



Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

Written Summary of the Applicant's Oral Submissions
at Issue Specific Hearing 3

Revision A

Deadline 3

May 2023

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1 Introduction

1. This document presents a written summary of Equinor New Energy Limited's (the Applicant) oral case at Issue Specific Hearing 3 (ISH 3) (**Table 1**). ISH 3 on the Sheringham Shoal Offshore Wind Farm Extension Project (SEP) and Dudgeon Offshore Wind Farm Extension Project (DEP) Development Consent Order (DCO) application took place on 22 March 2023 at 10:00am at Main Auditorium, The Kings Centre, 63-75 King Street, Norwich, NR1 1PH.

Table 1 Written summary of the Applicant's oral submission at ISH 3

I.D.	Agenda Item	Applicant Response
Construction Effects		
3.i	Further to the Applicant's reply to written question Q1.6.2.3, whether the sought cable corridor width at trenchless crossings is justified.	<p>The Applicant confirmed that a decision on whether either 6 or 8 drills is needed for a horizontal directional drilling (HDD) crossing will depend on the success of the first drills. For instance, if you have a failure then an additional drill may be needed hence the contingency of having up to 8 drills and the need for a corridor of this width. Regarding the factors which determine whether the trefoil or split circuits are required for the HDD crossing, these include, the length and required depth for the crossing and what ground conditions are present in the drill location. The default is to use the trefoil approach but if ground conditions require it then the fall-back of splitting the circuits will be used.</p> <p>The Applicant confirmed that the ground conditions affect the diameter of the drill with the ability to drill smaller diameter ducts in better ground conditions.</p> <p>The Applicant confirmed that the potential for 8 ducts has been assessed as the worst-case scenario (WCS) (see Environmental Statement (ES) Chapter 4 - Project Description [APP-090]).</p> <p>The Applicant confirmed it would look at whether other offshore wind farms have had to split circuits at HDD crossings and provide details to the Examining Authority. [Post-hearing note: please see response to Q2.6.2.4 of The Applicant's Responses to the Examining Authority's Second Written Questions [document reference 16.2].</p>
3.ii	Whether the worst case has been assessed in the Environmental Statement for trenchless crossing techniques that could be used, given the flexibility sought by the Applicant.	<p>The Applicant confirmed it has noted an inconsistency in the documents whereby the draft development consent order (DCO) only provides for HDD as a trenchless technique but there are some references to other techniques in the ES. The Applicant has amended the ES Chapter 4 - Project Description (Revision B) [document reference 6.1.4] to resolve the inconsistency and confirm that HDD will be the only technique available.</p>

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3.iii	Discussion regarding the addition of missing vulnerable population groups and health outcomes and whether this affects the conclusions of the overall assessment findings; views sought particularly from Norfolk County Council and the Applicant.	The Applicant confirmed that following exchanges with Norfolk County Council (NCC), the Applicant understands NCC are not raising an objection. This point was one of interest only and the Applicant and NCC have agreed to take this forward through the Statement of Common Ground (SoCG) process.
3.iv	Further justification from the Applicant relating to the expertise used and the methodology that has underpinned the assessment of adverse effects on human health [APP-114], having regard to the concerns of Corpusty and Saxthorpe Parish Council [REP1-073].	<p>The Applicant confirmed that the approach to defining and then assessing health and wellbeing has been informed by Public Health England's (PHE) S42 response within ES Chapter 28 - Health [APP-114, page 16]. It is considered suitable to address PHE's expectations as, until October 2021, PHE was a statutory consultee to Nationally Significant Infrastructure Projects (NSIPs). In October 2021 PHE was divided into the UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID). The UKHSA is now a statutory consultee to NSIPs and it liaises with OHID when providing a response. PHE provided guidance on health impact assessments (see PHE's Health Impact Assessment in spatial planning: a guide for local authority public health and planning teams) and it is appropriate that the Applicant follows their guidance.</p> <p>The Applicant noted the submissions of Corpusty and Saxthorpe Parish Council and the fact that different approaches can always be taken when assessing human health and wellbeing. The Applicant confirmed the approach taken by the Applicant is supported by good practice and follows both national and international guidance (see the Institute of Public Health in Ireland's Health Impact Assessment Guidance: A Manual and Technical Guidance and International Association for Impact Assessment and European Public Health Association's Human health: Ensuring a high level of protection - a reference paper on addressing Human Health in Environmental Impact Assessment). The Applicant is confident the approach suitably addresses the complexity of the issues.</p> <p>The Applicant confirmed that the diagram in plate 28.1 of the ES Chapter 28 – Health is a model of health and wellbeing which establishes how health is defined. It is not intended to consider the specific impacts of this development.</p>

