shall be maintained for the construction period of the authorised development which constitute specified works and arranged with an internationally recognised insurer of repute operating in the London and worldwide insurance market underwriters whose security/credit rating meets the same requirements as an “acceptable credit provider”, such policy shall include (but without limitation)—

- (a) Hornsea Four as a Co-Insured;
- (b) a cross liabilities clause; and
- (c) contractors’ pollution liability for third party property damage and third party bodily damage arising from a pollution/contamination event with cover of £10,000,000.00 (ten million pounds) per event or £20,000,000.00 (twenty million pounds) in aggregate;

“ground mitigation scheme” means a scheme approved by Hornsea Four (such approval not to be unreasonably withheld or delayed) setting out the necessary measures (if any) for a ground subsidence event;

“ground monitoring scheme” means a scheme for monitoring ground subsidence which sets out the Hornsea Four authorised development which is to be subject to such monitoring, the extent of land to be monitored, the manner in which ground levels are to be monitored, the timescales of any monitoring activities and the extent of ground subsidence which, if exceeded, shall require the undertaker to submit for Hornsea Four’s approval a ground mitigation scheme;

“ground subsidence event” means any ground subsidence identified by the monitoring activities set out in the ground monitoring scheme that has exceeded the level described in the ground monitoring scheme as requiring a ground mitigation scheme; and

“the Hornsea Four authorised development” means the onshore development authorised by the Hornsea Four Order;

“the Hornsea Four Order” means the Hornsea Four Offshore Wind Farm Order 202\*;

“the Hornsea Four Order land” has the same meaning as the term “Order land” in article 2(1) of the Hornsea Four Order;

“Hornsea Four” means Orsted Hornsea Project Four Limited, (Company No. 08584182) whose registered office is at 5 Howick Place, London, England, SW1P 1WG or any person having the benefit of the Hornsea Four Order pursuant to article 5 thereof;

“the Order” means this Order;

“the respective authorised developments” means the developments authorised by the Order and the Hornsea Four Order respectively; and

“specified works” means the carrying out of any of the authorised development over, under or within 15 metres of the Hornsea Four authorised development or in the event that the Hornsea Four authorised development has not been constructed within the Hornsea Four Order land.

### **Regulation of powers over the Hornsea Four Order land**

**3.**—(1) The undertaker may not exercise the powers under any of the articles of the Order specified in sub-paragraph (2) over or in respect of the Hornsea Four Order land otherwise than with the prior written consent of Hornsea Four.

(2) The articles referred to in sub-paragraph (1) are—

- (a) article 13 (street works);
- (b) article 14 (temporary stopping up of streets);
- (c) article 15 (access to works);
- (d) article 17 (discharge of water);
- (e) article 19 (authority to survey and investigate land);
- (k) article 28 (rights under or over streets);
- (l) article 29 (temporary use of land for carrying out authorised project);
- (m) article 30 (temporary use of land for maintaining authorised development); and
- (o) article 36 (felling or lopping of trees and removal of hedgerows).

(3) In the event that Hornsea Four withholds its consent pursuant to sub-paragraph (1) it will notify the undertaker in writing of the reasons for withholding such consent and (if applicable) the time period during which such consent will be withheld.

### **Co-operation**

**4.** Wherever in this Part of this Schedule provision is made with respect to the approval or consent of Hornsea Four, that approval or consent shall be in writing (and subject to such reasonable terms and conditions as the undertaker may require), but shall not be unreasonably withheld.

**5.** In the event that Hornsea Four does not respond in writing to a request for approval or consent within 28 days of receipt of such a request, Hornsea Four is deemed to have given its consent (without any terms or conditions).

**6.** Insofar as the construction of the respective authorised developments is or may be undertaken concurrently, the undertaker shall—

- (a) co-operate with Hornsea Four with a view to ensuring—
  - (i) the co-ordination of construction programming and the carrying out of works; and
  - (ii) that access for the purposes of constructing the respective authorised developments is maintained for the undertaker and Hornsea Four and their respective contractors; and

- (b) use reasonable endeavours to avoid any conflict arising between the carrying out of the respective authorised developments.

7. Insofar as the construction of the authorised development gives rise to the need to modify any scheme secured by a requirement contained in Part 3, Schedule 1 to the Hornsea Four Order, the undertaker will provide such assistance as is reasonably necessary to support Hornsea Four in pursuing any such modification.

