

**RWE Renewables UK Dogger Bank  
South (West) Limited**

**RWE Renewables UK Dogger Bank  
South (East) Limited**

**Dogger Bank South Offshore  
Wind Farms**

**The Applicants' Response to the Secretary of  
State's Request for Information on Wake Effects**

**Document Date: January 2026**

**Document Reference: 23.3**

**Revision Number: 01**

**Classification: Unrestricted**

Company:	<b>RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited</b>	Asset:	<b>Development</b>		
Project:	<b>Dogger Bank South Offshore Wind Farms</b>	Sub Project/Package	<b>Consents</b>		
Document Title or Description:	The Applicants' Response to the Secretary of State's Request for Information on Wake Effects				
Document Number:	006591729-01	Contractor Reference Number:	N/A		
<p><i>COPYRIGHT © RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited, 2026. All rights reserved.</i></p> <p><i>This document is supplied on and subject to the terms and conditions of the Contractual Agreement relating to this work, under which this document has been supplied, in particular:</i></p> <p><b>LIABILITY</b></p> <p><i>In preparation of this document RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited has made reasonable efforts to ensure that the content is accurate, up to date and complete for the purpose for which it was contracted. RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited makes no warranty as to the accuracy or completeness of material supplied by the client or their agent.</i></p> <p><i>Other than any liability on RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited detailed in the contracts between the parties for this work RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited shall have no liability for any loss, damage, injury, claim, expense, cost or other consequence arising as a result of use or reliance upon any information contained in or omitted from this document.</i></p> <p><i>Any persons intending to use this document should satisfy themselves as to its applicability for their intended purpose.</i></p> <p><i>The user of this document has the obligation to employ safe working practices for any activities referred to and to adopt specific practices appropriate to local conditions.</i></p>					
Rev No.	Date	Status/Reason for Issue	Author	Checked by	Approved by
01	January 2026	Request for Information 2	Burges Salmon	RWE	RWE

## Contents

1	Introduction .....	5
2	What the Secretary of State must decide in relation to wake effects .....	6
3	The Applicants’ case in summary .....	7
4	Consistency of decision making .....	8
4.1	Issue 1: Why it is not necessary to make any provision for wake effects in the DCO .....	10
4.2	Issue 2: If it is necessary to make some provision for wake effects why it would not be appropriate to impose protective provisions? .....	14
4.3	Issue 3: The compensation issue .....	18
4.3.1	The updated policy position .....	18
4.3.2	The viability issues .....	24
5	The wording of the draft requirement.....	27
6	The allegation of a legitimate expectation .....	28
	Appendix A - DBS Design Evolution Considering the Impact of Inter-Farm Wake Effects.....	29

## Tables

	Table 4-1 DCO Outcomes in Relation to Wake Requirements .....	8
--	---	---

## Glossary

Term	Definition
The Applicants	The Applicants for the Projects are RWE Renewables UK Dogger Bank South (East) Limited and RWE Renewables UK Dogger Bank South (West) Limited. The Applicants are themselves jointly owned by the RWE Group of companies (51% stake) and Masdar (49% stake).
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Dogger Bank South (DBS) Offshore Wind Farms	The collective name for the two Projects, DBS East and DBS West.

## Acronyms

Acronym	Definition
CfD	Contract for Difference
DBA	Dogger Bank A wind farm (under construction)
DBB	Dogger Bank B wind farm (under construction)
DBC	Dogger Bank C wind farm (pre construction)
DBS	Dogger Bank South
DCO	Development Consent Order
IP	Interested Party
NPS	National Policy Statement
NPS EN-3 2025	National Policy Statement for renewable energy infrastructure (EN-3), 2025
ODOW	Outer Dowsing Offshore Wind Farm
RFI	Request For Information
RSSRfl	Response to Secretary of State Request for Information

# 1 Introduction

1. These submissions are made by the Applicants in response to the Secretary of State's Request for Further Information ("RFI") dated 16 January 2026 relating to wake effects.
2. This asks for (i) an update on engagement between the parties, which has regard to the policy context now provided by paras. 2.8.232-2.8.233 of National Policy Statement for renewable energy infrastructure (EN-3), 2025 ("NPS EN-3 2025") which was designated on 6 January 2026 <sup>1</sup>; and (ii) *"any matters that remain under consideration, and the anticipated next steps and indicative timescales for the continuation or conclusion of discussions"*.
3. In responding to the RFI on wake effects there are certain matters which need also to be addressed, namely:
  - i. The Projcos' Submissions [C1-022] produced by CMS dated 6 December 2025 attaching an opinion for Richard Turney KC ("**the Turney Opinion**") and the undated Ørsted Submissions [C1-019] produced by Pinsent Masons<sup>2</sup>. The Projcos and Ørsted Submissions were made in response to a request from the Secretary of State on the drafting of a requirement, but they are particularly lengthy and they seek to make a number of new points related to wake effects to which the Applicants must respond; and
  - ii. The Secretary of State's decision in relation to the Five Estuaries Development Consent Order (DCO) issued on 17 December 2025.
4. James Maurici KC has provided input into the submissions below.

---

<sup>1</sup>The RFI says "the parties should have regard to NPS EN-3 2025, which states at paragraphs 2.8.232-2.8.233 that applicants are expected to demonstrate that they have made reasonable endeavours to mitigate the impact of wake effects and that there is no expectation that such effects can be wholly removed between developments, nor that inter-project compensation arrangements are a necessary means of mitigation within the planning process." The Secretary of State thus draws attention to three matters in the newly designated policy: (i) that applicants have made reasonable endeavours to mitigate the impact of wake effects; (ii) that there is no expectation that such effects can be wholly removed between developments and (iii) that there is no expectation that inter-project compensation arrangements are a necessary means of mitigation within the planning process.

<sup>2</sup>The focus of these submissions is on the Projcos' Submissions as the Ørsted Submissions add little, if anything of substance to either the Projcos' Submissions or the previous submissions made by Ørsted.

## 2 What the Secretary of State must decide in relation to wake effects

5. It is important to begin by recording what it is the Secretary of State is required to determine in relation to wake effects in respect of this Application, namely:
- i. Whether it is necessary for the DCO to make any provision in respect of wake effects (the Applicants contend it is not; Projcos and Ørsted contend that it is) ("**Issue 1**");
  - ii. If it is deemed necessary to make some provision in respect of wake effects, whether this should - contrary to view thus far taken by the Secretary of State in this and other DCO applications - be (as Projcos and Ørsted contend) a protective provision rather than a requirement (as the Applicants, without prejudice, suggest) ("**Issue 2**");
  - iii. Assuming the answer to question ii. above is to impose a requirement ; what the terms of any requirement should be and in particular whether it should (as Projcos but not Ørsted contend; and which the Applicants contest) make explicit provision for the payment of financial compensation in respect of wake effects ("**Issue 3**").

### 3 The Applicants' case in summary

6. First, on Issue 1, the Applicants submit that the circumstances of this Application do not warrant the imposition of provision for wake at all in the DCO, and the impact from wake effects should simply be weighed in the planning balance. The Applicants have noted the approach the Secretary of State has applied to the Five Estuaries DCO and submits that the same approach should be adopted for essentially the same reasons.
7. Second, on Issue 2, the Applicants submit that if the Secretary of State takes the view that some provision is necessary in respect of wake effects then there is no basis for the Secretary of State departing from his previous practice to date of imposing a requirement as opposed to a protective provision in respect of wake effects.
8. Third, on Issue 3, the Applicants say that:
  - i. The proposed requirement should not, again consistent with the Secretary of State's practice to date, include any explicit provision for compensation. The Applicants say this on the basis that the wording of the requirement imposed in the Mona DCO, which was consulted on by the Secretary of State on this Application, in referring to "*alternative mitigation*" is *not* intended to refer to financial compensation being agreed as this would be directly contrary to the Secretary of State's own policy as now set out in NPS EN-3 2025.
  - ii. The Secretary of State's proposed requirement should be amended in the terms set out in "**Response to Secretary of State Request for Information**" [document reference 22.2], "**the Applicants RSSRf**") section 2.7, Table 2.7.
9. It is important that the Secretary of State set out reasons in his decision on all of these points. The purpose of submissions on these points is to demonstrate : (i) why provision in the DCO at all is not appropriate; (ii) if provision is made, why a protective provision is not appropriate; (iii) why the wording of the requirement, as proposed by the Secretary of State, needs to be amended as proposed by the Applicants; and (iv) why the proposed amendments put forward by Projcos and Ørsted should be rejected.

## 4 Consistency of decision making

10. The Projcos' Submissions (paras. 3.1 – 3.7) and the Turney Opinion (paras. 15 – 16) [C1-022] refer to the well-known principle in planning law of consistency in decision making. The principle of consistency is perhaps most clearly stated by Mann LJ in **North Wiltshire DC v SSE** (1992) 65 P & CR 137 "[t]o state that like cases should be decided alike presupposes that the earlier case is alike and is not distinguishable in some relevant respect. If it is distinguishable then it usually will lack materiality by reference to consistency although it may be material in some other way. Where it is indistinguishable then ordinarily it must be a material consideration. A practical test for the inspector is to ask himself whether, if I decide this case in a particular way am I necessarily agreeing or disagreeing with some critical aspect of the decision in the previous case?".
11. Where there is disagreement by a planning decision maker with a previous relevant decision, reasons for such a departure must be provided: see **Weston Homes v SSLUHC** [2025] PTSR 98 at [135] – [136].
12. The Turney Opinion [Appendix 3; C1-022] says (at para. 16) that "there is a strong case for the Secretary of State taking a consistent approach to cases decided under the same policy framework when this issue arises." That much is, of course, agreed.
13. The position here though is that there are now a number of previously decided applications for DCOs where wake effects has been in issue. The outcomes of these DCOs are briefly summarised in **Table 4-1**:

**Table 4-1 DCO Outcomes in Relation to Wake Requirements**

Date	DCO	Wake requirement imposed?	Comment on wording of requirement where imposed
19/09/2023	Awel y Môr	Y	The wording was drafted by the Secretary of State and imposed without consultation with the parties.
04/07/2025	Mona	Y	Draft wording for a requirement was invited by the Secretary of State. The wording of the requirement imposed was proposed by Mona. There was a minor drafting point from Ørsted which was agreed so the wording of the requirement, as imposed, was to all intents and purposes agreed by the parties.
29/08/2025	Morgan	N <sup>3</sup>	N/A

<sup>3</sup> The Secretary of State had invited drafting for a requirement, but none was imposed because the wake effects objection was withdrawn following agreement being reached): "4.179. Noting the letters received from Ørsted IPs

Date	DCO	Wake requirement imposed?	Comment on wording of requirement where imposed
01/12/2025	Morecambe	Y	The wording was put forward by Morecambe and Ørsted on an agreed basis and included in the DCO by the Secretary of State on the basis that it was agreed. The wording is different in major respects from the terms of the Mona requirement.
17/12/2025	Five Estuaries	N <sup>4</sup>	N/A

14. So in relation to these five previous DCO decisions by the Secretary of State:
- i. In three decisions (Awel y Môr, Mona, and Morecambe) the Secretary of State in relation to wake effects:
    - a) imposed a requirement but *not* a protective provision;
    - b) used different wording for the requirement in each;
    - c) did *not* include any explicit obligation in the requirement for the payment of compensation.
  - ii. In two further decisions (Morgan and Five Estuaries) the Secretary of State declined to impose any requirement in relation to wake effects: in the first instance because the parties reached an agreement and so the wake effects objection was withdrawn and in the second instance because the Secretary of State concluded that no requirement was necessary.
15. The Projcos’ Submissions [C1-022] state at para. 3.4 that to apply “*a consistent approach to the consideration of the issues, the Projco IPs’ position is that the Secretary of State’s consideration on this Application ... should extend to protective provisions*”.
16. That must be wrong given that in none of the five DCOs decisions where wake effects have been substantively considered were wake effects dealt with by the imposition of a protective provision. It is then difficult, to say the least, to see how advocating that the Secretary of State do something that is wholly *inconsistent* with all his previous decisions would result in consistency of decision-making. It would self-evidently not do so.