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		<p>The Applicant notes the academic papers referred to in the Corpusty & Saxthorpe Parish Council Deadline 1 Submission:- Post-Hearing submissions including written submissions of oral cases as requested by Examining Authority [REP1-073], which relate to economic and social impacts. The assessment in ES Chapter 28 relates to human health.</p> <p>The Applicant confirmed its health assessment is compliant with the relevant policies of the National Policy Statements. Table 28-6 of ES Chapter 28 Health sets out the specific assessment requirements for health, as detailed in the National Policy Statements, together with an indication of the section of the ES chapter where each is addressed.</p> <p>The Applicant confirmed the approach takes a model of health as set out in the constitution of the World Health Organization. This approach identifies how health is affected by determinants of health which are each considered in turn. A scoping exercise was undertaken and the methodology was agreed with NCC. The Applicant confirmed that NCC consider the methodology is appropriate and based on best practice (see The Applicant's Response to Issues Raised at the Open Floor Hearing [REP1-064] paragraph 10.1). NCC's responses to points 3.iii and 3.v indicate that it agrees with the findings of the assessment. Overall, the Applicant has taken a proportionate approach to identifying likely significant effects and has taken the approach which is expected of them under the requirements of the Planning Act 2008 and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.</p> <p>The Applicant confirmed that although the individuals that signed off ES Chapter 28 Health do not have specific expertise in this area, they are only listed as having signed off the chapter which is a standard approach to the ES process. The Applicant confirmed that the chapter was prepared by Royal Haskoning DHV who are Quality Mark registered with the Institute of Environmental Management and Assessment. The chapter was reviewed by experts with public health and environmental impact assessment backgrounds. CVs for those individuals can be provided if of assistance.</p>

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3.v	<p>Whether any further mitigation, from that already secured, is needed with regard to mental health effects, including to address concerns regarding adverse effects of Electro-Magnetic Fields. Having particular regard to the relevant representation of Norfolk County Council [RR-64].</p>	<p>The Applicant confirmed that following exchanges with NCC the Applicant understands NCC are not raising an objection. The Applicant and NCC have agreed to take this forward through the SoCG process.</p>
3.vi	<p>Further to written representations [REP1-186 and REP1-187] whether any Electro-Magnetic Field readings have been undertaken at the property and whether the meeting planned for 2 February 2023 took place; whether any similar surveys are required at any other locations along the cable corridor.</p>	<p>The Applicant noted there may have been some confusion with the date of the meeting. The Applicant did attend a meeting with the member of the public on the 11 March 2022. The meeting was attended in person by several members of the Equinor team including the electrical engineer who personally commissioned National Grid to carry out calculations specific to the area of concern. The results of this study are included in the addendum of the Sheringham and Dudgeon Extension Projects EMF Assessment (see ES Appendix 28.1 - Sheringham and Dudgeon Extension Projects EMF Assessment [APP-279]).</p> <p>There have been several engagements with the member of the public in the past, those engagements were done through emails and meetings both directly with her and through her parish Council and MP. There are no future planned meetings as may have been understood from written representations [REP1-186 and REP1-187]. Please note that the reference to the meeting in the representation is in an email dated 25 January 2022.</p> <p>The policy that is applicable to EMF specifies that for simple geometries, such as overhead cables and underground cables, calculations will usually be the preferred method of demonstrating compliance.</p> <p>[Post hearing note: The EMF limits are documented in NPS EN-52 and practical details of their application are explained in the Code of Practice, 'Power Lines: Demonstrating compliance with EMF public exposure guidelines – a voluntary Code of Practice published by the then Department of Energy and Climate Change (DECC) in March 2012. Please refer to Page 6 section "Should compliance be demonstrated by calculations or measurements?" for reference.]</p>