### **Requirements**

8. Insofar as compliance with paragraph 3(1) of this Part prevents the undertaker from complying with any requirement contained in Part 2 of Schedule 1 to the Order, the undertaker will not be in breach of such requirement for the time period specified in paragraph 3(3).

9. In the event that paragraph 8 applies, the undertaker will provide the relevant planning authority with a copy of the reasons given by Hornsea Four for refusing consent and the time period pursuant to paragraph 3(3).

10. It will be a defence for any person charged with an offence pursuant to section 161 of the Planning Act 2008 (Breach of terms of order granting development consent) to prove that they were not able to comply with a requirement contained in Part 2 of Schedule 1 to the Order due to the effect of paragraph 3 of this Part.

### **Protection of Hornsea Four**

11.—(1) Not less than 56 days before the commencement of any specified works the undertaker must submit to Hornsea Four a plan and, if reasonably required by Hornsea Four, a ground monitoring scheme in respect of those works.

(2) The plan to be submitted to Hornsea Four under sub-paragraph (1) must include a method statement and describe—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant etc.;
- (d) the position of all Hornsea Four authorised development;
- (e) by way of detailed drawings, every alteration proposed to be made to or close to any of the Hornsea Four authorised development; and
- (f) any intended maintenance regimes.

(3) The undertaker must not commence any works to which sub-paragraphs (1) and (2) apply until Hornsea Four has given written approval of the plan so submitted.

(4) Any approval of Hornsea Four required under sub-paragraph (3)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (5) or (7); and,
- (b) must not be unreasonably withheld.

(5) In relation to a work to which sub-paragraphs (1) and/or (2) apply, Hornsea Four may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing the Hornsea Four authorised development against interference or risk of damage or for the provision of protective works or for the purpose of providing or securing proper and convenient means of access to any of the Hornsea Four authorised development.

(6) Works to which this paragraph applies must only be executed in accordance with the plan, submitted under sub-paragraphs (1) and (2) or as relevant sub-paragraph (5), as amended from time to time by agreement between the undertaker and Hornsea Four and in



accordance with such reasonable requirements as may be made in accordance with sub-paragraphs (5) and/or (7) by Hornsea Four for the alteration or otherwise for the protection of the Hornsea Four authorised development, or for securing access to it, and Hornsea Four will be entitled to watch and inspect the execution of those works.

(7) Where Hornsea Four requires any protective works to be carried out by itself or by the undertaker (whether of a temporary or permanent nature) such protective works, inclusive of any measures or schemes required and approved as part of the plan approved pursuant to this paragraph, must be carried out to Hornsea Four's satisfaction prior to the commencement of any specified works for which protective works are required and Hornsea Four must give notice of its requirement for such protective works within 42 days of the date of submission of a plan pursuant to this paragraph (except in an emergency).

(8) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any specified works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph will apply to and in respect of the new plan.

(9) The undertaker will not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it must give to Hornsea Four notice as soon as is reasonably practicable and a plan of those works and must—

- (a) comply with sub-paragraphs (5), (6) and (7) insofar as is reasonably practicable in the circumstances; and
- (b) comply with sub-paragraph (10) at all times.

(10) As soon as reasonably practicable after any ground subsidence event attributable to the authorised development the undertaker shall implement an appropriate ground mitigation scheme save that Hornsea Four retains the right to carry out any further necessary protective works for the safeguarding of its apparatus and can recover any such costs in line with paragraph 12.

## **Expenses**

**12.** Save where otherwise agreed in writing between Hornsea Four and the undertaker and subject to the following provisions of this paragraph, the undertaker must pay to Hornsea Four within 30 days of receipt of an itemised invoice or claim from Hornsea all charges, costs and expenses reasonably incurred by Dogger Bank in, or in connection with this Part of this Schedule including without limitation—

- (a) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works;
- (b) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Part of this Schedule.

## **Indemnity**

**13.**—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any works authorised by this Part of this Schedule or in consequence of the construction, use, maintenance or failure of any of the onshore elements of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by him) in the course of carrying out the onshore elements of the authorised development (including without limitation works carried out by the undertaker under this Part of this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or property of Hornsea Four, or there is any interruption in any service provided, or in the supply of any goods, by Hornsea Four, or Hornsea Four becomes liable to pay any amount to any third party, the undertaker will—

- (a) bear and pay on demand accompanied by an invoice or claim from Hornsea Four the cost reasonably and properly incurred by Hornsea Four in making good such damage or restoring the supply; and
- (b) indemnify Hornsea Four for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from Hornsea Four, by reason or in consequence of any such damage or interruption or Hornsea Four becoming liable to any third party as aforesaid other than arising from any default by Hornsea Four.