---

*and the Applicant, the Secretary of State considers that it is not necessary to insert the Requirement provided by the Applicant in its response of 3 July 2025 in the Order. The Secretary of State notes the comments made by Mooir Vannin OWFL in its final consultation response. This matter was addressed by the ExA (see paragraph 4.148 above) and the Secretary of State can see no reason to disagree with the ExA.”*

<sup>4</sup> See below for discussion of this decision and its implications of the Application.

17. It is then said by Projcos (ibid.) [C1-022] that consistency is required in terms of “*the engagement by the Applicant in respect of those protective provisions (as it has on the consultation in respect of the Outer Dowsing Offshore Wind Farm).*” This submission is based on a misrepresentation of the factual position in that case. This is considered below in relation to Projcos’ allegation of there being some kind of legitimate expectation in this regard. But in the end what Projcos’ case comes down to is clear from para. 3.7 of the Projcos’ Submissions [C1-022]. Projcos is essentially seeking to criticise the Secretary of State for, where he has previously deemed it was necessary to make any provision in a DCO for wake effects, to do so via a requirement rather than a protective provision. It is said that protective provisions would provide “*a clear process*” in this regard. These process points relate, it is assumed, to the issue of appeals in relation to discharge. This is a matter considered in detail below.
18. In so far as Projcos contend for: (i) the imposition of a protective provision rather than a requirement; and/or (ii) any kind of explicit obligation (whether contained in a requirement of a protective provision) to pay compensation in respect of wake effects they are asking the Secretary of State to make a decision *inconsistent* with the previous decisions identified above. The principle of consistency accordingly provides no assistance whatsoever to the case sought to be advanced by Projcos.
19. Projcos then point out that different wording has been included for the three requirements imposed in previous DCO decisions (see para. 3.7; [C1-022]): so Awel y Môr, Mona, and Morecambe. That is true but uninteresting. As set out above in the table in the Awel y Môr DCO the wording was drafted by the Secretary of State and imposed without consultation with the parties. In contrast in the Mona DCO decision draft wording for a requirement was invited by the Secretary of State and the wording for the requirement, as imposed, was to all intents and purposes agreed by those parties. In Morecambe the wording was also agreed between the parties. Here the wording for any requirement has not been agreed and the Secretary of State will thus need to consider, and give reasons, for the particular wording employed in so far as the parties disagree on it. What can be said, however, is that the Secretary of State has not in any of the previous cases imposed a requirement that explicitly obliged the paying of compensation for wake effects.

#### **4.1 Issue 1: Why it is not necessary to make any provision for wake effects in the DCO**

20. There has been a fundamental disagreement between the Applicants and Projcos and Ørsted as to the nature of mitigation (assuming for these purposes that mitigation includes compensation) which the Applicants should consider.
21. Projcos and Ørsted have argued that mitigation should principally involve financial compensation and for payment of 100% of any reduction in income attributable to wake effects.

22. The Applicants have consistently argued that there is no policy justification for the payment of financial compensation. Accordingly, the Applicants have declined to engage with the detail of the protective provisions, requiring the payment of such compensation, put forward by Projcos and Ørsted for this reason.
23. The Applicants consider that their approach to resisting discussion of financial compensation as a form of mitigation has been reasonable throughout. This is reinforced by the policy position as set out in the newly designated NPS EN-3 2025, cited in the RFI. This makes it plain that there is no expectation that inter-project compensation arrangements are a necessary means of mitigation within the planning process. Further submissions on this matter are made below, and which addresses Projcos and Ørsted Submissions [C1-022] and [C1-019].
24. Separate to the question of financial compensation, the Applicants have actively and fully considered all other categories of mitigation (that is to say potential design and operational mitigations). The Applicants consider that these are the categories of mitigation which EN-3 2024 and the newly designated EN-3 2025 had and have in mind.
25. The Applicants have made extensive submissions in the Examination in relation to these categories of mitigation. Those submissions have shown, however, that there are no further such mitigation measures which could reasonably be expected to be pursued by the Applicants. See the Applicants' closing submissions on wake (and documents referred to) [REP8-046] and their submission in response to the Mona decision [REP9-024] and the summary in **Appendix A - DBS Design Evolution Considering the Impact of Inter-Farm Wake Effects**. Appendix A - DBS Design Evolution Considering the Impact of Inter-Farm Wake Effects
26. As already noted, Projcos and Ørsted have focussed their attention throughout on financial compensation rather than design or operational mitigations. Their approach to design and operational mitigation options has been to say that they are essentially entirely a matter for the Applicants. This is on the basis that the Applicants have the option to introduce such mitigations if they consider they will reduce the financial compensation payable from the resulting (reduced) wake effects. This is how their protective provisions are drafted – they acknowledge a role for design and operational mitigation measures, but they do not require them.
27. The Applicants submit that the approach they have adopted has been reasonable:
  - i. The Applicants had regard to wake effects in the original site selection and subsequent decisions before the Application was submitted. This is summarised in **Appendix A - DBS Design Evolution Considering the Impact of Inter-Farm Wake Effects** to this report. Appendix A is included to help the Secretary of State apply the new policy under EN-3 2025 to demonstrate the full extent of the reasonable steps which the Applicants have taken to mitigate wake effects, in the context of a competitive The Crown Estate bid process and taking into account

- the need for any project to be competitive in the Contract for Difference (CfD) auction process;
- ii. The Applicants carried out a wake assessment on the most affected project (DBA) which was reported in the original Environmental Statement [APP-130];
  - iii. The Applicants submitted that wake assessment [AS-179] into the Examination, when pressed to do so by the Examining Authority;
  - iv. The Applicants have focused consistently on the relevant categories of potential mitigation;
  - v. The Applicants have made detailed submissions as to the nature, effectiveness and availability (or otherwise) of such mitigation options [REP8-038; REP7-136]. These are by far the most detailed submissions of any applicant across any of the other applications which have engaged with wake effects;
  - vi. The Applicants have put forward reasoned criteria for evaluating the potential mitigation measures, which have taken into account the normal tests for mitigation imposed by way of requirement and the wider policies regarding meeting renewable energy objectives under EN-1 and EN-3;
  - vii. The Applicants have applied those criteria transparently and reached reasoned conclusions, which make a powerful case that no requirement can be justified;
  - viii. The Applicants have sought to engage with the Projcos and Ørsted in relation to wake matters, during the latter part of the Examination and subsequently. However, there is an inherent limit to what such engagement can achieve if one side (the Projcos and Ørsted) only really wish to discuss something (i.e. financial compensation) for which there is no precedent within the planning system and which (under what is now EN-3 2025) is expressly ruled out by policy (see further below).
28. The Secretary of State has asked for a formal update as regards recent engagement between the Applicants and the Projcos and Ørsted. Since the end of the Examination the Applicants have had limited confidential engagement with both the Projcos and Ørsted as regards wake matters. The Applicants' view is that there is no realistic prospect of making progress towards agreement on any substantial topic pursuant to this engagement. This reflects the fundamental difference of approach between the two sides as is apparent from the public submissions of all three parties, including this submission. There is no reason to delay the decision on this application by reference to further engagement as regards wake effects. Further, it would not be reasonable to criticise the Applicants for declining to engage in discussions on protective provisions to impose financial compensation or a commercial agreement in relation to financial compensation. This has always been a reasonable position for the Applicants to adopt. This is reinforced by the express policy in EN-3 2025 and the related Guidance, which excludes resolution of financial compensation from the planning system.

29. The Applicants' approach has demonstrated that they have made reasonable endeavours to mitigate the impact of wake effects as per EN-3 2025, as summarised above. As the Secretary of State notes, EN-3 2025 states that there is no expectation that wake effects can be wholly removed between developments. This is an accepted statement of fact within the offshore wind industry. The Applicants submit that the detailed case they have made regarding the very real limitations on design and operational mitigations is a good example of the complexity of this topic and the need for pragmatism in accordance with paragraph 2.8.342 of EN-3 2024.
30. The Applicants note that in the Secretary of State's recent decision on Five Estuaries issued on 17 December 2025 he concluded that a requirement imposing a process for considering mitigation measures was not justified. This was for a new 1,050MW wind farm which is directly upwind of the 960MW East Anglia Two offshore wind farm project (which has started construction onshore), which is 5.1km away. This was on the basis that, among other reasons, that further mitigation would be counterproductive by reducing the overall generation of Five Estuaries by more than the wake effects on East Anglia Two (see para. 4.54 of the decision letter).
31. As the Secretary of State will be aware, Dogger Bank South (DBS) was awarded a contract for difference in Auction Round 7, announced on 14 January 2026. The Applicants wish to progress the project to Financial Investment Decision, commissioning and operation as soon as reasonably possible. As the Applicants have already submitted during the Examination, if a requirement relating to wake effect is imposed it will create uncertainty (in terms of timing and outcome) for the project in securing its discharge, which will not assist delivery. Wake issues are closely entwined with a range of key design and procurement decisions.
32. If there was a realistic prospect of meaningful mitigation measures, which were reasonable (i.e. not reducing output or capacity of DBS), being identified and applied through a requirement, then that could support the case for imposing a requirement. Here, however, that is not the case. Whilst the Applicants put forward without prejudice wording for a requirement at Deadline 9 [REP9-024], they only did so because there seemed to be a presumption in the mind of the Secretary of State that a requirement should be imposed, arising from the other offshore wind decisions at that time. In that situation, the Applicants wished to influence the drafting of any such requirement. That apparent intent was reinforced when the Secretary of State consulted in his RFI of 6 November 2025 [C1-001] on the form of a requirement. The Applicants provided comments on the Secretary of State's draft in their response of 6 December 2025 [document reference 22.2].
33. However, particularly in the light of the Five Estuaries decision, where the Secretary of State also consulted on a draft requirement before concluding it was not justified, the Applicants would respectfully request the Secretary of State consider further whether a requirement can be justified at all in this case.

34. The Applicants submit that they have acted in accordance with all the relevant expectations of EN-3 2025 as it has emerged through its draft stages and its final form. The Applicants invite the Secretary of State to conclude that a requirement is not justified, and that limited negative weight is ascribed in the planning balance to the effect on DBA and very little negative weight is ascribed in the planning balance to the other five affected projects.

## 4.2 Issue 2: If it is necessary to make some provision for wake effects why it would not be appropriate to impose protective provisions?