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		<p>The Applicant confirmed there is no need to take measurements in any part of the cable corridor at this stage.</p>
4.i	<p>Further to the Applicant's reply to written question Q1.6.5.8 whether the cumulative air quality assessment for road traffic emissions is robust, particularly whether estimated effects on these links by comparing them to links of similar nature.</p>	<p>The Applicant confirmed the cumulative traffic flows that have been considered in the cumulative impact assessment (CIA) (ES Chapter 24 Traffic and Transport [APP-110]) are based on peak flows from those developments scoped into the CIA and in the assessment it is assumed that all of these peak periods would coincide with the construction of SEP and DEP. On this basis, a number of additional road links were not included because the SEP and DEP generated traffic alone did not exceed air quality screening criteria. The majority of additional road links that would be cumulatively screened in are within rural Norfolk where baseline air pollutant concentrations are well below their relevant air quality Objectives, and therefore it is considered highly unlikely that any significant cumulative air quality effects would occur. For road links closer to Norwich, which is a more urban area with higher baseline pollutant concentrations, effects are also not expected to be significant. This was demonstrated in the Applicant's response by comparing the predicted impact at modelled receptors with similar baseline traffic flows, similar changes in traffic flows and comparable background concentrations. This is considered to be a robust way to determine whether any significant impacts may occur, as it is based on the quantitative assessment already undertaken using an approach which has been accepted by all relevant parties. The Applicant confirmed there were no concerns raised by relevant local authorities within their local impact reports on the cumulative air quality assessment or air quality in general.</p> <p>In a response to a question from Derek Aldous, the Applicant confirmed that for the ES Chapter 24 Traffic and Transport [APP-110], baseline flow surveys were carried out on all links within the study area which provided a count of baseline traffic flows. For rural areas the baseline was therefore specific to that area, and the same for urban areas.</p> <p>In a response to a question from Derek Aldous, the Applicant confirmed that there are two elements taken into consideration in determining the significance of air quality effects (Environmental Statement Chapter 22</p>

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		<p>Air Quality [APP-108]). The first is that the assessment considers the change from the baseline and the second is to look at the total concentration. The consideration of change from the baseline uses location specific background pollutant concentrations and therefore considers the rural or urban location of that assessment. The consideration of total concentrations is based on the 'headroom' in relation to the UK government's air quality Objectives which are health-based; typically air pollutant concentrations are closer to the air quality Objectives in more urban areas where background pollutant concentrations are higher and there are more pollution sources. As such, the significance of air quality effects is correspondingly greater with a smaller change in pollutant concentrations where air pollution levels are closer to the Objectives, to acknowledge the increased sensitivity of these areas.</p>
4.ii	<p>The level of detail provided in the Outline Code of Construction Practice and whether this is sufficient, particularly with regard to agriculture, flood risk to third parties and waste management. Views sought particularly from the National Farmers Union, the Environment Agency and the Applicant.</p>	<p>The Applicant confirmed that the Outline Code of Construction Practice (Revision C) [document reference 9.17] (OCoCP) is intended to be an outline, with details to be finalised when the design is completed and construction methodologies are close to being finalised. The process is intended to be a staged one and is in line with what other developers of NSIPs have done before. The Applicant is striking a balance between the level of detail included in the Outline Code of Construction Practice (Revision C) [document reference 9.17] now and what should be included at a later stage when construction methodologies are better understood. The Applicant is invested in having a final Code of Construction Practice (CoCP) which is fit for purpose and can fully control construction effects. As such the Applicant is invested in having appropriate levels of detail at the point when construction commences.</p> <p>The Applicant has been in a dialogue with the National Farmers Union (NFU) and Land Interest Group (LIG) regarding details of a Construction Practice Addendum, which is intended to be appended to the private landowner agreements. When the option agreements are signed and are legally binding, the landowners will, if required, be able to enforce the provisions of that agreement which is better than going to the local authority to seek enforcement action as would be the case if the obligations were only in the CoCP. The Applicant accepts that options have not yet</p>

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		<p>been signed but the Applicant is making good progress with these and hopes that they will be concluded shortly.</p> <p>The Applicant confirmed it will also be in their interest to include the principles from the Construction Practice Addendum in the final CoCP. To secure this, the Applicant proposes to include a line in the SoCGs with local authorities to confirm the Applicant will incorporate the wording from the Construction Practice Addendum into the final CoCP to be submitted for approval under requirement 19 of the draft DCO (Revision F) [document reference 3.1]. The Applicant confirmed it would consider whether an outline management plan for agricultural matters is required and whether this should be linked to the Outline Code of Construction Practice (Revision C) [document reference 9.17].</p> <p>The Applicant confirmed it has no material objections to the proposals put forward by the NFU and LIG but is concerned about the timing of putting high levels of detail into the Outline Code of Construction Practice (Revision C) [document reference 9.17] at this early stage.</p> <p>In response to a question about the mitigation of flood risk during construction and how this is dealt with by the Outline Code of Construction Practice (Revision C) [document reference 9.17], the Applicant confirmed that no further discussions had taken place with the Environment Agency since the discussions had in early 2023. However, the Applicant did submit the Flood Risk at Matlaske Road Technical Note [REP2-054] at Deadline 2 which the Environment Agency then confirmed has alleviated their concerns.</p> <p>The Applicant confirmed it would consider whether it is appropriate to lift the mitigation measures identified in the Flood Risk Assessment into the Outline Code of Construction Practice (Revision C) [document reference 9.17].</p> <p>In response to a question about site waste management and whether additional details of this should be included in the Outline Code of</p>