(2) The fact that any act or thing may have been done by Hornsea Four on behalf of the undertaker or in accordance with a plan approved by Hornsea Four or in accordance with any requirement of Hornsea Four as a consequence of the onshore elements of the authorised development or under its supervision will not (unless sub-paragraph (3) applies), excuse the undertaker from liability under the provisions of this sub-paragraph (2) where the undertaker fails to carry out and execute the works properly with due care and attention and in a skilful and workman like manner or in a manner that does not accord with the approved plan or as otherwise agreed between the undertaker and Hornsea Four.

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker in respect of any damage or interruption to the extent that it is attributable to the neglect or default of Hornsea Four, its officers, servants, contractors or agents.

(4) Hornsea Four must give the undertaker reasonable notice of any such claim or demand and no settlement, admission of liability or compromise or demand must be made, unless payment is required in connection with a statutory compensation scheme without first consulting the undertaker and considering its representations.

(5) Hornsea Four must use its reasonable endeavours to mitigate in whole or in part and to minimise any costs, expenses, loss, demands and penalties to which the indemnity under sub-paragraph (1) applies. If request to do so by the undertaker, Hornsea Four must provide an explanation of how the claim has been minimised. The undertaker is only liable under sub-paragraph (1) for claim reasonably incurred by Hornsea Four.

(6) The undertaker must not commence construction (and must not permit the commencement of such construction) of any specified works until Hornsea Four is satisfied acting reasonably (but subject to all necessary regulatory constraints) that the undertaker or its contractor has procured acceptable insurance (and provided evidence to Hornsea Four that it shall maintain such acceptable insurance for the construction period of the specified works from the proposed date of commencement of construction of the specified works) and Hornsea Four has confirmed the same in writing to the undertaker.

(7) In the event that the undertaker fails to comply with paragraph 13(6) of this Part of this Schedule, nothing in this Part of this Schedule shall prevent Hornsea Four from seeking injunctive relief (or any other equitable remedy) in any court of competent jurisdiction.

### **Arbitration**

**14.**—(1) Any difference or dispute arising between the undertaker and Hornsea Four under this Part of this Schedule shall, unless otherwise agreed in writing between the undertaker and Hornsea Four, be referred to and settled in arbitration in accordance with the Rules at Schedule 14 of the Hornsea Four Order, by a single arbitrator to be agreed upon by the parties within 14 days of receipt of the notice of arbitration, or if the parties fail to agree within the time period stipulated, to be appointed on application of either party (after giving written notice to the other) by the Secretary of State.

(2) Should the Secretary of State fail to appoint an arbitrator under paragraph (1) within 14 days of the application, the referring party may refer to the Centre of Effective Dispute Resolution for appointment of an arbitrator.

(3) Article 4439 (arbitration) will not apply to any difference or dispute under any provision of this Part of this Schedule.

## **Access**

**15.** If in consequence of any specified works approved in accordance with this Part or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker must provide such alternative means of access to such apparatus as will enable Hornsea Four to maintain or use the apparatus no less effectively than was possible before such obstruction.”

## SCHEDULE 14

### ARBITRATION RULES

#### **Primary objective**

1.—(1) The primary objective of these Arbitration Rules is to achieve a fair, impartial, final and binding award on the substantive difference between the parties (save as to costs) within 4 months from the date the arbitrator is appointed pursuant to article 39 of the Order.

(2) The parties will first use their reasonable endeavours to settle a dispute amicably through negotiations undertaken in good faith by the senior management of the parties. Any dispute which is not resolved amicably by the senior management of the parties within twenty (20) working days of the dispute arising, or such longer period as agreed in writing by the parties, will be subject to arbitration in accordance with the terms of this Schedule.

(3) The Arbitration will be deemed to have commenced when a party (“the Claimant”) serves a written notice of arbitration on the other party (“the Respondent”).

#### **Time periods**

2.—(1) All time periods in these Arbitration Rules will be measured in working days and this will exclude weekends, bank holidays and public holidays.

(2) Time periods will be calculated from the day after the arbitrator is appointed which will be either—

- (a) the date the arbitrator notifies the parties in writing of his/her acceptance of an appointment by agreement of the parties; or
- (b) the date the arbitrator is appointed by the Secretary of State.

#### **Timetable**

3.—(1) The timetable for the arbitration will be that set out in sub-paragraphs (2) to (4) below unless amended in accordance with paragraph 5(3).