35. Projcos Submissions [C1-022] suggest that if some provision for wake effects is deemed necessary the Secretary of State should, contrary to his previous practice, impose a protective provision, rather than a requirement, in relation to wake effects. A number of points are advanced in support of this. It is necessary to consider each in turn:
- i. It is said that *"a different form of wording has been included in all made DCOs"* and that *"this risks uncertainty and inconsistency in the approach to discharge. Contrary to this, the protective provisions provide a clear process"* (see para. 3.7 of [C1-022]). The position in terms of previous DCO decisions is set out above in the table. Of the five cases some provision for wake effects has been made in three of these; in each case this was in the form of a requirement. It is thus difficult to see how this in any way justifies the imposition of a protective provision rather than a requirement in this case. For the avoidance of doubt it is not accepted that doing so would provide any more certainty or consistency in this regard; quite the contrary.
  - ii. It is then said (see the Projcos' Submissions [C1-022]) at para. 5.2.13 that *"[a]ny form of the requirement would be subject to the appeal mechanism set out in the draft DCO. This would involve a situation where, in the event of non-determination or refusal of the requirement by the Secretary of State for Energy Security and Net Zero, the Applicant may need to submit an appeal. This appeal would then be determined through the planning appeals process, and the appointment of a Planning Inspector. Given the specialist nature of this matter, we consider it unlikely that there would be a Planning Inspector available with the specialism to determine any such appeal and it would be contrary to good planning for a matter that has been subject to Secretary of State consideration to be appealed to an individual Planning Inspector"* and at para. 5.2.15 that *"the protective provisions provide for the appointment of an expert to determine any relevant disputes"*. This submission is flawed for a number of reasons:
    - a) First, this seeks to draw a self-evidently false distinction between a planning inspector on the one hand and an appointed expert on the other. Planning inspectors are, of course, experts who determine many complex and highly

technical issues in their planning casework. Such case work, of course, includes the discharge of requirements under the 2008 Act as well as conditions under the Town and Country Planning Act 1990. Indeed the Courts have held that the position of Inspectors is “*analogous to that of expert tribunals*”: see **Mead v SSLUHC** [2024] JPL 992 at [85] citing what was said by Lord Carnwath in **Hopkins Homes Limited v SSCLG** [2017] 1 WLR 1865 at [26]. Moreover, in cases such as **Westminster Ltd v SSE** [1983] JPL 454 it has been held that inspectors, even if not professionally qualified in a particular technical discipline (such as in that case engineering), are entitled to make sound planning conclusions on technical evidence, recognising that experts might not always be right and planning inspectors are entitled, as is any expert tribunal or similar, to question or reject expert evidence and to come to a sound planning conclusion. Finally, and in any event, if necessary, a planning inspector can sit with an assessor: see e.g. s. 100 of the 2008 Act and see more generally the case of **Batchelor v Secretary of State for the Environment** [1993] 1 E.G.L.R. 207.

- b) Second, it is suggested by Projcos that “*it would be contrary to good planning for a matter that has been subject to Secretary of State consideration to be appealed to an individual Planning Inspector*” (see para. 5.2.13 of [C1-022]). That submission is not understood, especially given that what is argued for by Projcos is instead a situation where there would be determination by a single expert.
- c) Third, the suggestion seems to be that matters which would require lengthy consideration of complex material before an Inspector would be overcome by the use instead of an expert. But the protective provisions proposed by Projcos (see Appendix 1 to the Projcos’ Submissions [C1-022]) show that there would be very considerable difficulties in instructing an expert to resolve any dispute, for example as to whether all “*reasonable*” steps to mitigate wake effects have been taken and setting the parameters for what an expert would be required to determine as regards financial compensation. This is so for a number of reasons, not least because as the Secretary of State rightly said in the Mona DCO decision wake effects is an “*emerging process*” subject to “*considerable levels of uncertainty*” and in respect of which it is not possible “*yet to establish exact figures for impacts, and it may never be able to*” (see para. 4.81). This would be the case even if the decision maker was an appointed expert.
- d) Fourth, it is plain that the consideration of wake effects, if it is made the subject of a requirement, must be regarded as a matter that is material to planning. Given that the discharge of any requirement is something that should be determined having regard to the public interest, the touchstone of all planning decision-making. Thus in **R. (Wallis) v North Northamptonshire Council** [2024] EWHC 3076 (Admin) the Court said at [129] that “[a]lthough planning decisions affect the property rights of individuals, a planning decision-

maker must also consider the rights and interests of the public, as expressed in planning policy” and citing Lord Hoffmann in *R (Alconbury Developments Ltd) v Secretary of State for the Environment, Transport and the Regions* [2003] 2 AC 295, at [69] and [74], explaining that “[i]t is the exercise of a power delegated by the people as a whole to decide what the public interest requires”. This is a *fortiori* with wake effects given that as the Secretary of State found in the Mona DCO decision that it is important that any approach to dealing with wake effects does “not significantly compromise the generating capacity of the Proposed Development or other secured mitigation” (para. 4.86); there is an urgent need for new offshore wind generation (para. 4.83); the certain and quantifiable benefits of new offshore wind generation clearly outweigh the indicative and uncertain losses that may be caused by wake effects (para. 4.83) and the “effects on other offshore infrastructure and activities should be ascribed moderate negative weight in the planning balance” (para. 4.89). Moreover, such decision making in relation to wake effects going forward should plainly itself be subject to public law challenge which it would be if an Inspector was the decision maker.

- e) Fifth, Projcos are correct to record that the Applicants’ position is that the imposition of a protective provision in relation to wake effects would not be justified or appropriate and that it is “unprecedented” (see the Projcos’ Submissions [C1-022] at para. 2.5). That is plainly correct having regard to the five previous decisions made by the Secretary of State.
  - f) Sixth, the argument advanced by Projcos in favour of a protective provision based on this allowing for adjudication by an expert is clearly part of an elaborate, but misconceived, attempt to argue that what it is proposing does not in fact offend the clear statements in the NPS EN-3 2025 to the effect that the planning system is not to adjudicate on compensation matters: see below.
- iii. There is then said by Projcos to be a problem with “monitoring” being required under a requirement dealing with wake effects: see paras. 5.2.10 – 5.2.12 of [C1-022]. Many requirements, and also conditions, require monitoring including where there is said to be some uncertainty as regards the effects and the need for mitigation. What is really being said here becomes clearer at para. 5.2.12 of the Projcos’ Submissions [C1-022] namely that “we do not consider that wording which does not incorporate compensation can address this and this is another reason to prefer the protective provisions which allow for resolution of all matters prior to commencement and which do not provide for continued uncertainty into the operational phase through monitoring.” So, it comes down to Projcos seeking explicit provision in the DCO for compensation. This leads to the next point.
  - iv. The Turney Opinion (Appendix 3 of [C1-022]) recognises, at para. 27, that there is a general question as to whether a requirement can secure the payment of compensation. This is because s. 120(2) of the 2008 Act states that requirements may in particular correspond to what could be imposed as a planning condition

and that it is well-established that a planning condition cannot require compensation. The Turney Opinion, however, ultimately concludes that a requirement could include an obligation for the payment of compensation. There are two points in response:

- a) It is not accepted that a requirement can lawfully require the payment of compensation applying the Supreme Court decision in ***DB Symmetry Ltd v Swindon BC*** [2023] 1 W.L.R. 198. The Turney Opinion in arguing that a requirement, unlike a condition, can require the payment of monies says (see para. 27; Appendix 3 of [C1-022]) that “*the fact that a requirement may fulfil the role of a planning condition does not mean that all requirements must fulfil that role. Further, s 120(3) read with paragraph 36 of Part 1 of Schedule 5 makes clear that a development consent order may make provision for the payment of compensation, without providing how that should be secured*”. However, this ignores PINS Advice Note 15 which says at para. 15.2 that (emphases added) “*[t]he law and policy relating to planning conditions (in particular, in England, relevant paragraphs of the National Planning Policy Framework and associated Planning Practice Guidance), imposed on planning permissions under the TCPA1990, will generally apply when considering Requirements to be imposed in a DCO...*”. Moreover, the Applicants are unaware of a requirement ever having been imposed on a DCO that obliges the payment of monies; and
- b) Further, and in any event, for the reasons set out below, the Secretary of State should not, even if it were *intra vires*, include any obligation to pay compensation in the DCO whether in the form of a requirement or a protective provision.

36. In conclusion none of the above reasons advanced by Projcos, individually or collectively, justify a departure from the Secretary of State’s consistent and now established practice of imposing requirements, rather than protective provisions, in relation to wake effects where that is deemed necessary. The Projcos’ Submissions [C1-022] say at para. 5.4 that “*Counsel’s Opinion confirms that, notwithstanding the precedent of requirements having been imposed on previous DCOs, a requirement is not the most appropriate way to address the impacts of DBS on DBA, DBB and DBC and that protective provisions are the most appropriate way to address these impacts.*” This is refuted for all the reasons set out above.

37. The Projcos' Submissions [C1-022] seek to criticise the Applicants saying (at para. 2.2) that they have "*not engaged on the protective provisions and (in spite of multiple requests), has not provided its own drafting.*" This criticism is misguided. The Applicants' position is that there is no justification for the imposition of a protective provision in relation to wake effects; instead the Secretary of State has dealt with wake effects, where that was deemed necessary, via the imposition of a requirement. The Applicants proposed their own drafting for a requirement at Deadline 9 [REP9-24] on a without prejudice basis. Moreover, when invited to do so they have submitted drafting comments on the proposed requirement on wake effects put forward by the Secretary of State: see the Applicants' RSSRfl [document reference 22.2]]. It is clearly not appropriate to impose a protective provision, and the Secretary of State, having instead proposed here a requirement, no useful purpose would be served in commenting in detail on the protective provisions put forward by Projcos. No such protective provisions should be imposed.

## 4.3 Issue 3: The compensation issue

### 4.3.1 The updated policy position

38. The Secretary of State in his RFI has specifically asked the parties to address recent policy changes arising from the designation of the NPS EN-3 2025 on 6 January 2026.
39. Projcos accept (see the Projcos' Submissions [C1-022] at para. 6.3) that while NPS EN-3 2025 is not directly applicable (because of the transitional provisions applicable to the Application) that it "*may attract weight in the determination of this Application (particularly once designated)*"; which, of course, it now has been. See further in this regard the Applicants' RSSRfl [document reference 22.2] at section 2.7, paras. 9 – 12. The position now reached, with the designation of NPS EN-3 2025, in the Applicants' submission, is that great weight can and should be given to it, considering that, despite not being directly applicable, it sets out express national policy on the issue of wake effects for the first time.
40. NPS EN-3 2025 provides no support whatsoever for the contentions of Projcos, indeed quite the contrary. The strenuous attempts in the Projcos' Submissions and the Turney Opinion [C1-022] to support a different interpretation of what was then a draft of NPS EN-3 2025 at least indicates the importance of this issue. NPS EN-3 2025 and the "Supplementary guidance for renewable energy infrastructure (EN-3): Offshore wind wake effects (**"the Supplementary Guidance"**) (also published on 6 January 2026) are fatal to the case which Projcos have pursued throughout the examination and beyond:
- i. Para. 6.4 of the Projcos' Submissions [C1-022] is a good example. It says "*[t]he NPS does not state that compensation is not appropriate (which it could have done). It states that it is not necessarily expected, and this is an assessment which must be based on compliance with the terms of the policy. It is implicit in this wording that there may be circumstances even under the new policy where compensation may be appropriate. There is no such qualification on compensation under the current NPS.*"

Projcos go on to say that “[t]he Consultation Response and supplementary guidance also makes it clear that the purpose of the wording is not to avoid compensation, but is to avoid adjudicating on compensation. The protective provisions address this by providing a clear process which allows for expert determination” (see para. 6.6, para. 6.8 of the Projcos’ Submissions [C1-022] is to similar effect). These submissions are unsustainable given that it is said, in terms that matters of compensation (see NPS EN-3 2025 at para. 2.8.233), that there is no expectation that inter-project compensation is required to mitigate wake effects and crucially that such matters are “outside of the planning process”. These last words are ignored in the Projcos’ Submissions and the Turney Opinion [C1-022]. The Secretary of State in the RFI has correctly drawn attention to para. 2.8.233 of NPS EN-3 2025 as being very important and relevant considerations to the Application.