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		<p>Construction Practice (Revision C) [document reference 9.17], the Applicant referred to ES Appendix 17.2 Waste Assessment (Onshore Development) [APP-207] which assesses the construction and operational waste anticipated. In particular, paragraphs 142 to 144 provide details of construction waste and confirm this is likely to be inert given the development is largely on greenfield land. Further, paragraphs 145 and 146 cover operational waste and confirm this is likely to be limited. The Applicant confirmed that a cross reference to the relevant text in the ES will be included in the next version of the Outline Code of Construction Practice (Revision C) [document reference 9.17].</p> <p>In response to comments by the NFU that more detailed plans have been agreed during the examinations of other NSIPs (rather than after consent), the Applicant asked that the NFU confirm in writing which NSIPs those were.</p>
4.iii	If pre-commencement activities are adequately controlled in the draft Development Consent Order and through the drafting of Requirement 19.	<p>The Applicant confirmed that an amendment was made to the draft DCO [REP1-003] at Deadline 1 which requires details of screening and fencing to be approved by the local authority prior to commencement. Under this amendment a specific plan will be put to the relevant local planning authority prior to commencement which contains details of screening and fencing and will then be subject to the approval of that authority. The oCoCP already includes details around this which is why it is referenced rather than being put in a separate outline plan.</p> <p>The Applicant confirmed that further discussions with North Norfolk District Council (NNDC) have been ongoing following their submissions at Deadline 2 (Comments on responses to the Examining Authority's First Written Questions (WQ1) [REP2-058]) around whether there needs to be further drafting amendments to the draft DCO (Revision F) [document reference 3.1] regarding intrusive activities. These are in the early stages and the Applicant hopes to provide an update on the progress of these at Deadline 3. [Post Hearing Note: The Applicant refers to its response to Q2.11.2.2 within the Applicant's Responses to the Examining Authorities Second Written Questions [document 16.2] and</p>

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		<p>amendments made to the draft DCO (Revision F) [document reference 3.1] as set out in that response.]</p> <p>The Applicant confirmed it would review all of the activities which are carved out of the definition of commencement and confirm where these would be controlled or would fall under permitted development rights or rights to undertake works awarded to statutory undertakers. Also whether additional definitions may be required in the draft DCO around these works. [Post Hearing Note : The Applicant refers to its response to Q2.11.2.2 within the Applicant's Responses to the Examining Authorities Second Written Questions [document 16.2] and amendments made to the draft DCO (Revision F) [document reference 3.1] as set out in that response.]</p> <p>The Applicant confirmed it would consider other examples of DCO applications where a pre-commencement plan has been agreed in examination. [Post Hearing Note: The Applicant considers that the amendments it has made to the draft DCO (Revision F) [document reference 3.1] are sufficient. The relevant information is already contained in the Outline Code of Construction Practice (Revision C) [document reference 9.17] and other relevant plans to support these amendments and a separate pre-commencement plan is not necessary.]</p> <p>In response to a point raised by National Highways regarding inclusion of them as a consultee in Requirement 19 of the draft DCO (Revision F) [document reference 3.1], the Applicant confirmed that all details relevant to National Highways will be subject to the protective provisions and it would not be necessary, therefore, to include them as a consultee in Requirement 19. The Applicant confirmed that a co-operation agreement is being discussed with National Highways as well. The protective provisions and co-operation agreement together will be sufficient to alleviate any concerns National Highways may have. The Applicant is not proposing to amend the drafting of Requirement 19 and in any case this would need to be discussed with the relevant local authorities before considering an amendment to include National Highways. [Post hearing note: The</p>

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		<p>Applicant notes that, in addition to the protective provisions and co-operation agreement that are under negotiation, National Highways (as a relevant highway authority) is a consultee in respect of the Construction Traffic Management Plan (CTMP) pursuant to Requirement 15 as explained at agenda item 6.iii].</p> <p>The Applicant confirmed it would discuss with NCC that they should be included as a consultee in Requirement 19 following a request from South Norfolk District Council (SNDC) and Broadland District Council (BDC) to reinstate them in the drafting (after they were removed from the draft DCO at Deadline 2 [REP2-008]. The Applicant confirmed it is in an ongoing discussion with relevant local planning authorities about discharge of requirements to seek clarity on which are the relevant bodies to cite in the draft DCO (Revision F) [document reference 3.1]. [Post Hearing Note : The Applicant refers to its response to Q2.11.2.2 within the Applicant's Responses to the Examining Authorities Second Written Questions [document 16.2] and amendments made to the draft DCO (Revision F) [document reference 3.1] as set out in that response.]</p>
Noise and Vibration		
5.i	Adequacy of the baseline noise assumptions.	<p>The Applicant confirmed it is appropriate that a British Standard (BS) which is intended for construction (BS 5228-1:2009 'Code of practice for noise and vibration control on construction and open sites – Part: Noise') should be applied to the temporary construction compound and that it is not appropriate to apply BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' which is specifically not for construction. To suggest otherwise is not in accordance with standard practice.</p>
5.ii	Whether BS5228-1 (Construction) is the appropriate guidance for noise assessment at the main construction compound.	<p>The Applicant confirmed that the noise level limits in BS5228-1 are based on a pragmatic balance between what can realistically be achieved and the potential for noise to disturb people, and not the duration of impacts.</p> <p>The Applicant noted that the relevant local authorities have the power to serve notices pursuant to section 60 and 61 of the Control of Pollution Act</p>

