



SHEPHERD+ WEDDERBURN

RESPONSE TO DEADLINE 4 SUBMISSIONS ON BEHALF OF

(1) BARROW OFFSHORE WIND LIMITED (REF: 20049595) (2) BURBO EXTENSION LTD (REF: 20049590) (3) WALNEY EXTENSION LIMITED (REF: 20048542) (4) MORECAMBE WIND LIMITED (REF: 20049596) (5) WALNEY (UK) OFFSHORE WINDFARMS LIMITED (REF: 20049592) (6) ØRSTED BURBO (UK) LIMITED (REF: 20049589) (THE "ØRSTED IPs")

IN CONNECTION WITH THE Application by Morgan Offshore Wind Limited for an Order Granting Development Consent for the Morgan Offshore Wind Farm

Introduction

- 1.1 This submission is provided in accordance with Deadline 5 of the examination timetable for the application by Morgan Offshore Wind Farm Limited (the “**Applicant**”) for an Order under the Planning Act 2008 (the “**Act**”) granting Development Consent for the Morgan Offshore Wind Farm (the “**Project**”).
- 1.2 We represent six owners of operational offshore windfarms in the East Irish Sea (as set out relevant representations RR-005, RR-007, RR-023, RR-032, RR-043, RR-044), who we refer to together as the “**Ørsted IPs**”.
- 1.3 In this submission, the Ørsted IPs respond to a number of points raised in the Applicant’s deadline 4 submissions relating to the issue of wake loss. The Ørsted IPs note that a number of arguments made by the Applicant in its deadline 4 (“**DL4**”) submissions were addressed in the Ørsted IPs’ DL4 submissions.¹ The Ørsted IPs do not repeat those arguments in this submission, but wish to respond to a number of key points, as outlined below.

2. Response to DL4 submissions

Interpretation of NPS-EN3

- 2.1 The Ørsted IPs acknowledge the Applicant’s arguments in relation to the interpretation of ‘close’ and ‘licence’ in paragraph 2.8.197 of the NPS-EN3,² and reiterate that this approach to interpretation is not practical or tenable, for the reasons set out in the Ørsted IPs’ post-hearing submission [REP-047].
- 2.2 The Ørsted IPs also highlight that support for their position can be drawn from the North West Marine Plan 2021, which applies to the Project. The plan provides, at policy NW-CO-1, that proposals which “*incorporate opportunities for co-existence and cooperation with existing activities will be supported.*” Proposals that may have significant adverse impacts on existing activities must demonstrate that they will avoid, minimise and mitigate such adverse effects on an existing activity so they are no longer significant. Non-compliance with policies in marine planning documents undermines investor decision making which is likely to influence energy costs. A focus on short term results in decision-making could hamper future investment.
- 2.3 The Ørsted IPs also reiterate the comments made in their DL3 submission [REP4-048] regarding the Crown Estate’s submission to the Outer Dowsing Offshore Windfarm examination (“**TCE submission**”) (available at [REP4-051]). The Applicant suggests the TCE submission indicates that the separation distances in the round 4 leasing process were intended to ensure other offshore windfarms were not developed close to each other.³
- 2.4 In response to this suggestion, the Ørsted IPs wish to highlight that the TCE submission confirms that wake was one of a number of factors considered in establishing the buffer distance. The TCE submission is clear that the buffer was developed “*for the purpose of processing project proposals in the tender only...*” (i.e. not for the consenting process).
- 2.5 As highlighted by the Applicant, TCE notes the increase in the buffer size compared to the previous leasing round “*was for the purpose of de-risking the Round 4 tender by providing additional mitigation and assurance to participants through limiting proximity*”. However, contrary to the Applicant’s suggestion ‘limiting proximity’ is not the same as ‘close’ – especially in the context of the entirely separate consenting process. The TCE submission does not suggest at any stage that the separation distance established for the leasing process was intended to be used for this purpose. In fact, TCE is clear that “*The location of a wind farm within an area of seabed leased from The Crown Estate is for developers to decide and design for, subject to obtaining the necessary consents and The Crown Estate’s approval*”. Therefore, compliance with the TCE leasing boundaries is not conclusive in the context of considering effects in the consenting process.