- ii. The Turney Opinion says (at para. 17; Appendix 3 of [C1-022]) that “[t]he critical question here is the extent to which the NPS either requires or permits the consideration of compensation for wake loss”. The view taken in that Opinion is that “on a proper construction of the policy, the NPS indicates that compensation may be required, but does not require it in all cases.” In support of this conclusion reference is made to various paragraphs in NPS EN-3 2025. However, all of these paragraphs go to the materiality of wake effects in decision-making and the possible need for mitigation. None of those paragraphs in any way supports the contention that compensation may be required. Rather NPS EN-3 2025 and the Supplementary Guidance explicitly provide to the contrary. This is simply no escaping this given that para. 2.2.233 of NPS EN-3 2025 refers to compensation being “outside of the planning process”.
  - iii. The Secretary of State is correct in law to say in NPS EN-3 2025 that such matters are outside the planning process. It is a trite proposition that the planning system does not exist to protect purely private interests: see e.g. **Wood-Robinson v Secretary of State for the Environment** [1998] JPL 976 at 979 (per Robin Purchas QC sitting as a Deputy High Court Judge) and **R v Doncaster MDC ex p. British Railways Board** [1987] JPL 444 at 445 (per Schiemann J). The Government’s Planning Practice Guidance contains guidance to similar effect: see Paragraph: 008 Reference ID: 21b-008-20140306 (Revision date: 06 03 2014)<sup>5</sup>.
41. Paras. 17 – 19 of the Applicants’ RSSRfl [document reference 22.2] sets out the correct interpretation of the policies contained in what was then a draft version of NPS EN-3 2025 and the Supplementary Guidance:

---

<sup>5</sup> “The scope of what can constitute a material consideration is very wide and so the courts often do not indicate what cannot be a material consideration. However, in general they have taken the view that planning is concerned with land use in the public interest, so that the protection of purely private interests such as the impact of a development on the value of a neighbouring property or loss of private rights to light could not be material considerations.”

17. Fourth, the revised wording in revised draft EN-3 as published in November 2025 states that (emphases added):

*"2.8.232 Applicants should demonstrate that they have made reasonable endeavours to mitigate the impact of wake effects on other offshore wind generating stations.*

*82.8.233 However, there is no expectation that wake effects can be wholly removed between developments, or that inter-project compensation arrangements are a necessary means to mitigate the impact of wake effects, although developers may opt to take such approaches outside of the planning process.*

...

*2.8.316 Where an applicant has demonstrated that they have made an assessment of inter-array wake and shown that they have made reasonable efforts to work collaboratively with those who may potentially be impacted to mitigate impacts, then the existence of a residual wake effect impact is unlikely to carry more than limited weight against a project in the planning process"*

18. The draft Guidance includes the following further guidance on the above paragraphs (bold in the original text):

**"1.3 Paragraph 2.8.232**

***This section encourages developers to have made 'reasonable endeavours' to mitigate the impact of wake effects. In practice, this means developers do not have to take every possible course of action to mitigate the impact of wake effects but should demonstrate reasonable efforts at mitigation, including evidencing their rationale for why they have or have not, on balance, decided to implement mitigations.***

**1.4 Paragraph 2.8.233**

***This section clarifies the role of the planning system where wake effects are raised. Disputes around compensation for wake effects are regarded to be a commercial matter to be managed between disputing developers. The planning system will not adjudicate on matters of compensation for wake loss.***

**1.5 Paragraph 2.8.316**

***This section is intended to help reduce the chances of delays to new offshore wind farms by explaining how wake effects will be considered as a planning application progresses. If developers meet the principles set out within the previous paragraphs wake effects will likely carry lower weight against a project being consented in planning decisions."***

19. The Government's Response explains that the November 2025 version of draft EN-3 includes "clarificatory text on the consideration of wake effects by developers": see the Introduction at p. 5. The Government response includes (at p. 15) emphasis added:

*"Government acknowledges that wake effects are a complex and evolving consideration within the offshore wind sector, with no clear industry consensus at this time. In response to consultation feedback, the government has made changes to improve clarity and ensure greater consistency across the NPS. Following consultation, government has set the expectation that developers are to demonstrate reasonable efforts to mitigate wake effects, rather than being expected to fully eliminate ...*

*In other areas, respondents proposed significant changes to the new text, including suggestions to introduce financial compensation mechanisms to mitigate wake effects. On this, there were two opposing viewpoints within industry. Some respondents argued for better protection in the planning system from incoming projects, including an expectation that they should be compensated for output loss caused by wakes. Other respondents argued that wake effects have been accounted for at the seabed leasing stage, through TCE's buffer zone between each lease area, and therefore no compensation should be paid. On this issue, the government maintains that wake effects are a commercial matter to be resolved between developers and the planning system is not expected to adjudicate on compensation arrangements for wake effects".*

42. These submissions directly address the paragraphs which the RFI asks the parties to address.
43. The interpretation of policy is ultimately a question of law for a Court to determine. In ***R. (Tesco Stores Ltd) v Stockport MBC*** [2025] EWCA Civ 610 the Court of Appeal said at [36] that "... [i]nterpreting a planning policy ought not to be a difficult task, but straightforward (see the leading judgment in ***R. (on the application of Corbett) v Cornwall Council*** (2022) EWCA Civ 1069, at paragraph 19). It should not generally involve the kind of linguistic precision the court would bring to the interpretation of a statute or contract. Construing the language in the policy should not require it to be dismantled and reconstructed, or a gloss imposed upon it, or resort to paraphrase. One can expect the purpose of the policy to be clear from its own provisions, given their ordinary meaning and read in their context. Policies should be stated in plain terms, easy to understand for those affected by decisions made in accordance with them, and capable of being applied with realism and common sense. Mostly they are...."

44. The policy of the Secretary of State as set out in NPS EN-3 2025 and the Supplementary Guidance is clear. Thus, as is stated in the Applicants' RSSRfl [document reference 22.2] at para. 20 (underlining in the original, bold added), "[t]here is ... in the SoS's policy "no expectation" that "inter-project compensation arrangements are a necessary means to mitigate the impact of wake effects" (see draft EN-3 at para. 2.8.233). The reasons for this being Government policy is clear, namely that "inter-project compensation arrangements" are **outside of the planning system** (ibid). See to similar effect the draft Guidance which says at para 1.4 "Disputes around compensation for wake effects are regarded to be a commercial matter to be managed between disputing developers. The planning system will not adjudicate on matters of compensation for wake loss". Moreover, the Government's Response at p. 15 underlines this saying, "the government maintains that wake effects are a commercial matter to be resolved between developers and the planning system is not expected to adjudicate on compensation arrangements for wake effects".
45. The Turney Opinion (Appendix 3 of [C1-022]) is forced ultimately to recognise that the NPS EN-3 2025 has set its face against the Projcos' case that financial compensation for wake effects is a planning matter to be provided for in a DCO and so it seeks to directly challenge the content of the policy contained in NPS EN-3 2025 as now designated. Thus at para. 19 of the Turney Opinion (Appendix 3 of [C1-022]) the content of NPS EN-3 2025 is said to be "surprising" because, inter alia, "[i]mpacts on viability of other schemes may, in particular, be relevant where those impacts will have adverse planning consequences. A good example of this is the retail impact test in the NPPF, where it is necessary to consider the impact of some proposals on existing and future investment in existing town centres" It is then said that in this context "if the effect of consenting one wind farm was to prevent the delivery of another, then this would in my view be an obviously material planning consideration (not least because any benefit of delivering the second would have to be offset by the disbenefit of losing the first wind farm)." But this does no more than demonstrate that wake effects can be a material planning consideration. That is, of course, explicitly confirmed in NPS EN-3 2025 and is not now in dispute.
46. The issue that the Turney Opinion needs to address is *not* the materiality of wake effects but rather whether compensation for such effects can be required in the planning process. The retail impacts example given in the Turney Opinion (Appendix 3 of [C1-022]) is rather telling in this regard. It is correct that under the NPPF (see para. 94 in the 2024 version) when an application for new retail is made consideration must be given to "the impact of the proposal on town centre vitality and viability, including local consumer choice and trade in the town centre ...". There is no dispute that retail impacts on existing retail stores can indeed be relevant in planning but it has never been suggested that compensation is the way to deal with such issues. It is plainly not.

47. The way in which these matters play out in the planning system is well-illustrated by *R. (Asda Stores Ltd) v Leeds City Council* [2021] PTSR 1382. The local planning authority granted planning permission to a developer for the construction of a mixed-use retail-led development on the site of an existing out-of-town retail park. The claimant, Asda, owned and operated a large existing retail store close to the proposed development. Officers advised that the proposal would have a significant adverse impact on the town centre and would harm its vitality and viability. The committee rejected the planning officer's recommendation and granted planning permission. It indicated that it placed "*greater weight*" on the benefits of economic development, regeneration, increase in retail offer and job creation; that those benefits outweighed any harm the development would have on the vitality and viability of the town centre. The judge upheld the committee's decision. The Court of Appeal upheld the Judge's decision holding that while the NPPF provides that where an application was likely to have a significant adverse impact on town centre vitality and viability, it "*should*" be refused this could be outweighed by other considerations. So where it was found that such an impact was likely, other policies in the NPPF might support the proposal and would also count as material considerations.
48. The position is *a fortiori* in the offshore wind context because as the Secretary of State found in the Mona DCO decision: (i) there is an urgent need for new offshore wind generation (para. 4.83); (ii) the certain and quantifiable benefits of new offshore wind generation clearly outweigh the indicative and uncertain losses that may be caused by wake effects (para. 4.83) (iii) "[t]he Secretary of State considers that while the capacity of some projects may be reduced, cumulatively there is a greater capacity of clean electricity generation with the proposed development" (para. 4.7) and (iv) thus the "*effects on other offshore infrastructure and activities should be ascribed moderate negative weight in the planning balance*" (para. 4.89).
49. Perhaps recognising that the retail example, if it is examined more closely, is inimical to Projcos' case the Turney Opinion (Appendix 3 of [C1-022]) seeks to distinguish the position by saying that in "*the context of an NPS which is relevant to a decision to grant development consent, and not solely planning permission, there is an obvious relevance of matters of compensation since a DCO will routinely include provisions to acquire land or rights*" and that this can include "*provisions to grant statutory authority to interfere with rights ..., coupled with provisions to ensure that compensation is payable in cases*". (see para. 20). This goes back to Projcos' case for the incorporation of protective provisions. The history of such provisions lies in the Victorian Rail Acts and these are explicitly provided for by Sched 5, Part 1, para. 10 of the 2008 Act. But the context here, so far as Projcos is concerned, is not any acquisition of land or rights or interference with rights. This is instead the ordinary planning case concerned with the environmental (here economic) impacts of a development. This is another reason why wake effects, if provision needs to be made in respect of such, are properly the subject of a requirement rather than a protective provision.