(2) Within 15 days of the arbitrator being appointed, the Claimant will provide both the Respondent and the arbitrator with—

- (a) a written Statement of Claim which describes the nature of the difference between the parties, the legal and factual issues, the Claimant’s contentions as to those issues, and the remedy it is seeking; and
- (b) all statements of evidence and copies of all documents on which it relies, including contractual documentation, correspondence (including electronic documents), legal precedents and expert witness reports.

(3) Within 15 days of receipt of the Claimant’s statements under sub-paragraph (2) by the arbitrator and Respondent, the Respondent will provide the Claimant and the arbitrator with—

- (a) a written Statement of Defence responding to the Claimant’s Statement of Claim, its statement in respect of the nature of the difference, the legal and factual issues in the Claimant’s claim, its acceptance of any element(s) of the Claimant’s claim, its contentions as to those elements of the Claimant’s claim it does not accept;
- (b) all statements of evidence and copies of all documents on which it relies, including contractual documentation, correspondence (including electronic documents), legal precedents and expert witness reports; and
- (c) any objections it wishes to make to the Claimant’s statements, comments on the Claimant’s expert report(s) (if submitted by the Claimant) and explanations for the objections.

(4) Within 5 days of the Respondent serving its statements sub-paragraph (3), the Claimant may make a Statement of Reply by providing both the Respondent and the arbitrator with—

- (a) a written statement responding to the Respondent's submissions, including its reply in respect of the nature of the difference, the issues (both factual and legal) and its contentions in relation to the issues;
- (b) all statements of evidence and copies of documents in response to the Respondent's submissions;
- (c) any expert report in response to the Respondent's submissions;
- (d) any objections to the statements of evidence, expert reports or other documents submitted by the Respondent; and
- (e) its written submissions in response to the legal and factual issues involved.

## **Procedure**

4.—(1) The arbitrator will make an award on the substantive difference(s) based solely on the written material submitted by the parties unless the arbitrator decides that a hearing is necessary to explain or resolve any matters.

(2) Either party may, within 2 days of delivery of the last submission, request a hearing giving specific reasons why it considers a hearing is required.

(3) Within 5 days of receiving the last submission, the arbitrator will notify the parties whether a hearing is to be held and the length of that hearing.

(4) Within 10 days of the arbitrator advising the parties that he will hold a hearing, the date and venue for the hearing will be fixed by agreement with the parties, save that if there is no agreement the arbitrator will direct a date and venue which he considers is fair and reasonable in all the circumstances. The date for the hearing will not be less than 35 days from the date of the arbitrator's direction confirming the date and venue of the hearing.

(5) A decision will be made by the arbitrator on whether there is any need for expert evidence to be submitted orally at the hearing. If oral expert evidence is required by the arbitrator, then any expert(s) attending the hearing may be asked questions by the arbitrator.

(6) There will be no process of examination and cross-examination of experts, but the arbitrator will invite the parties to ask questions of the experts by way of clarification of any answers given by the expert(s) in response to the arbitrator's questions. Prior to the hearing the procedure for the expert(s) will be that—

- (a) at least 20 days before a hearing, the arbitrator will provide a list of issues to be addressed by the expert(s);
- (b) if more than one expert is called, they will jointly confer and produce a joint report or reports within 10 days of the issues being provided; and
- (c) the form and content of a joint report will be as directed by the arbitrator and must be provided at least 5 days before the hearing.

(7) Within 10 days of a hearing or a decision by the arbitrator that no hearing is to be held the Parties may by way of exchange provide the arbitrator with a final submission in connection with the matters in dispute and any submissions on costs. The arbitrator will take these submissions into account in the award.

(8) The arbitrator may make other directions or rulings as considered appropriate in order to ensure that the parties comply with the timetable and procedures to achieve an award on the substantive difference within 4 months of the date on which they are appointed, unless both parties otherwise agree to an extension to the date for the award.

(9) If a party fails to comply with the timetable, procedure or any other direction then the arbitrator may continue in the absence of a party or submission or document, and may make a decision on the information before them attaching the appropriate weight to any evidence submitted beyond any timetable or in breach of any procedure and/or direction.

(10) The arbitrator's award will include reasons. The parties will accept that the extent to which reasons are given will be proportionate to the issues in dispute and the time available to the arbitrator to deliver the award.

### **Arbitrator's powers**

**5.**—(1) The arbitrator has all the powers of the Arbitration Act 1996<sup>(a)</sup>, including the non-mandatory sections, save where modified by these Arbitration Rules.