¹ [REP4-047], [REP4-048], [REP4-049], [REP4-051].

² As set out in the Applicant’s response to the Ørsted IPs DL3 submissions [REP4-009], p 113 and the Applicant’s written summaries – ISH2 [REP4-006], item 4(a).

³ [REP4-009], p 113.

Lack of precedent and consistency of Ørsted's approach

- 2.6 The Applicant has noted that the policy in paragraphs 2.8.197 and 2.8.198 of NPS EN-3 is the same as the policy in the 2011 version of the NPS. The Applicant has argued in a number of its DL4 submissions⁴ that previous offshore wind farms have not been required to undertake wake loss assessments as part of their applications, and that if the Ørsted IPs interpretation is correct “*the policy has been incorrectly applied for the last 13 years*”.⁵
- 2.7 The Ørsted IPs agree the relevant policies of the NPS-EN3 are unchanged. However, as outlined in their response to DL3 submissions [REP4-048], there are numerous examples of wake loss being raised as an issue in previous applications, including during the consenting process for the Burbo Bank Extension offshore wind farm, the Walney Extension offshore wind farm, and the Hornsea Two Offshore Windfarm.
- 2.8 The Ørsted IPs attach as **Appendix 1** to this submission, the legal submissions for Danish Oil and National Gas (“**DONG**”) - Ørsted A/S’ former name, in respect of the Hornsea Two Offshore Windfarm, which raise concerns regarding the impact of wake effects that Hornsea Two would have on energy yield at Hornsea One. Those submissions acknowledged that, at that time, there was limited understanding of the relationship between offshore windfarms in terms of wake. This issue is one which has matured over time.
- 2.9 In that examination, a private solution was negotiated, such that the examining authority was not required to determine the issue. The Ørsted IPs understand negotiation of such solutions is commonplace in the industry.
- 2.10 The Ørsted IPs reject the Applicant’s assertion that the Ørsted IPs’ “*do not consider it necessary for their own projects to make an assessment of such matters (as has been the case for the other six Orsted projects that have been brought forward under the Planning Act to date)*”.⁶ As demonstrated by the examples listed above, Ørsted has taken a consistent approach to the issue of wake loss in previous developments. However, as outlined in [REP4-047], the industry’s understanding of the impacts of wake effects has developed significantly in recent years, in particular in the years following the Crown Estate’s Offshore Wind Leasing Round 4.
- 2.11 While the potential for wake effects has always been acknowledged, recent reporting on real life examples has been able to provide significantly more detailed information regarding actual effects which occur between windfarms, including at greater distances than previously understood. As a result, the offshore wind industry has developed a more sophisticated and empirical understanding of wake effects. As such, the Ørsted IPs consider that asset owners have become increasingly alert to the risk of wake loss at their developments. As a consequence, wake loss has become more of an issue.
- 2.12 However, the Ørsted IPs reiterate that the interpretation of the NPS-EN3 to include consideration of wake impacts is not novel. Further, significant precedent exists for the consideration and resolution of disagreement between developers regarding wake effects. The Applicant has now had numerous opportunities to work through this issue with the Ørsted IPs in a manner consistent with other developers and has chosen not to.
- 2.13 The UK Government has recognised, in its recently published Clean Power 2030 Action Plan, that while historically wake loss issues between developers have been resolved outside of the planning process, a “*precedent was set*” in the Awel y Mor decision through the imposition of a wake condition. The UK Government also recognised that new projects (such as the Project) with larger and/or a greater number of turbines have an even greater propensity to cause wake effects on existing downstream operational projects.⁷

Moor Vannin

- 2.14 The Applicant has highlighted, in its responses to action points [REP4-004], that the proposed Moor Vannin Offshore Wind Farm, was not included in the wake assessment carried out by

⁴ [REP4-009], [REP4-006], [REP-004].

⁵ [REP4-009], p115.

⁶ [REP4-004], HAP_ISH2_11, (h).

⁷ Page 84 of the Clean Power 2030 Action Plan (published 13 December 2024).

Wood Thilsted [REP4-049], and that the Moir Vannin Scoping Report does not address wake effects.