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		<p>1974 if they believe that complaints in respect of the temporary construction compound are justified. These powers are outside the planning regime but can nonetheless be used in relation to this development as they are typically used for developments of NSIPs, if required.</p>
5.iii	<p>Given the findings of the detailed mitigation scheme for receptor CCR2 [REP1-036], explanation from the Applicant if all identified significant adverse noise impacts along the corridor can be sufficiently mitigated and whether similar detailed schemes are required to demonstrate this can be achieved.</p>	<p>The Applicant confirmed that, following concerns raised regarding CCR2C, it undertook site-specific surveys to look at the ground stability around CCR2C. This has confirmed that a trefoil installation will be possible for the HDD crossing adjacent to CCR2C and a flat formation will not therefore be required.</p> <p>CCR2C has particular site-specific constraints and the Applicant is not intending to undertake any further site-specific surveys relating to any other HDD crossings during the examination as it will be able to rely on the contingencies already factored into the proposed development. For example, the Applicant will be able to drill from either side of the crossings which provides flexibility and will reduce noise impacts on certain receptors. It is not typical for NSIP applicants to be required to undertake detailed surveys pre-consent as the process is a staged one. The Applicant would strongly resist a suggestion that further detailed ground stability surveys should be undertaken.</p> <p>The Applicant confirmed it would look at whether there has been an NSIP application in which significant effects were predicted and where a noise management plan was relied on.</p>
5.iv	<p>Whether the cumulative impact assessment for noise has or should consider the impact of construction works on sensitive receptor CCR16C from the Proposed Development, alongside noise generated by traffic accessing the Hornsea Project 3 main construction compound.</p>	<p>The Applicant confirmed that in relation to the CIA for noise (ES Chapter 23 Noise and Vibration [APP-109]), the impacts of construction noise and road traffic noise are assessed separately. Where there is the same type of impact (e.g. construction noise) from two projects with the potential to effect one receptor, that is factored into the assessment. Where there are different types of noise impacts anticipated, no assessment of the combined effects of these is undertaken. That is because traffic noise from a public highway is an anonymous noise source and is subject to a regulatory regime contained in the Environmental Noise (England) Regulations 2006 and the Land Compensation Act 1973; whereas,</p>

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		<p>construction noise is emitted by one responsible party on a specific site, and is subject to the regulatory regime defined in the Control of Pollution Act 1973. The National Highways publication 'Design Manual for Roads and Bridges LA111 Noise and Vibration' (2021) describes the noise impact assessment process for new road schemes and this guidance specifically states an assessment of construction noise should be undertaken separately from traffic noise. There is no criteria which the Applicant could or should apply to noise simultaneously from both construction and highways together.</p> <p>In response to a point raised by Oulton Parish Council (OPC) regarding Orsted's assessment which included British Standard 6472, the Applicant confirmed they understand that there were additional British Standards that Orsted took account of but this was for a fact specific reason for the Orsted scheme. This British Standard is not relevant for cumulative assessment of noise for SEP and DEP and there is no reason for the Applicant to have applied this British Standard to its assessment.</p>
5.v	Adequacy of the Outline Code of Construction Practice in securing necessary noise mitigation, including the use of Horizontal Directional Drilling at night.	<p>The Applicant confirmed that night time HDD works are controlled by Requirement 20 sub-paragraph (4) of the draft DCO (Revision F) [document reference 3.1]. This includes restrictions on what can be done outside normal working hours. The Applicant confirmed it would consider adding these working hours into the Outline Code of Construction Practice (Revision C) [document reference 9.17].</p> <p>The Applicant confirmed that where the draft DCO refers to an 'emergency' regarding HDD crossings, an example of this might be where there has been a problem with one of the drills so the undertaker needs to extend construction hours to continue drilling. There will also be other circumstances in which night time works will take place as set out in Requirement 20 of the draft DCO (Revision F) [document reference 3.1].</p> <p>The Applicant confirmed in response to a question from Derek Aldous that noise impacts are assessed with the information provided by the transport consultants. This is done by setting a study area and modelling the construction traffic on all of the roads within that area. The change in traffic</p>