(2) There will be no discovery or disclosure, except that the arbitrator will have the power to order the parties to produce such documents as are reasonably requested by another party no later than the Statement of Reply, or by the arbitrator, where the documents are manifestly relevant, specifically identified and the burden of production is not excessive. Any application and orders should be made by way of a Redfern Schedule without any hearing.

(3) Any time limits fixed in accordance with this procedure or by the arbitrator may be varied by agreement between the parties, subject to any such variation being acceptable to and approved by the arbitrator. In the absence of agreement, the arbitrator may vary the timescales and/or procedure—

- (a) if the arbitrator is satisfied that a variation of any fixed time limit is reasonably necessary to avoid a breach of the rules of natural justice and then;
- (b) only for such a period that is necessary to achieve fairness between the parties.

(4) On the date the award is made, the arbitrator will notify the parties that the award is completed, signed and dated, and that it will be issued to the parties on receipt of cleared funds for the arbitrator's fees and expenses.

### **Costs**

**6.**—(1) The costs of the Arbitration will include the fees and expenses of the arbitrator, the reasonable fees and expenses of any experts and the reasonable legal and other costs incurred by the parties for the Arbitration.

(2) Subject to sub-paragraph (3), the arbitrator will award recoverable costs on the general principle that each party should bear its own costs.

(3) The arbitrator may depart from the general principle in sub-paragraph (2) and make such other costs award as it considers reasonable where a party has behaved unreasonably as defined within the National Planning Practice Guidance or such other guidance as may replace it.

### **Confidentiality**

**7.**—(1) Subject to sub-paragraphs (2) and (3), any arbitration hearing and documentation will be open to and accessible by the public.

(2) The arbitrator may direct that the whole or part of a hearing is to be private or any documentation to be confidential where it is necessary in order to protect commercially sensitive information.

(3) Nothing in this paragraph will prevent any disclosure of a document by a party pursuant to an order of a court in England and Wales or where disclosure is required under any enactment.

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(a) 1996 c.23.

**SCHEDULE 15**  
**DOCUMENTS TO BE CERTIFIED**

**PART 1**

**DOCUMENTS FORMING THE ENVIRONMENTAL STATEMENT TO BE CERTIFIED**

<i>(1)</i> <i>Application Document No.</i>	<i>(2)</i> <i>Examination Library Reference</i>	<i>(3)</i> <i>Document Description</i>	<i>(4)</i> <i>Version</i>	<i>(5)</i> <i>Date</i>
A1, A2 and A3	APP-006 to APP-034	The environmental statement	1	8 October 2021
A4	APP-035 to APP-066	Figures	1	8 October 2021
A5 and A6	APP-067 to APP-128	Technical Appendices	1	8 October 2021

**PART 2**

**EXAMINATION DOCUMENTS FORMING PART OF THE ENVIRONMENTAL STATEMENT TO BE CERTIFIED**

<i>(1)</i> <i>Application Document No. (and relevant ES Chapters)</i>	<i>(2)</i> <i>Examination Library Reference (and relevant ES Chapter reference)</i>	<i>(3)</i> <i>Document Description</i>	<i>(4)</i> <i>Version</i>	<i>(5)</i> <i>Date</i>
A2.2	REP7-0[XX]	Benthic and Intertidal Ecology	2	10 August 2022
A5.2.1.1	REP7-0[XX]	Benthic Intertidal Ecology Technical Report	2	10 August 2022
A2.6	REP5-004	Commercial Fisheries	2	20 June 2022
A4.4.4	REP6-004	Dredging and disposal site	2	27 July 2022
A3.3.1	AS-008	Ecology and Nature Conservation Schedule of Change	1	17 January 2022
A1.5.1	AS-007	Environmental Impact Assessment Methodology Schedule of Change	1	17 January 2022
G1.2	AS-020	Environmental Risk Assessment of the Onshore Substation and Energy Balancing Infrastructure	1	17 January 2022
A6.4.1	REP5-010	Landscape and visual resources wireframes and photomontages	2	20 June 2022