- 2.15 As explained in the Ørsted IPs response to the second written questions of the examining authority, submitted alongside this document, Moir Vannin was not included in the wake assessment undertaken by Wood Thilsted for a number of reasons, including that it is at a much earlier stage of development, with consent applications not expected to be lodged until Spring 2025. Therefore, the level of information available regarding Moir Vannin is considerably less certain at this point of its development.
- 2.16 The Ørsted IPs note that they are not the developers of the Moir Vannin development. However, it is noted that that development is governed by a separate legal jurisdiction. Further, the Moir Vannin site was awarded to Ørsted in 2015, well before the round 4 bidding process relevant to the Project concluded. As a result, prospective developers were on notice of potential wake effects from Moir Vannin at the time of bidding and would have had the opportunity to build the consequences of those effects into their business cases.
- 2.17 The Ørsted IPs view is that the effects of wake should be shared between developers. As outlined earlier in this submission, Ørsted A/S has historically taken a consistent approach to this issue in respect of its own developments and will continue to do so.

Critiques of the Wake Assessment

- 2.18 The Applicant made a number of preliminary comments regarding the Wake Assessment in its responses to action points [REP4-004]. These comments included that the PEIR boundary was utilised by Wood Thilsted, rather than the updated DCO boundary. Wood Thilsted has updated the Wake Assessment in response to this comment, and the updated report is submitted alongside this document. We note that the change in boundary has resulted in predicted impacts worsening by a very small degree. This is due to Wood Thilsted electing to not place turbines in the North Eastern part of the original lease hence there are only limited differences in the assumed layout for Morgan between the PEIR boundary and the DCO boundary. This is an example of Wood Thilsted electing to take a conservative approach to assessing the effects of the Project.
- 2.19 Wood Thilsted has also prepared an addendum to the Wake Assessment, responding to other comments by the Applicant on the Wake Assessment in [REP4-004].

Mitigation of effects

- 2.20 The Ørsted IPs' wish to respond to comments the Applicant has made in respect of avenues for mitigating the wake effects of the Project.
- 2.21 First, the Applicant appears to consider⁸ that reducing the Project's array area Red Line Boundary between PEIR and submission to primarily address safety of navigation also constitutes mitigation of wake effects on the Ørsted IPs' developments. The Ørsted IPs reiterate that this is not sufficient. The Applicant has not assessed this effect or considered in any methodical way how it could be mitigated and therefore cannot demonstrate that the effect has been avoided, minimised or properly designed for.
- 2.22 Second, the Applicant has stated that the Ørsted IPs "*...are effectively sterilising the seabed from future development and new energy MW generation because the only way to mitigate the effect is to increase the distance between projects...*"⁹
- 2.23 This is not correct. In line with the relevant policy requirements, the Ørsted IPs consider the Applicant must seek to ensure the Project coexists with existing development. In order for coexistence to be achieved, the Ørsted IPs consider the potential for wake effects should be carefully considered and addressed.
- 2.24 One option to reduce wake effects on a neighbouring wind farm is to increase the distance between the development and the affected neighbour(s), however a number of other options exist (as outlined in the Ørsted IPs response to DL submissions [REP4-048]), including design and operational changes such as installing a smaller number of larger turbines, reducing

⁸ [REP4-009].

⁹ [REP4-009], p115-116.

capacity, wind sector management or exploring new technologies such as wake steering. It is not possible to determine what steps would be “disproportionate” in terms of their impact on the Project, without carrying out an assessment of those measures.

- 2.25 The Ørsted IPs do not seek to ‘sterilise’ the seabed. But, in light of the material impact the Project is predicted to have on their assets’ AEP, it is reasonable to expect the Applicant to engage meaningfully on finding a solution to this issue.
- 2.26 The Applicant has stated it is unclear how to determine when wake effects should be considered significant and that: *“The only way for new schemes not to affect the wind regime for existing projects would be for them not to be built at all, clearly not the intention of either TCE or Government who see new offshore wind capacity as Critical National Priority infrastructure.”*¹⁰
- 2.27 The Ørsted IPs consider a degree of common sense should be applied here – the effects that have been predicted at their assets (up to 5.21% AEP cumulatively with other developments), would be considered significant by any offshore wind business. Additionally, it is noted that in the Awel y Mor examination, a maximum predicted impact of 2% was considered sufficient to justify the imposition of a DCO Requirement to assess and mitigate the effect.
- 2.28 Further, as explained above, there are many options to reduce the wake impacts of a new development. The Ørsted IPs have not suggested that such effects must be reduced to 0.0%, however they consider that in order to comply with policy, the Applicant must demonstrate that it has, at the very least, attempted to mitigate the effects of the Project in line with the overarching policy aim of coexistence with other development.