## 4.3.2 The viability issues

50. The Projcos' Submissions argue that the need for compensation to be incorporated into the DCO is driven by a suggestion that granting the DCO is "*likely to affect the future viability of DBA, DBB and DBC*" (see para. 2.6.2(a) of the Projcos' Submissions [C1-022]) and that Projcos "*have demonstrated that the Projects are likely to affect the future viability of DBA, DBB and DBC*" (see para. 7.2 of the Projcos' Submissions [C1-022]). The Turney Opinion (Appendix 3 of [C1-022]) adds (at para.4) that "*The Projco IPs' position is that, even on the Applicant's wake loss assessment, wake loss impacts from DBC are likely to affect the future viability of the Dogger Bank A, B and C*". This is not the case. The position on viability, on the evidence, is as follows:
- i. The Applicants accept that there will be a financial impact, of varying degrees, on each of the six projects. This impact from new projects is an entirely normal risk which any offshore wind farm in UK waters has to accept. This arises from the long lifetime of projects (c. 30 years) and long standing UK government policy to substantially increase offshore wind capacity. Any prudent developer will have anticipated and made allowance for this risk when taking a project to its Financial Investment Decision ("FID"), along with a wide range of other financial risks to the economic performance of the project.
  - ii. To claim that the viability of a project is likely to be affected by a wake effect from a new offshore wind farm sets a high bar in terms of the evidence required to support it. Viability goes to the life or death of the project. In ***Hunter v Secretary of State for Levelling Up, Housing and Communities*** [2023] EWHC 1068 (Admin) Tim Smith (sitting as a Deputy High Court Judge) had to consider a planning policy concerned with financial viability. The Judge held that consideration of such matters in planning must be looked at objectively (see [63]) as otherwise the party with the burden of establishing viability could "*distort the analysis with specific contentions that could prove difficult to verify*" and because "*[a]n objective test also imposes the requisite degree of consistency to decision-making in this policy area*" (ibid.). The same principles must apply here. The burden in relation to the Application before the Secretary of State, on the allegation of a lack of viability, is on Projcos and Ørsted: see below;
  - iii. For a project before FID it would mean a financial impact which would prevent FID from happening. For a project after FID, it would mean something which would cause the project to be terminated early (because its continuing returns, or losses, were unacceptable) or which would take the project into breach of financial covenants to its lenders.
  - iv. Projcos and Ørsted have not put forward any kind of considered viability case. They have simply calculated the highest 'headline' reduced annual income they can derive and then claimed that it is somehow self-evident that this will threaten the viability of each project in different ways. They have adopted an extremely simplistic and incomplete approach, even (in the case of Projcos) denying the central importance of allowing for the need to discount future income, which is

routinely at the heart of any financial analysis. The simplistic nature of this approach starts with the fact that they both seek compensation for 100% of any reduced income. It is simply not credible for Projcos and Ørsted to claim that *any* reduced income gives rise to a viability concern. No context is provided as regards total revenues and costs. The assumption is, in effect, made that it is legitimate to isolate the financial impact of wake effects as the only factor which might have an adverse financial impact on a project. In practice, there are a multitude of such factors (including allowing, for example, for unplanned major maintenance and equipment replacements), which will be analysed at each stage of project operation and in relation to key project decisions.

- v. Projcos assert that the estimated revenue impacts represent a “significant economic loss ... that the senior debt lenders would not have considered when setting their covenants”. However, they provide no evidence as to whether:
  - a) the existing covenants are consistent with a reasonable normative financing structure; or
  - b) once properly contextualised against total cashflows and tested under factual and counterfactual scenarios, wake-related impacts materially increase default risk or covenant breach risk.
- vi. In the absence of such evidence, any potential impact on financial viability amounts to simple assertion.
- vii. Even as an attempt to measure the revenue impact in isolation, there are a number of features that suggest the magnitude of the claimed wake effect is likely to be overstated. These include:
  - a) treating the three projects (DBA, DBB and DBC) in combination without demonstrating that shared costs are significant enough for their viability to be jointly determined. No evidence in relation to the scale of shared costs has been provided;
  - b) valuing wake-related losses during the 15 year CfD period as if the negative pricing rule has no effect on CfD support;
  - c) using post-CfD price assumptions (either the CfD strike price or baseload wholesale prices) that are not aligned with expected offshore wind capture prices and appear inconsistent with more recent DESNZ analysis; and
  - d) ignoring the fact that a revenue loss does not translate one-for-one into a loss of profits available to investors, because lower output would be expected to reduce variable costs, and because the impact on investors is ultimately determined by post-tax, not pre-tax, cashflows.
- viii. Combined with the absence of any serious sensitivity analysis, these elements mean Projcos’ financial analysis is of little use for any considered viability assessment. Ørsted’s financial analysis is similarly lacking.
- ix. Finally, as the Applicants have highlighted repeatedly, the fact that new investors have acquired a stake in affected projects in the full knowledge of the wake effects from DBS is clearly inconsistent with the claim that the viability of those projects is at risk. Since the end of the Examination, Ørsted announced “the

- acquisition of a 50 % equity ownership share [by Apollo] and the commitment from Apollo to fund 50 % of the payments under the EPC contract for the wind farm and the offshore transmission asset” of Hornsea Three (Ørsted press release dated 3rd November 2025). This new acquisition reinforces this point.
- x. In summary, Projcos and Ørsted have not provided evidence which engages para. 2.8.347 of EN-3 2024 and the financial impact of the wake effects does not justify substantial weight being applied in the decision.
51. The Turney Opinion, perhaps recognising the difficulty of any suggestion that a likely effect on future viability has been proven by Projcos instead suggests that the burden is somehow on Applicants and that the Secretary of State needs to be sure that viability is not affected. Thus it is said (at para. 23; Appendix 3 of [C1-022]) that *“if no provision is made in the DCO, the Secretary of State does not know whether and to what extent the Applicants and the Projco IPs will be able to resolve matters by commercial agreement, and what impact this will have on the financial viability of each respective project. The Secretary of State cannot assume that compensation will be recovered to address any impacts on viability, and thus cannot assume whether particular projects will be delayed or diminished as a result of wake effects from the scheme under consideration.”* This is not the correct approach. The Secretary of State is entitled to, and should, form a view as to whether, on the evidence and argument before him at the date of the decision, Projcos have established that viability is at risk. The Projcos’ evidence has been wholly lacking in this regard. The evidence shows that wake effects may marginally reduce Projcos’ returns. That is the high point of the case that can be advanced by Projcos on the evidence.

## 5 The wording of the draft requirement

52. The Applicants' position on the drafting of any wake requirement is that the draft put forward in paragraph 31 of [REP9-024], on a without prejudice basis, should be followed, for the reasons given in that submission. The Applicants have, of course, noted that the Secretary of State has put forward a different draft. If he is minded to impose this draft, then the Applicants' position remains that the drafting should be amended as set out in the Applicants RSSRfl [document reference 22.2], for the reasons given there.
53. The amendments proposed by Projcos to the draft requirement proposed by the Secretary of State are different to those from Ørsted: see below. The key difference is that Projcos has included express reference to "*compensation for economic loss*" in the draft requirement at paras. 1(b), 2(b) and 3(b). It should be noted that even if, which is not accepted, it is lawful for such an obligation to be included in a requirement it is not justified or appropriate for all the reasons set out above.
54. There are a number of other comments on the proposed changes to the drafting:
- i. Projcos seek to amend para. 3(c) of the Secretary of State's draft requirement so that the Secretary of State must be satisfied that wake effects "*are mitigated*" rather than merely considered. That change is clearly not justified having regard to the findings of the Secretary of State in the Mona DCO that "*the assessment of wake effects is an emerging process, with considerable levels of uncertainty. It is not a process that can yet establish exact figures for impacts, and it may never be able to*" (see para. 4.81) and that in terms of wake effects "*there may not be a simple solution which would not significantly compromise the generating capacity of the Proposed Development or other secured mitigation*" (para. 4.86). No technical evidence has been advanced by Projcos to undermine those findings in the Mona DCO and which are also applicable here.
  - ii. For the same reasons the proposed deletion of the word "*reasonable*" in para. 3(b) of the requirement is not justified. The changes to this paragraph go to the heart of the issue and are rejected entirely. Projcos are trying to remove the concept of reasonableness, which is a key test under paragraph 4.1.16 of EN-1
  - iii. Para, 3(c) seeks to introduce the scenario of a reduction in capacity of DBS as a consequence of the wake plan measures. This is rejected for same policy reasons the requirement was not imposed in Five Estuaries and in line with the extensive submissions the Applicants have made that any test for the reasonableness of wake mitigation measures should not reduce overall capacity (or output);
  - iv. Para 3(g) seeks to introduce operational measures into the discussion, when the Projcos and Orsted have presented no credible evidence to counter the

Applicants' detailed submissions that no such measures are available or reasonable.

## 6 The allegation of a legitimate expectation

55. The Projcos' Submission [C1-022] refers to the request made for further submissions in respect of the Outer Dowsing Offshore Wind Farm ("ODOW") project, at para. 3.3, and suggest that this somehow "gives rise to a legitimate expectation that consultation on those protective provisions will be undertaken in this examination" (para. 4.1). This is incorrect:
- i. First, the submissions made ignore the fact that the Secretary of State had not asked for any submissions from Ørsted or Equinor on protective provisions – rather they volunteered a completely new set of protective provisions. Since the Secretary of State already had ODOW's comments on the original Ørsted/Equinor protective provisions, it was understandable for the Secretary of State to invite ODOW to comment. It does not mean the Secretary of State has in some way shifted away from his proposed draft requirement, which is consistent with past practice in other DCO decisions has put forward. The alternative would have been to not accept the PPs into the process.
  - ii. Second, in any event, any allegation of a legitimate expectation would have to be based on well-established and consistent practice not a single instance: see e.g. **R (MP) v Secretary of State for Health and Social Care** [2021] P.T.S.R. 1122.
  - iii. Finally, the Secretary of State will be aware that further wake effect submissions have been made in the context of the ODOW project<sup>6</sup>. These are relevant because the protective provisions sought by Orsted and Equinor in relation to ODOW are essentially the same as those sought in relation to DBS, as is the drafting of the<sup>7</sup> alternative, without prejudice requirement. ODOW's submissions, which attach a formal opinion of [REDACTED] support the Applicants' submissions set out above on a number of matters, including; the role the planning system in relation to protecting, or otherwise, private, commercial interests; the lack of legal and policy justification for the imposition of financial compensation generally (including by way of protective provisions); the lack of availability of future mitigation measures; the policy and evidential approach to the question of viability and the critique of the drafting of the without prejudice wake requirement proposed by Orsted and Equinor.

<sup>6</sup> <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010130-002629-C9-005%2037.3%20The%20Applicant's%20response%20to%20the%20C3%20Ørsted%20IPs%20E2%80%99%20and%20the%20Equinor%20IPs%20E2%80%99%20December%202025%20Submissions%20on%20Wake%20Effects.pdf>

# Appendix A - DBS Design Evolution Considering the Impact of Inter-Farm Wake Effects

## Contents

1	Introduction .....	33
2	Wake as a Design Driver .....	35
3	Design Constraints and Non-Wake Design Drivers .....	36
4	Design Decisions and Evolution .....	37
4.1	Pre Round 4.....	37
4.2	Round 4 Bid .....	37
4.2.1	Selection of General Location .....	38
4.2.2	Bid Configuration(s) .....	38
4.3	Design changes in EIA .....	44
4.4	Wind Farm Array Layout Design .....	46
4.5	Resulting Design .....	46
5	Conclusions .....	47
5.1	Future Mitigation Measures.....	47
5.2	Closing Remarks.....	48

## Tables

Table 1-1	Criteria for a Reasonable Mitigation .....	34
Table 5-1	Assessment of Wake Mitigation Methods, Items in grey are new proposed mitigations from the Projcos. Details of the assessments are in the following sections. ....	48

## Plates

Plate 4-1	Layouts considered in modelling .....	40
Plate 4-2a-e	Alternative wind farm lease area and Array Area configurations. ...	42
Plate 4-3	Map showing the modifications made to the DBS Array Area due to environmental constraints. Labelled numbers are references to the text above. ....	45

## Glossary

Term	Definition
Annual Energy Production (AEP)	The calculated amount of energy a project will produce, typically given in gigawatt-hours per year.
Dogger Bank South (DBS) Wind Farms	The collective name for the two Projects, DBS East and DBS West.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Statement (ES).
Global Blockage Effect (GBE)	The effect on the atmosphere created when a large wind farm “blocks” the flow of wind. Can be characterized both by slowing of wind (upstream of a wind farm) and acceleration of the wind (often to the sides and behind a wind farm).
Wake	The area of reduced windspeed behind a wind turbine caused by the removal of momentum and energy by the wind turbine.