A5.7.1	REP4-009	Navigational risk assessment part 1	2	10 May 2022
A5.7.1	REP4-011	Navigational risk assessment part 2	2	10 May 2022
A5.7.1	REP4-013	Navigational risk assessment part 3	2	10 May 2022
A5.11.1	REP3-005	Offshore installation interfaces part 1	2	21 April 2022
A5.11.1	REP2-059	Offshore installation interfaces part 2	2	29 March 2022
A5.5.2	REP2-003	Offshore ornithology displacement analysis	2	29 March 2022
A5.5.5.1	AS-010	Offshore Ornithology Migratory Birds report Schedule of Change	1	17 January 2022
G5.25	REP6-028	Ornithology Environmental Impact Assessment (EIA) and Habitats Regulation Assessment (HRA) Revision 2	3	27 July 2022
A4.4.8	REP6-006	Pro-rata Annex Revision 4	4	27 July 2022
NTS1.1.1	AS-022	Response to post-Acceptance s51 advice: NTS1.1.1 Non Technical Summary of Schedule of Change	1	17 January 2022
G5.9	REP5a-009	Revised Ornithology Baseline Revision 2	2	4 July 2022
A2.7	REP5-006	Shipping and Navigation	2	20 June 2022
A1.4	REP7-0[XX]	Volume A4 Chapter 4: Project Description Revision 7	7	10 August 2022

### PART 3

#### OTHER DOCUMENTS TO BE CERTIFIED

<i>(1)</i> <i>Examination Library Reference</i>	<i>(2)</i> <i>Document Name</i>	<i>(3)</i> <i>Version</i>	<i>(4)</i> <i>Date</i>
APP-213	the access to works plan	1	8 October 2021
REP7-0[XX]	the book of reference	4	10 August 2022
REP5-084	the Bridge protected area plan	1	20 June 2022
REP6-008	the commitments register	3	27 July 2022
APP-221	the crown land plans – onshore and offshore	1	8 October 2021
REP2-057	the Endurance protective provisions plan	1	29 March 2022
REP7-0[XX]	Harbour protective provisions plan	1	10 August 2022



APP-252	the HVAC booster station lighting plan	1	8 October 2021
REP7-0[XX]	the Johnston protective provisions plan	1	10 August 2022
REP5-016	the kittiwake compensation plan	2	20 June 2022
APP-210	the land plans	1	8 October 2021
REP5-008	the layout principles	3	20 June 2022
APP-206	the location plans – Offshore	1	8 October 2021
APP-207	the location plans - Onshore	1	8 October 2021
REP7-0[XX]	the Neo protective provisions plan	1	10 August 2022
APP-208	the offshore Order limits and grid coordinates plan	1	8 October 2021
REP5-037	the offshore works plans	2	20 June 2022
APP-040	the onshore crossing schedule	1	8 October 2021
APP-209	the onshore Order limits plan	1	8 October 2021
REP5-038	the onshore works plans	2	20 June 2022
REP6-013	the outline cable specification and installation plan	3	27 July 2022
REP4-019	the outline code of construction practice	3	10 May 2022
REP4-019	the outline construction traffic management plan	3	10 May 2022
REP4-021	the outline design plan	2	10 May 2022
REP1-029	the outline ecological management plan	2	8 March 2022
APP-253	the outline employment and skills plan	1	8 October 2021
REP2-029	the outline energy balancing infrastructure HazID report	2	29 March 2022
APP-249	the outline enhancement strategy	1	8 October 2021
REP1-033	the outline fisheries coexistence and liaison plan	2	8 March 2022
REP3-010	the outline landscape management plan	4	21 April 2022
REP6-011	the outline marine mammal mitigation protocol	2	27 July 2022
REP7-0[XX]	the outline marine monitoring plan	7	10 August 2022
REP5-042	the outline marine written scheme of investigation	2	20 June 2022
APP-251	the outline net gain strategy	1	8 October 2021
APP-241	the outline onshore infrastructure drainage strategy	1	8 October 2021
REP5a-007	the outline operations and maintenance plan	2	4 July 2022
APP-254	the outline ornithological monitoring plan	1	8 October 2021
REP7-0[XX]	the outline southern north sea special area	2	10 August

	of conservation site integrity plan		2022
REP3-012	the outline written scheme of investigation for onshore archaeology	2	21 April 2022
REP8-0[XX]	the Perenco protective provisions plan	1	18 August 2022
APP-215	the public rights of way plan	1	8 October 2021
APP-214	the streets plan	1	8 October 2021
APP-220	the tree preservation order and hedgerow plan	1	8 October 2021

**SCHEDULE 16**  
**COMPENSATION TO PROTECT THE COHERENCE OF THE**  
**NATIONAL SITE NETWORK**

**PART 1**  
**KITTIWAKE COMPENSATION**

**1. In this Schedule—**

“Defra” means the Department for Environment, Food and Rural Affairs;

“the FFC” means the site designated as the Flamborough and Filey Coast Special protection Area;