GHG Assessment

- 2.29 The Applicant has indicated that it will update its assessment of the Project’s net effects on GHG emissions to reflect the outcomes of the Wake Assessment. The Ørsted IPs look forward to receiving that updated assessment.
- 2.30 However, the Ørsted IPs wish to record that they do not agree with the Applicant’s statement that *“it is uncontentious that factoring in any potential change in the Ørsted IPs generation output, when viewed against the long term-marginal source of electricity that would replace that generation, would not change the outcome of the EIA assessment for GHG net effects”*.¹¹
- 2.31 The Ørsted IPs consider the assessment of the Project’s met effects on GHG emissions should encompass scenarios where existing assets end operation earlier than they would otherwise, in part due to the impacts of wake loss from the Project. Taking this approach encompasses a realistic worst-case scenario, which in EIA terms should be evaluated.
- 2.32 The value of protecting the generation from existing assets and encouraging lifetime extensions has been supported recently by the UK Government in the Clean Power Action Plan 2030 (published in December 2024). In that document it is recognised that early retirement of existing assets presents a risk to the achievement of Clean Power 2030 targets and Carbon Budget 6. It is also noted that wider measures are being implemented to support the repowering and life extension of renewable assets.¹²
- 2.33 This has also been recognised by TCE. As part of their 2023 annual report,¹³ TCE published a study of the benefits of life extension along with a comparative analysis of different offshore wind project types. They summarise their finding as such: *“while new developments contribute highly to security of affordable energy, a life extended project scores much higher in terms of the efficiency of materials and space, and minimising environmental impact”*. This conclusion underscores the importance of properly assessing wake to facilitate the future coexistence of the projects.

Shipping and Navigation

- 2.34 Morecambe Wind Limited (“**MWL**”) and Walney Extension Limited (“**WEL**”) note the Applicant’s comments in respect of engagement on plans including the Vessel Traffic Management Plan. As

¹⁰ [REP4-00].

¹¹ [REP4-009].

¹² Page 79 of the Clean Power 2030 Action Plan (published 13 December 2024).

¹³ Page 24 of the “UK Offshore Wind Report 2023” by the Crown Estate.

outlined in their response to the examining authority's question SN2.7, MWL and WEL do not consider their engagement on these matters is sufficiently secured at this stage through the Marine Navigation Engagement Forum ("MNEF").

- 2.35 Additionally, in relation to allision risk at their assets, MWL and WEL understand from the Applicant's comments that increases in allision risk have been considered from the perspective of vessel and SAR operators, but not from the asset owner's perspective. MWL and WEL seek confirmation that allision risk directly to their developments remains within ALARP parameters and whether additional mitigations may be required for those projects to achieve ALARP status.

3. Response to ISH2 action point

- 3.1 As flagged in the Ørsted IPs' post hearing submission submitted at deadline 4 [REP4-047], the Ørsted IPs have considered the examining authority's query at action point 11 [EV5-015] regarding whether the modelling undertaken by Wood Thilsted represents loss at "front row receptor turbines only" and how many turbines the Ørsted IPs' contend would suffer wake loss effects.
- 3.2 The wake losses identified by Wood Thilsted in their independent report [REP4-049] are park-level impacts, and therefore represent the predicted aggregate impact on *all* turbines in the individual Ørsted IP assets. The losses are assessed on a turbine-by-turbine basis covering all wind directions and wind speeds, but then reported on an annual aggregated wind farm level to more simply and directly convey the predicted impacts. Individual turbine losses, again for all wind directions and wind speeds and not only the wind directions which cause the wake, are included in Appendix D5 of the wake report.

Shepherd & Wedderburn LLP

16.01.2025

Appendix 1 – DONG submissions on Hornsea Two (provided separately)