## Acronyms

Term	Definition
AEP	Annual Energy Production
CfD	Contract for Difference
DBA	Dogger Bank A wind farm (under construction)
DBB	Dogger Bank B wind farm (under construction)
DBC	Dogger Bank C wind farm (pre construction)
DBD	Dogger Bank D windfarm
DBS	Dogger Bank South
DBSE	DBS East
DBSW	DBS West
DCO	Development Consent Order
EIA	Environmental Impact Assessment
NPS	National Policy Statement
SSE	Windfarm developer, formerly Scottish and Southern Energy
TCE	The Crown Estate

# 1 Introduction

1. This appendix provides a brief overview of the design decisions that have been made during the development of Dogger Bank South (DBS) east and west, (DBSE and DBSW respectively) to reduce the effects of wake<sup>1</sup> on existing and consented offshore wind farms.
2. DBS has been designed under the regime and requirements of NPS EN-3 2024 which did not explicitly require consideration of wake (and historically wind farms have not considered wake during EIA or the DCO process). However, in accordance with “good neighbour” practises, the impact of DBS on existing wind farms has been considered in all stages of development.
3. The Secretary of State has asked the Applicants to “demonstrate that they have made reasonable endeavours to mitigate the impact of wake effects”. This document (together with [REP4-099], [REP8-038], [AS-179], the Applicants’ closing statements on wake effects [REP8-046] and the Applicants’ response to the Mona DCO decision with regards to wake effects [REP9-024]) set out how the DBS design process has met the requirements laid out in the new NPS EN-3 2025. This document thus fulfils the requirement of 2.8.232 and 2.8.233 of the NPS:

*“Applicants should demonstrate that they have made reasonable endeavours to mitigate the impact of wake effects on other offshore wind generating stations.*

*However, there is no expectation that wake effects can be wholly removed between developments [...]”*

4. Design considerations already taken are presented below. The Applicants made detailed submissions in the Examination [REP4-099], [REP8-038], and [AS-179] which considered remaining options (i.e. potential mitigation measures going forward) in depth showing them to be predominantly unfeasible. The Applicants’ proposed criteria for reasonableness of mitigation (Table 4 of [REP8-038] and reproduced in **Table 1-1** below) should also be considered when reviewing the design decisions taken below.

---

<sup>1</sup> It should be noted that “wakes” are only one part of the aerodynamic interactions of wind farms but are by far the dominant part. The “global blockage effect”, and emerging interaction such as “gravity waves” can impact the interactions of wind farms both positively and negatively. In this document, “wakes” and “wake effects” are taken to mean “all aerodynamic interaction effects” rather than the strict definition of the downstream wake. Thus, for example, mitigations are considered accounting for all these interactions; and it is assumed that all 3rd party text on this topic (such as draft NPS text) are using a similarly broad definition.

Table 1-1 Criteria for a Reasonable Mitigation

Criterion	Description
1: Meaningful Impact	A reasonable mitigation must have a meaningful impact, i.e. a reduction from 2% loss to 1.99% loss would be a benefit that is within the error margins of the modelling methods and unlikely to be realised in reality (and may be reversed if a different wake model were used).
2: Net Positive	A reasonable mitigation would not significantly harm the net generated renewable energy; e.g. to take an extreme example, if a wind farm must curtail its capacity factor by half to bring a 1% gain to another, that would not be considered reasonable.
3: Possible and Available	A reasonable mitigation must be proven possible and implementable with available technology by the date of construction of the wind farm.

## 2 Wake as a Design Driver

5. When designing offshore wind farms, it is key to understand that the wake interactions between wind farms occur in both directions. For example, when the wind blows from the south, then DBS would wake the Dogger Bank wind farms to the north (DBA, DBB). However, in European waters, the wind regime is somewhat balanced, and the wind blows from all directions with a reasonable probability as shown in the wind-rose in **Plate 4-1**<sup>2</sup>. Thus, when wind blows from the North, DBS is waked by the Dogger Bank projects.
6. In such a situation, the most effective approach to mitigate wake is to move the wind farms as far apart as possible. This reduces wake interactions in two ways: first, it leaves a larger space for wakes to recover between the farms, and second, it reduces the range of wind directions in which the wake interactions occur. This leads to two general rules of wind farm design:
  - The design driver that maximises the yield of one wind farm will also maximise the yield of the other wind farm in order to minimise the two-way wake interaction.
  - When an opportunity to move wind farms or turbines further apart is not taken, there must be a significant alternative design driver forcing the wind farms closer together (e.g. significant increased risk or cost, or externally imposed boundary constraints).
7. As such, wake is considered in all phases of a wind farm's design, from site identification through to final layout.

---

<sup>2</sup> DBS wakes will impact approximately half of the turbines of DBA and DBB approximately 3/4 of the time. DBA or DBB's wakes will impact DBS approximately the remaining 1/4 of the time. Moving DBS further from DBA and DBB would reduce external wake losses 25% of the time and global blockage the remainder of the time. As such despite this disparity in the amount of time wake occurs each way, the design driver remains as strong.

### 3 Design Constraints and Non-Wake Design Drivers

8. In considering the reasonableness of possible design decisions it must be understood that wakes, like all considerations, must be balanced against the myriad of other design drivers, many of which are mandatory:
  - Requirements imposed by The Crown Estate (TCE), as laid out in the Round 4 bidding rules, including:
    - The four defined bidding search areas which were fixed by TCE, one of which was the Dogger Bank Bidding Area.
    - The required buffer distances from existing wind farms.
    - The boundaries of the development areas TCE awarded (e.g. in this case, the awarded lease boundaries for DBS).
    - Maximum and minimum installed capacity, and minimum power-density.
  - Requirements defined in the EIA process that necessitate protection of the environment, such as:
    - Human factors including military and civilian radar, existing infrastructure (offshore pipelines and wells), vessel navigation, fisheries, and protection of archaeology and wrecks, among others.
    - Biological factors such as birds, benthic habitats, and fish.
  - Physical design constraints, for example:
    - Bathymetry (deep and shallow water making some regions unviable)
    - Geology and boulders (some regions are not viable for foundation installation)
    - Seabed mobility (which can significantly impact array cables).
9. These design drivers have been balanced against both the commercial performance of DBS (noting that the cost of energy from DBS will be passed on to UK consumers), and the impact on the performance of existing wind farms.
10. During the EIA, DBS committed to undertake consultations with other developers and to assess 'interference' with other wind farms. This was primarily focussed on aspects such as cable crossings and construction interactions, but external wake effects were considered as part of project design studies from the beginning of the project.
11. As an experienced offshore developer and operator, considerations of the impact of RWE's Round 4 projects on existing wind farms began prior to Round 4 bidding and have continued throughout the design process.

## 4 Design Decisions and Evolution

12. It is the nature of wind farm design that high-impact decisions, such as the location and size of the project, are made early in the design process (and in this case were partially fixed by the Round 4 bid rules defined by TCE).
13. As the design evolves, scope for mitigations reduces and remaining flexibility becomes ever smaller. For example, at the point of the Round 4 bid award the overall 500km<sup>2</sup> area was fixed for each DBS project. The Projects were then refined down during the EIA process towards a final maximum of 300km<sup>2</sup> as required by TCE. At time of writing, with approaching design freeze in preparation for construction, even the layout of the individual turbines is predominantly fixed.

### 4.1 Pre Round 4

14. Operators of existing projects and prospective bidders for new projects had the opportunity to lobby TCE to influence bidding rules. In April 2019 Innogy Renewables UK Ltd (now RWE Renewables UK Ltd), resulting from work undertaken as part of the Forewind consortium (which included the Dogger Bank projects of the ProjCos), lobbied TCE to improve the protection of existing wind farms from new projects, as did other developers. At the time there was only a 5km buffer requirement. In line with this lobbying, TCE did extend the buffer distance from 5km to 7.5km.
15. **An increased buffer (from 5km to 7.5km) lobbied for by RWE will have led to a significant reduction of the wake impact of DBS on DBA, the closest wind farm.**

### 4.2 Round 4 Bid

16. With the bid rules fixed by TCE, a significant portion of possible mitigations are already unavailable. Restrictions on bidding areas, farm shape, energy density, etc are all prescribed.
17. The design drivers which result from the price-based Round 4 bidding process focus strongly on maximising the value of proposed projects. As Round 4 was a competitive bidding process it was understood that suboptimal bids would not be successful. In order to maximise value to consumers and bid price, bids were developed targeting: deliverable projects; with maximum yield; at the lowest cost. Project proposals which were not at the optimum limit of the bidding rules were not expected to be awarded an Agreement for Lease. In addition, decisions taken to maximise competitiveness in TCE's process would be known to assist the future competitiveness of the projects in the competitive Contract for Difference (CfD) process.

### 4.2.1 Selection of General Location

18. The Dogger Bank area was known to have high potential for further offshore wind development. Within the original Round 3 Forewind consortium (SSE, Equinor, Statkraft and Innogy/RWE) which had exclusivity until 2020 for development of the Round 3 Dogger Bank Zone, four further projects (“Dogger Bank – Teesside C and D”, and “Dogger Bank Tranche D” (which would have been split into two wind farms) in addition to DBA, DBB, DBC/DBD and Sofia) were identified to the north of the Round 3 sites, although these were not taken forward for development due to the poor market conditions at the time. However, it was apparent during the Forewind development process that the area to the south of the Round 3 sites (but outside of the Round 3 search area) had a high potential for future development and could perhaps be preferable to the north.
19. RWE could not consult with the owners of the existing offshore wind projects on their Round 4 bid planning, since this form of competitive bidding is a highly confidential process. It is likely that this could have been interpreted as anti-competitive behaviour, as well as disadvantaging any future bid by giving insights to potential competitors.
20. Further, it was understood that TCE, as part of their Round 4 bid process, would consult with existing operators which is well aligned with their role in planning and administering the Round 4 bidding process.
21. **Thus, DBS was proposed in a location in which it should have been well known to the ProjCos (as former members of Forewind) that there was a high likelihood of future wind farm development, allowing them to account for such developments in their assumptions about future wake effects and related financial planning.**

### 4.2.2 Bid Configuration(s)

22. Having selected a general location to site the DBS project(s), it was then necessary to define specific boundaries to bid for in Round 4. The evolution followed three main steps:
  - **Lease Area:** the sea-bed region bid for and awarded during Round 4 (discussed in this section)
  - **Array Area:** a reduced region of the lease area, having removed parcels of sea-bed due to various constraints (covered in section 4.3)
  - **Array Layout:** the turbine positions within the Array Area (covered in section 4.4)
23. To maintain design flexibility, the maximum allowable bid area was defined, with a requirement to reduce the size of the final Array Area within the lease area to achieve a specified minimum energy density of 5MW/km<sup>2</sup>. Further, the bid rules required multiple options to be presented to TCE, which then selected the final awarded boundaries.