“KCIMP” means the kittiwake compensation implementation and monitoring plan for the delivery of measures to compensate for the predicted loss of adult kittiwakes from the FFC as a result of the authorised development;

“the Hornsea Four Offshore Ornithology Engagement Group” or “H4 OOEG” means the group that will assist, through consultation, the undertaker in the delivery of the compensation measures identified in the kittiwake compensation plan;

“the kittiwake compensation plan” means the document certified as the kittiwake compensation plan by the Secretary of State for the purposes of this Order under article 38 (certification of plans and documents etc.);

“the Marine Recovery Fund” means the fund operated by Defra pursuant to the Offshore Wind Environmental Improvement Package of the British Energy Security Strategy (April 2022) for the implementation of strategic compensation or any equivalent fund established for that purpose;

“the offshore compensation measure” means the offshore nesting structure; and

“the onshore compensation measure” means the onshore nesting structure.

**2. Work Nos. 1, 2, 3, 4 and 5 together with any associated development offshore may not be commenced until a plan for the work of the H4 OOEG has been submitted to and approved by the Secretary of State, such plan to include—**

- (a) terms of reference of the H4 OOEG;
- (b) details of the membership of the H4 OOEG which must include—
  - (i) the MMO and the relevant statutory nature conservation body as core members for the offshore compensation measure;
  - (ii) the relevant local planning authority and statutory nature conservation body as core members for the onshore compensation measure;
  - (iii) the RSPB and The Wildlife Trust as advisory members, for both the onshore compensation measure and/or the offshore compensation measure subject to their area of expertise;
- (c) details of the proposed schedule of meetings, timetable for preparation of the KCIMP and reporting and review periods;
- (d) the dispute resolution mechanism and confidentiality provisions; and
- (e) the scope of work to be limited to the topics for discussion as identified by the appointed chair to include in relation to the compensation measure, monitoring and adaptive management.

**3.** Following consultation with the H4 OOEG, the KCIMP must be submitted to the Secretary of State for approval in consultation with the MMO and relevant statutory nature conservation body for the offshore compensation measure (if required), and with the relevant local planning authority and relevant statutory nature conservation body for the onshore compensation measure (if required). The KCIMP must be based on the strategy for kittiwake compensation set out in the kittiwake compensation plan and include—

- (a) details of the locations where the compensation measure will be delivered, and in the event an onshore structure is required, details of landowner agreement(s) and in the event an offshore structure is required, details of any relevant seabed agreement(s);
- (b) details of the design of the artificial nesting structure; including the projected number of nests that will be accommodated on the structure, and how risks from avian or mammalian predation and for an onshore nesting structure how unauthorised human access will be mitigated;
- (c) an implementation timetable for delivery of the artificial nesting structure, such timetable to ensure that the structure is in place to allow for at least three full kittiwake breeding seasons prior to operation of any turbine forming part of the authorised development. For the purposes of this paragraph each breeding season is assumed to have commenced on 1<sup>st</sup> April in each year and ended on 31<sup>st</sup> August;
- (d) details of the maintenance schedule for the artificial nesting structure;
- (e) details for the proposed ongoing monitoring of the measure including—
  - (i) survey methods;
  - (ii) survey programmes; and
  - (iii) colony and productivity counts;
- (f) recording of H4 OOEG consultations and project reviews;
- (g) details of any adaptive management measures, with details of the factors used to trigger any such measures;
- (h) provision for reporting to the Secretary of State, to include details of the use of the structure by breeding kittiwake to identify barriers to success and target any adaptive management measures; and
- (i) provision for the undertaker to elect, subject to the approval of the Secretary of State in consultation with the H4 OOEG, to pay a contribution (in addition to the sum stipulated in Part 3 of this Schedule) to the Marine Recovery Fund wholly or partly in substitution for the onshore compensation measure and/or the offshore compensation measure or as an adaptive management measure for the purposes of paragraph 3(1)(g) of this Part of this Schedule. The sum of the contribution to be agreed between the undertaker and Defra in consultation with the OOEG and included in the KCIMP.

**4.** Paragraphs 5, 6 and 7 of this Part of this Schedule shall not apply to the extent that a contribution to the Marine Recovery Fund has been elected in substitution for the onshore compensation measure and/or the offshore compensation measure for the purposes of paragraph 3(i) of this Part of this Schedule.

**5.** The undertaker must construct the artificial nesting structure as set out in the KCIMP approved by the Secretary of State.

**6.** The undertaker must notify the Secretary of State of completion of construction of the artificial nesting structure as set out in the KCIMP.