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		level on those roads is then assessed within the noise assessment so the thresholds and criteria which are applied to the assessment are based on the change in traffic flows. These are set out in ES Appendix 23.2 - Road Traffic Noise Assessment [APP-265].
5.vi	Whether all sensitive receptors should be identified within a draft of the Noise Construction Management Plan and provided during the Examination, to ensure all significant adverse effects are suitably mitigated.	The Applicant confirmed that now the 300m study zone for noise and vibration effects has been defined (provided in Figure 23.3.1 of Appendix A – Supporting Figures for the Applicant’s Responses to the Examining Authority’s First Written Questions [REP1-037]), residents will be able to look at the study area figures and know whether their property is within that area. It is not typical for NSIP applicants to be expected to list every property which might be impacted at this stage.
Traffic and Transport		
6.i	Implications of the A47 North Tuddenham to Easton improvement scheme delay, including whether there is now a need to take this scheme into account in the cumulative impact assessment.	The Applicant confirmed it has been in regular dialogue with National Highways throughout the pre-application and examination process to better understand their programme for delivery of the A47 North Tuddenham to Easton improvement scheme. The Applicant understands that it is National Highways’ position that subject to the outcome of the Judicial Review the scheme is scheduled to come forward but there would be a delay to the original programme resulting in a potential overlap in respective construction phases. Notwithstanding, the parties have agreed during the pre-application and post submission engagement that potential cumulative construction impacts can be addressed within the Construction Traffic Management Plan (CTMP). The programme of both developments may still not overlap as National Highways note the A47 scheme is due to conclude in 2026.
6.ii	Whether it has been suitably demonstrated that identified significant adverse impacts on the A47 can be successfully mitigated, should the improvement schemes not be delivered or are significantly delayed.	<p>The Applicant further noted that National Highways DCO application for the A47 North Tuddenham to Easton scheme identified that there could be an addition of 30 HGV trips an hour which results in an approximate one percent increase in traffic on the A47. The level of increase would not be discernible from background flows and would therefore be considered to result in a negligible impact. Therefore by definition the A47 North Tuddenham to Easton would not give rise to a cumulative impact with SEP</p>

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		<p>and DEP. The Applicant noted that this conclusion has been agreed with National Highways.</p> <p>The Applicant confirmed that National Highways are seeking clarification on how access for the A47 North Tuddenham to Easton construction works can be managed but anticipated that this will be addressed via a co-operation agreement and/or protective provisions.</p> <p>The Applicant advised that 30 trips an hour (forecast for the A47 North Tuddenham to Easton) is at a level at which junction modelling would not typically be required. As such cumulative impacts on junctions 1 and 7 do not need to be considered further. The Applicant clarified that the ES Chapter 24 - Traffic and Transport [APP-110] outlined that increases in SEP and DEP traffic through junctions 1 and 7 could result in significant impacts. Consequently, the Applicant has outlined mitigation measures within the outline CTMP [REP1-021] (oCTMP) to ensure that residual impacts would not be significant.</p> <p>The Applicant confirmed that the oCTMP sets out processes that would be followed to ensure residual impacts at junctions 1 and 7 would not be significant. The Applicant further explained that post determination, the Applicant will engage with the appointed contractor to understand the final level of demand for materials. The Applicant explained that the ES assessment (ES Chapter 24 - Traffic and Transport) is based on a number of worst case assumptions in terms of the materials quantities which will be moved via the road network and overlap during the construction programme. Further, the number of employee vehicles using the road network was also based on a worst case of one employee per vehicle. Once the contractor is appointed, the Applicant will be able to refine some of these worst case assumptions and provide detailed construction management processes (informed by refined junction modelling). At that stage it will also be known what other developments are coming forward and in what timescales. This information will also feed into detailed planning of the construction management processes.</p>