24. Boundary definition is sensitive to the weight given to each of the various design drivers including inter-farm wake interactions (as discussed in section 1). Thus, even in the same approximate location various alternatives could easily have been proposed.
25. To illustrate this, several potential alternative bid configurations (lease areas) are described below and shown in **Plate 4-1**, all of which are in the same approximate location, but with different design emphasis to show a range of possibilities. In addition, an example of an alternative Array Area using the as-awarded Round 4 lease area is presented. These alternative cases provide an indication of the value of the efforts made to mitigate inter-farm wake.
26. The impact of these alternative configurations has been evaluated using RWE's state-of-the-art in-house wake model, VV. More details of this modelling approach are available in Wake Effects - Response to ISH3 Action Points (Revision 2) [REP8-038], section 1. The third-party wind farms that have been simulated are shown in **Plate 4-1**, along with the current baseline DBSE and DBSW that has been used for comparison.

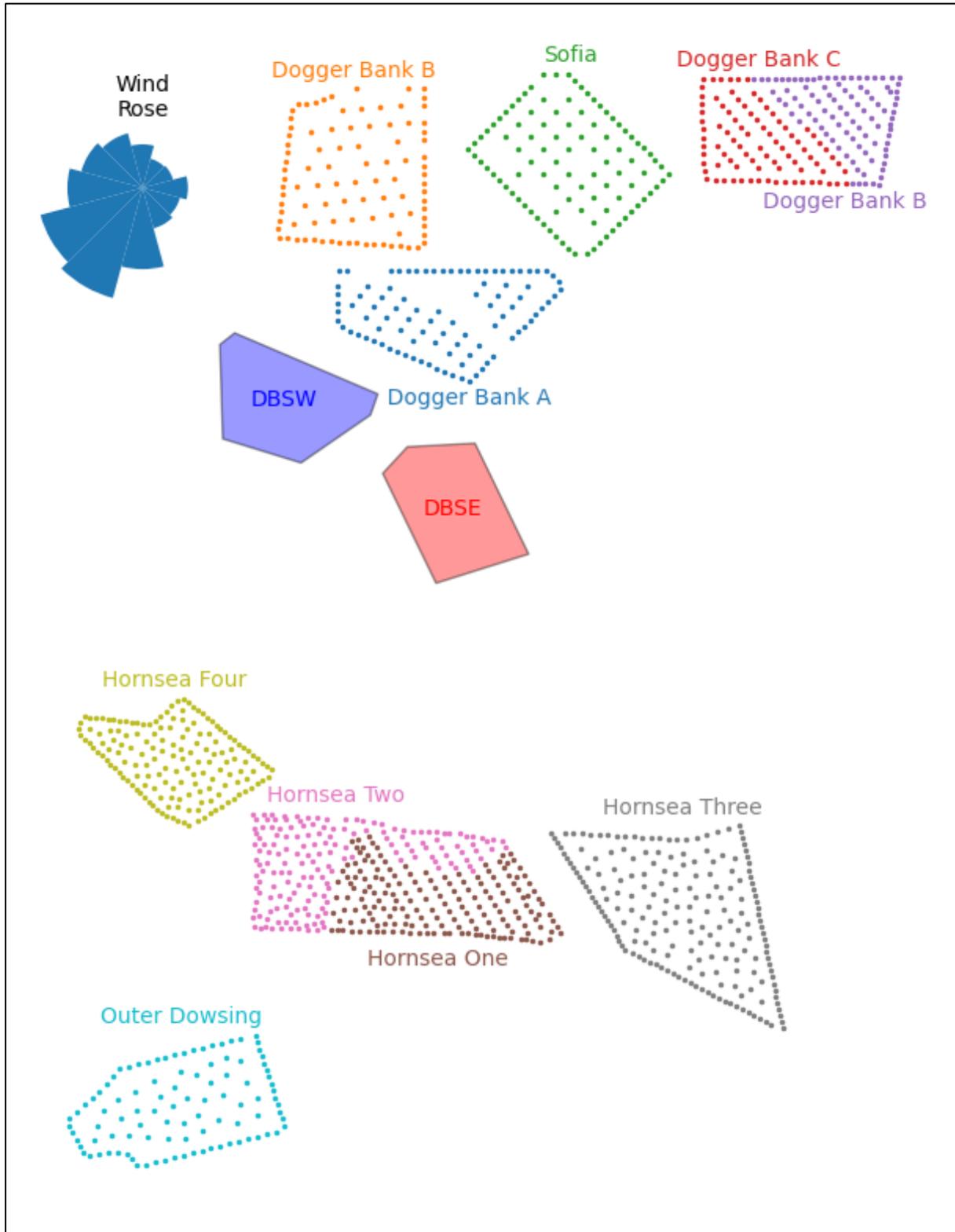


Plate 4-1 Layouts considered in modelling

27. The alternative configurations considered (which cover a range of plausible alternatives) are:
- a. Shallow Water Alternative (Plate 4-2a)  
This configuration defines alternative lease boundaries for the DBS sites, which are focussed on reducing the foundation cost as far as possible (deeper water requires longer, heavier, more expensive foundations).
  - b. Reduced Export Cable Alternative (Plate 4-2b)  
This configuration defines alternative lease boundaries which minimise the length of the expensive export cables (from the wind farm to the coast).
  - c. Maximum Production Alternative (Plate 4-2c)  
This configuration defines alternative lease boundaries that would capture the most wind, i.e. a long aspect ratio across the predominant wind direction. Simulations show that this configuration could have increased DBS's AEP by in the order of 1½% relative to the baseline.
  - d. Balanced Alternative Excluding Wake Considerations (Plate 4-2d)  
This alternative configuration is based very closely on the same design drivers and balance between them as the awarded bid area, but without consideration of the impact of inter-farm wakes (i.e. the wake effects on DBS caused by DBA, DBB etc and that reduction to DBS AEP).
  - e. Alternative Array Layout (Plate 4-2e)  
This case uses the actual awarded DBS lease area but models an alternative configuration to the current (baseline) Array Areas which does not consider external wakes. This illustrates the impact of decisions taken by DBS since being awarded a Round 4 lease, in mitigating wake impacts upon neighbouring projects through refinement of the Array Area.

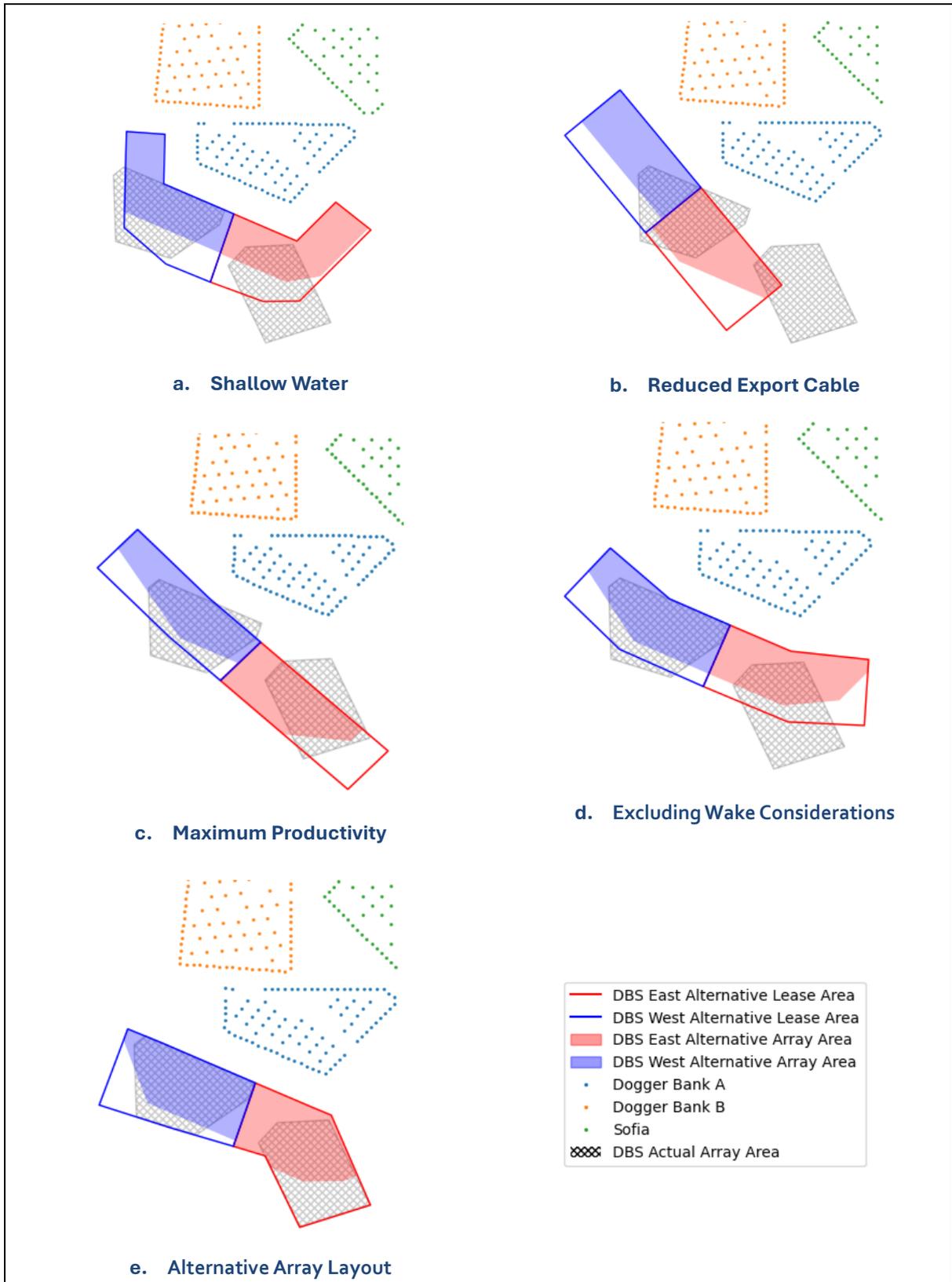


Plate 4-2a-e Alternative wind farm lease area and Array Area configurations.

28. In modelling these configurations, it was found that for the two closest wind farms (DBA and DBB), all alternatives yield worse wake losses than the current DBS design. For the “Shallow Water” case, a very reasonable design to minimise CAPEX and foundation risk, there is almost  $\frac{3}{4}$  of a percentage point more reduction in DBA’s generation compared to the impact from the baseline DBS configuration. This is also true of the total impact on all neighbours (i.e. the impact on the sum of energy generation from all existing windfarms): the current DBS configuration has lower impact than any of the alternatives.
29. The more distant projects (such as the Hornsea projects, DBC and DBD, over 40km from DBS) are only marginally impacted by DBS. Hence most of these changes, although in some cases marginally positive for some wind farms, are so small as to be negligible and within modelling tolerance. As such, these alternatives fail Criterion 1 (Meaningful Impact, see **Table 1-1**) from the perspective of the Hornsea projects, DBC and DBD.
30. As such, where each design decision may reduce impact on some wind farms at the expense of other wind farms, there are two plausible criteria along which designs should be selected (when neglecting the vast number of other design drivers, including the AEP of DBS itself):
  - a. Reduce the overall impact of DBS on all relevant wind farms; or
  - b. Reduce the impact of DBS on the most affected wind farms; the wind farms which could most plausibly be significantly impacted.
31. It has been found that, within the constraints already proscribed by the leasing process (see section 4.1), both criteria are met by the RWE chosen design. The current DBS design has lower wake impact on the closest wind farms, and on existing farms as a whole, than any postulated alternatives.
32. **Thus, the lease area proposed by RWE, and awarded by TCE, results in lower wake impacts from DBS on both the closest (most impacted) farms (DBA, DBB) and on all neighbours as a whole, than a selection of realistic alternative designs. With much larger separation distances to the other projects (e.g. the Hornsea projects) both the impact of DBS, and the ability of site design to change that impact are, minimal**