**7.** The artificial nesting structure must not be decommissioned without prior written approval of the Secretary of State in consultation with relevant statutory nature conservation body.

**8.** The KCIMP approved under this Schedule includes any amendments that may subsequently be approved in writing by the Secretary of State. Any amendments to or variations of the approved KCIMP must be in accordance with the principles set out in the kittiwake compensation plan and may only be approved where it has been demonstrated to the satisfaction of the Secretary of State

that it is unlikely to give rise to any materially new or materially different environmental effects from those considered in the kittiwake compensation plan.

## PART 2

### FISH HABITAT ENHANCEMENT

1. No turbine forming part of the authorised development may begin operation until arrangements for the implementation of the fish habitat enhancement measures have been put in place in accordance with the principles set out in the KCIMP.

## PART 3

### CONTRIBUTION TO MARINE RECOVERY FUND

1. To the extent a fund has been established, no turbine forming part of the authorised development may begin operation until the undertaker has paid the sum of £500,000 (five hundred thousand pounds) to the Marine Recovery Fund.

## **EXPLANATORY NOTE**

*(This note is not part of the Order)*

This Order grants development consent for, and authorises the construction, operation and maintenance of an offshore wind farm generating station located in the North Sea 69 kilometres due east of Flamborough Head at its closest point together with associated development including an energy storage facility. This Order imposes requirements in connection with the development and authorises the compulsory purchase of land (including rights in land) and the right to use land and to override easements and other rights.

This Order also grants deemed marine licences under Part 4 of the Marine and Coastal Access Act 2009 in connection with the wind farm. The marine licences impose conditions in connection with the deposits and works for which they grant consent.

A copy of the plans and book of reference referred to in this Order and certified in accordance with article 38 (certification of plans and documents, etc.) together with a copy of any guarantee or alternative form of security approved by the Secretary of State pursuant to article 45 (funding), may be inspected free of charge at the offices of East Riding of Yorkshire Council at County Hall, Beverley, East Riding of Yorkshire, HU17 9BA.

National Infrastructure Planning  
The Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

By Email: HornseaProjectFour@planninginspectorate.gov.uk

16 August 2022

Dear Sirs

**Planning Act 2008 and the Infrastructure Planning (Examination Procedure) Rules 2010  
Application by Ørsted Hornsea Project Four Limited ("the Applicant") for an Order granting Development  
Consent for the proposed Hornsea Project Four Offshore Wind Farm ("HOW4")**

We refer to our letters dated 16 June 2022 and 25 July 2022, in relation to the proposal by BP Exploration Operating Company Limited (bp) to include protective provisions in the Order that would have the effect of disapplying the Interface Agreement, to which The Crown Estate is party.

We have now reviewed bp's response to Deadline 6 and in particular, the draft wording which gives effect to bp's revised approach to the protective provisions. We note that bp is now proposing the disapplication of only part of the Interface Agreement namely, bp's liability to the Applicant for compensation. In place of this, bp has made provision for the Secretary of State to determine an appropriate level of compensation which would be payable to the Applicant as a result of the exclusion of HOW4 from the overlap zone.

We have also seen the Applicant's response to bp's Deadline 6 submission dated 10 August 2022.

The Crown Estate remains concerned about the setting aside of any provision of the Interface Agreement in circumstances where all parties - including bp - freely agreed to the rights and obligations under that Agreement. The Crown Estate maintains the position set out in the letter dated 16 June 2022, which was briefly as follows:

- The disapplication of the Interface Agreement – and any part of it - would be unreasonable and disproportionate.
- The scope of the Secretary of State's power under Section 120(3) Planning Act 2008 is not sufficient to give effect to the disapplication of the Interface Agreement, as proposed by bp.
- The inclusion in the Order of any provision which has the effect of disapplying the Interface Agreement (or any part of it) will also require the consent of The Crown Estate under Section 135(2) Planning Act 2008. As indicated in the letter of 25 July 2022, this remains the case even assuming the rights of The Crown Estate are not directly affected because the Interface Agreement relates to Crown land (i.e., the seabed in the overlap zone).

On the issue of consent under Section 135(2), currently The Crown Estate is not minded to agree to bp's protective provisions and the disapplication of any part of the Interface Agreement. However, we are willing to review our position once we have an understanding of the recommendations of the Examining Authority, the position of the Secretary of State and the progress of discussions between bp and the Applicant between now and then.

Yours faithfully



**Simon Goodwin**

Head of Marine Delivery