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		<p>The Applicant confirmed if there are impacts, the Applicant will agree with National Highways as to whether they are significant and require mitigation. Evidence would be obtained through the modelling process. An example of the types of measures are outlined in paragraph 98 of the oCTMP.</p> <p>The Applicant confirmed that the oCTMP sets out the routes to be used as well as those roads which will not be used. Volumes of construction traffic for each road are also detailed. If there needs to be changes to the oCTMP because of the A47 scheme, these would be subject to agreement with the highway authorities as part of the approval of the final CTMP. The CTMP will be expected to evolve through the construction programme to adapt and ensure it remains up to date. The Applicant confirmed there will be a CTMP Co-Ordinator who will be required to engage with the highways authorities to facilitate understanding of their programme of works.</p> <p>The Applicant confirmed that in the event the local highways authority required a different route to be used, that would be agreed separately. The Applicant confirmed it would consider NCC's request for this mechanism to be included in the CTMP to make a change to the CTMP where suitable and necessary. [Post-hearing note: see response to Q2.23.2.1 of The Applicant's Responses to the Examining Authority's Second Written Questions [document reference 16.2]]</p> <p>The Applicant confirmed it has agreed with the highway authorities that the potential for cumulative impacts with the Norwich Western Link can be addressed through the development of the CTMP. The Applicant also noted that it is in regular dialog with the promoters of this scheme and has shared data to allow them to undertake a cumulative assessment with SEP and DEP. The Applicant however noted that at this stage the Norwich Western Link has not submitted its planning application and nor has it secured final funding.</p>
6.iii	How the proposed mitigation to limit vehicle movements to agreed 'caps' on some links will affect construction activities and the potential impacts on other links should alternative routes be used.	The Applicant confirmed that post determination, in the event that there is a temporal overlap it will work with other developers to understand what their requirements are and fit traffic movements in around those developments. Those discussions do not have to happen now, and it is only if there is a

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		<p>temporal overlap in construction that they would be needed. The Applicant confirmed that the current position is that those developments will largely be complete or at least the peaks of their construction traffic movements will have passed.</p> <p>The Applicant noted that Orsted have announced in the press that they may be delayed due to rising costs as a result of inflation. The Applicant confirmed they would provide this press statement to the examination. [Post-hearing note: please see appendix B4 of the Supporting Documents to The Applicant's Responses to the Examining Authority's Second Written Questions responding to Q2.9.1].</p> <p>The Applicant confirmed the oCTMP [REP1-021] which is secured by Requirement 15 of the draft DCO (Revision F) [document reference 3.1] sets out what roads will be used and the process for monitoring and enforcing the traffic numbers on each road. The Applicant confirmed that in the event the other developments are in construction at the same time and caps could be exceeded, the Applicant may (for example) delay certain works in the affected area and work in different areas to avoid exceeding the caps. The Applicant would not use links which have not been assessed. The Applicant noted that the use of other routes would be breach of the CTMP. The Applicant confirmed there are other measures which can be used to reduce traffic levels and details of these are set out in detail in response to first written question 1.23.3.6 (see the Applicant's Responses to the Examining Authority's First Written Questions [REP1-036]).</p>
6.iv	Whether it is appropriate to agree detailed access arrangements and necessary highway improvements or arrangements (widening or vehicle escorts) post-consent.	This item was directed to and addressed by Norfolk County Council.
6.v	Whether Norfolk County Council are content with the list of roads proposed to be crossed by open cut techniques.	The Applicant confirmed that the list of roads proposed to be crossed by open cut techniques are listed in crossing schedule but the Applicant will add this detail into the oCTMP (see (Revision C) [document 9.16]).
6.vi	Whether Norfolk County Council are content with the assessment of Links 9, 11 and 52.	This item was directed to and addressed by Norfolk County Council.

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6.vii	Views from Norfolk County Council about the concerns raised by Oulton Parish Council about the number of proposed accesses along the B1149 in close proximity to each other, that are required for the delivery of the Proposed Development, Hornsea Project 3, Norfolk Vanguard and Norfolk Boreas.	<p>The Applicant confirmed that in relation to the proposed accesses along the B1149, the details of additional measures such as advanced warning signs are shown on the drawings within Annex 30 of the ES Appendix 24.1.1 - Transport Assessment Annexes [APP-269]. The oCTMP [APP-301] includes details of how the access designs will be developed and agreed post determination.</p> <p>The Applicant confirmed that a response to OPC's question about whether link 57 should be considered cumulatively with Norfolk Vanguard (link 75 of that development) was provided in the responses to first written questions (see Q1.23.3.7 of the Applicant's Responses to the Examining Authority's First Written Questions [REP1-036]). The Applicant confirmed that the SEP and DEP construction traffic results in negligible impact and cumulative impacts have not therefore been considered in combination with Vattenfall.</p> <p>In reply to a question raised by Derek Aldous, the Applicant confirmed that quantitative thresholds of what are considered negligible traffic impacts are set out in section 24.4.3.3 of the ES Chapter 24 - Traffic and Transport [APP-110]. These thresholds vary depending on what impact is being assessed.</p> <p>The Applicant confirmed it would consider if air quality effects are considered negligible whether those impacts should be considered in a cumulative effects assessment. [Post-hearing note: see response to Q2.6.5.1 of The Applicant's Responses to the Examining Authority's Second Written Questions [document reference 16.2]]</p>
6.viii	Update from Network Rail on their consideration of the proposed access road to the onshore substation.	The Applicant confirmed Network Rail had confirmed to them that Network Rail no longer have a concern regarding the Hickling Lane Overbridge access and will write into the Examining Authority with that confirmation at Deadline 3.
Water Quality and Resources		
7.i	Description of the change proposed for the surface water drainage solution at the onshore substation; and feedback from	The Applicant confirmed in relation to the non material change request [REP2-001a] that the change relates to the fact that two alternative