## 4.3 Design changes in EIA

33. During the EIA process and late design stages, some regions of the original lease area were removed for a range of reasons. Key changes, and how they have impacted wake interactions are outlined below (**Plate 4-3**) and illustrated on the map in **Plate 4-1**.
- a. Removal of the west and south-west of DBSW:
    - i. This has removed areas of high boulder density, some beyond the limit for construction feasibility. Furthermore, boulder removal could cause significant benthic habitat disturbance within a protected seabed area.
    - ii. There is potential for wind turbines in this area (especially the south-west) to negatively impact upon UK air defence radar coverage.
    - iii. Removing wind turbines here (especially the north-west) significantly mitigates wake interactions, particularly with regards DBB.
  - b. Removal of the south-east of DBSW, and the north and west of DBSE:
    - i. Survey data indicated areas of high bird density in the south-east of DBSW and the west and north of DBSE.
    - ii. Removing wind turbines here significantly mitigates wake interactions with DBA, by creating a clear un-waked corridor in the prevailing wind direction and significantly increasing the separation of DBA from DBSE. As a result of these changes, DBA is over 9.5km from DBSE at their closest point, well in excess of the TCE minimum buffer of 7.5km.
  - c. Removal of a small wedge from the north east of DBSE:
    - i. Removing wind turbines here slightly mitigates wake interactions with DBA, by reducing the affected wind sectors and increasing the average separation from DBSE.
34. **These design decisions (items a. and b. in particular) have reduced the wake impact of DBS on DBA and DBB.**

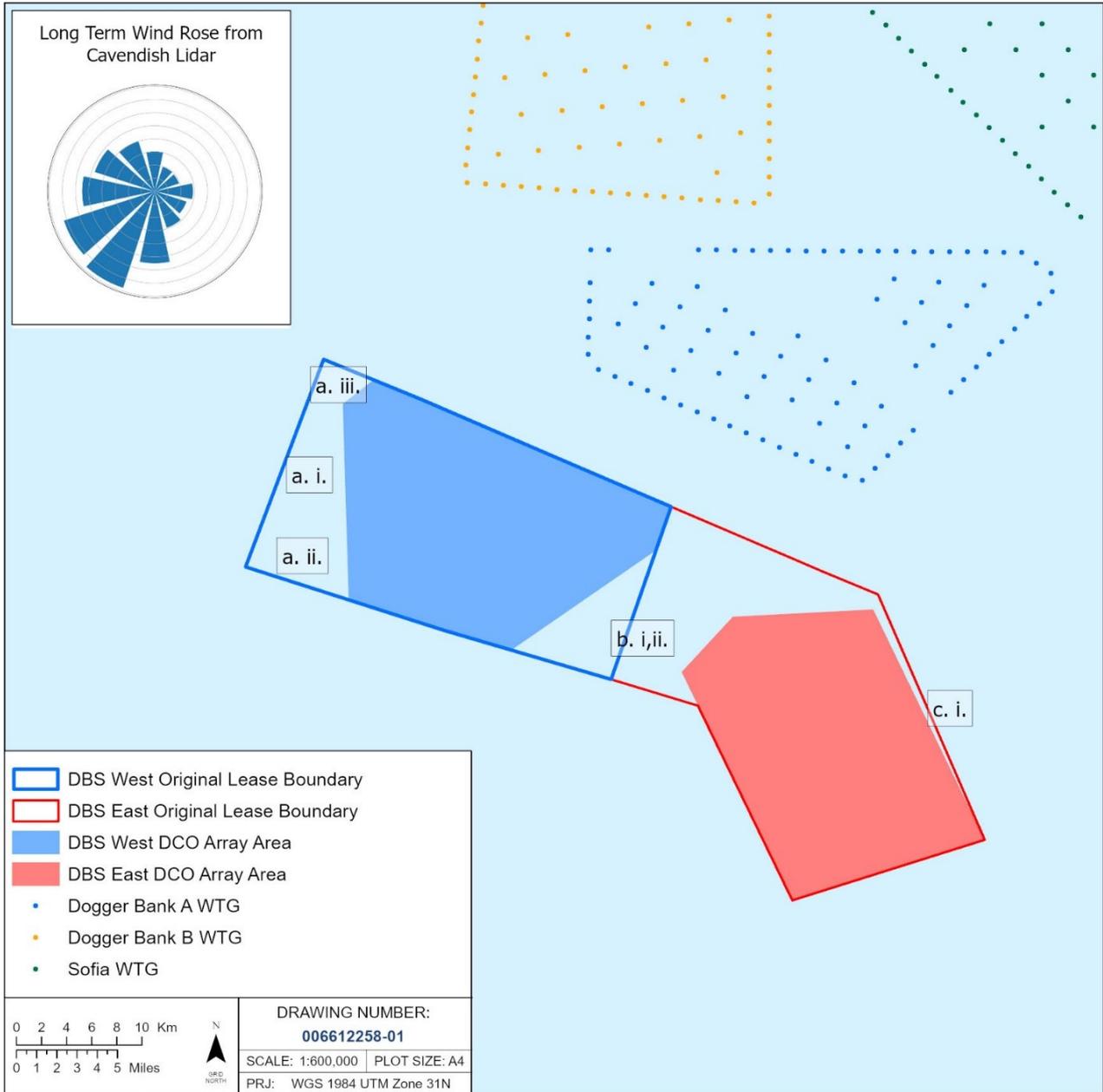


Plate 4-3 Map showing the modifications made to the DBS Array Area due to environmental constraints. Labelled numbers are references to the text above.

## 4.4 Wind Farm Array Layout Design

35. Having defined the lease area and down-selected to the feasible regions thereof, the next stage in design is to define the specific array within this array area. As noted, there is a requirement to reduce the total lease area such that the energy density is 5MW/km<sup>2</sup>. This is illustrated in the figures in **Plate 4-2** where both the lease area and array area are shown.
36. Due to the bi-directional nature of wake (see section 2), the design process for an offshore wind farm necessitates consideration of, and as far as is reasonable, minimisation of inter-farm wake effects.
37. The final layout for the DBS projects will be a “perimeter layout” with a higher density of turbines on the edge and lower in the interior, as has become common for UK offshore wind farms including the other Dogger Bank sites.
38. **DBS has been designed using state-of-the-art wake modelling and layout optimisation. As such, this mitigation has been undertaken to a maximal level, striving to reduce the wake impact of neighbours on DBS has necessitated reducing the wake impact of DBS on neighbours. This separation has been limited by site constraints mitigating the negative impacts on other design pressures.**

## 4.5 Resulting Design

39. The current design of the DBS wind farms is the result of the design decisions discussed in this report. As is clear, at all stages the impact of DBS on neighbours has been considered amongst the significant number of other design drivers.
40. This results in a wind farm which:
- Exceeds the separation buffer requirements set by TCE for DBSE.
  - Has significant regions removed from the original lease area, several of which are ideally placed to mitigate wake impacts on its nearest neighbours.
  - Balances the requirements to mitigate wake on the Dogger Bank projects against the competing requirement to mitigate wake on the more distant (and less impacted) Hornsea projects.
  - Provides a considerably more efficient use of the UK seabed than many of its neighbours, with a much higher energy density.
  - Otherwise follows standard design practice for UK offshore wind, such as following a “perimeter layout”.

## 5 Conclusions

41. Design decisions influencing the wake impact of DBS on neighbouring wind farms began well before even the inception of the DBS project, during lobbying for the bid-rules for Round 4 projects. From that date to present, when a design decision has been in the control of the DBS project, it has been made with reduction of wake impact as one of the designing factors. To this end:
- RWE has lobbied for greater protection to existing farms in the Round 4 bid rules.
  - The selected site was in an exploration area that had historically been considered by the owners of neighbouring sites and was known to have significant potential (giving them the opportunity to account for these future wakes in financial decision making).
  - The DBS bid area was chosen balancing a range of design drivers including wake interaction and resulted in a site with significantly lower wake impact than many alternatives (see cases a. to d. in Plate 4-2).
  - State-of-the-art wind farm design methods have been used to minimise the wake impact both of neighbours on DBS, and of DBS on neighbours.
  - Significant portions of the DBS lease area have been removed, increasing the buffer distance to the nearest projects (exceeding requirements) and significantly reducing wake impacts upon them (see case e in Plate 4-2).
  - DBS has carried out advanced wake modelling which demonstrates these key conclusions; showing that less sensitive site design could have significantly increased impacts upon DBA and DBB and clearly showing that the mitigation which DBS has already implemented has reduced wake impacts upon these nearest projects.
42. Being situated between multiple wind farms, it is clearly not possible for DBS to significantly mitigate its wake impact on one group of wind farms without detriment to the other. As such, a proactive approach has been taken wherein closer farms (subject to a larger impact) are given higher priority when design decisions are taken.
43. **This demonstrates that DBS East and DBS West have made reasonable endeavours to minimise wake impact on existing wind farms, in line with the requirements laid out in the new NPS EN-3 2025 (sections 2.8.232 and 2.8.233).**

### 5.1 Future Mitigation Measures

44. The Applicants undertook a detailed reviews of possible future mitigation measures in [REP8-038], and provided further details and a review of additional options in [REP7-136] at the request of the Projcos.

- 45. These documents evaluated a range of theoretical design and operational mitigation measures available to the Applicants going forward. These were tested against the reasonableness criteria explained in that document, which are reproduced in Table 1-1 above.
- 46. The results of this review were presented in [REP7-136], Table 4-2, which is reproduced below in **Table 5-1** for convenience.
- 47. These show that there are no reasonable mitigation steps available to the Applicants going forwards.

**Table 5-1 Assessment of Wake Mitigation Methods, Items in grey are new proposed mitigations from the Projcos. Details of the assessments are in the following sections.**

Mitigation	Criterion 1: Meaningful Impact	Criterion 2: Net Positive	Criterion 3: Possible and Available
Buffer Distance	Fail	Fail	Pass
Layout Modification	Strongly Fail	Unknown	Pass
Reduced Size and Capacity	Pass	Strongly Fail	Pass
Wake Control	Fail	Unknown	Fail
Wake Re-energisation	Fail	Unknown	Fail
Wind Farm Curtailment	Fail	Fail	Fail
Turbine Size	Fail	Unknown	Unknown
Wake Control + Buffering	Fail	Fail	Fail
Reduced Hub Height	Fail	Fail	Fail

## 5.2 Closing Remarks

- 48. The Applicant submits that the combination of the steps it has taken to date and its consideration and rejection of available steps going forwards fully meets the expectations of EN-3 2024 and EN-3 2025 regarding wake effects on other offshore wind farm schemes. The Applicants highlight paragraph 1.3 of the new wake effects Guidance, commenting on paragraph 2.8.232 of EN-3 2025:

49. *"This section encourages developers to have made 'reasonable endeavours' to mitigate the impact of wake effects. In practice, this means developers do not have to take every possible course of action to mitigate the impact of wake effects but should demonstrate reasonable efforts at mitigation, including evidencing their rationale for why they have or have not, on balance, decided to implement mitigations."*
50. The Applicants submit that they have demonstrated such reasonable endeavours and evidenced and explained the rationale of their decisions to date and their stance that an obligation to require further consideration of wake mitigation measures would not be justified in the light of the analysis in REP 7-136 and REP8-038, whose conclusions have just been quoted.

RWE Renewables UK Dogger Bank  
South (West) Limited

RWE Renewables UK Dogger Bank  
South (East) Limited

Windmill Business Park  
Whitehill Way  
Swindon  
Wiltshire, SN5 6PB

**RWE**

MASDAR 