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	Norfolk County Council, in its role as the Lead Local Flood Authority.	<p>solutions were proposed in the application in relation to surface water drainage. The first option was to utilise infiltration at the onshore substation location and the second option was to discharge water to an Anglian Water facility. At the point of submission, the Applicant could not be certain of the infiltration position pending the outcome of further monitoring. As such, the Applicant proposed both solutions. Subsequently, sufficient monitoring has been undertaken which has confirmed that the infiltration solution is feasible. This has been broadly agreed with the Lead Local Flood Authority. Rather than leaving the decision to a later date, the Applicant is in a position to make a decision now and has therefore made the change request to remove the Anglian Water option from the application. The Applicant is now committed to infiltration as the sole surface water drainage solution from the onshore substation and the detail was included in the change request cover letter [REP2-001a]. As part of the ongoing dialogue with the Lead Local Flood Authority there are a few refinements to the outline design which will lead to document updates.</p> <p>The Applicant noted the comments regarding the onshore substation alignment shown in the Onshore Substation Hydraulic Modelling Report where option two partially overlaps the surface water flood extent for the 1 in 100 year plus 40% for climate change and 1 in 100 year plus 45% for climate change events. This comprises a minimal interaction in the north east corner of the platform. The outline used for this option shows the two different potential onshore substation orientations (of which only one orientation would be required) and therefore the Applicant has taken a deliberately conservative approach to ensure any interaction with flood risk is considered. The Applicant confirmed a large amount of work had been put into achieving this outcome, through a series of design iterations, and if an alternative solution could have been achieved, the Applicant would have pursued this.</p>
7.ii	Having regard to the sequential test, why an area of flood risk to the west of Little Barningham could not be avoided.	The Applicant confirmed that flood risk was one of the factors considered in site selection, alongside many others. The Applicant confirmed that it considers the current route is the best option in that location. The Applicant confirmed it would provide further details of the site selection at this location in writing.

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		<p>In response to a comment from Derek Aldous about the impacts of the Hornsea Project Three substation on flooding at the onshore substation site for SEP and DEP, the Applicant confirmed that it is unable to comment in detail about Hornsea Project Three's substation design. However, there has already been modelling of flooding at the onshore substation and further refinement to the modelling will be undertaken. The Applicant confirmed the intention is that the infiltration solution means the drainage flow would replicate what is currently existing and will therefore be no worse than what is experienced at present.</p> <p>The Applicant confirmed that, where appropriate, a cumulative impact assessment of flooding at the onshore substation site has been undertaken. The Applicant also confirmed it would look at whether there is the potential for interaction with the Hornsea Project Three substation and confirm the outcome of this review in writing. [Post-hearing note: this is dealt with in the Applicant's response to Q2.24.1.2 of The Applicant's Responses to the Examining Authority's Second Written Questions [document reference 16.2].]</p>
7.iii	Whether suitable drainage can be provided at the Onshore Substation and whether there remains any uncertainty around the use of infiltration.	<p>The Applicant confirmed that the approach to monitoring was in line with good practice and guidance whereby the Applicant will have monitored for a period of at least 12 months. This allows sufficient time for a full cycle of groundwater recharge to take place and allows the Applicant to obtain the full scope of results through both wet and dry periods. The Applicant confirmed that the winter results, i.e. when groundwater is likely to be highest, still support the adoption of the infiltration approach.</p> <p>The Applicant confirmed the 12 month period would finish in June 2023. However, the Applicant noted that data collected over the winter shows the boreholes remained dry and therefore the Applicant is not expecting a different outcome in June.</p> <p>The Applicant confirmed that the Onshore Substation Drainage Study [REP2-027] at paragraph 152 sets out the further work which is needed to explore the suitability of the infiltration option. The Onshore Substation</p>

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		<p>Drainage Study was an initial study to assess the options available for surface water drainage and therefore predated the Outline Operational Drainage Strategy [REP2-029]. The Applicant confirmed that it was produced to aid in identifying suitable drainage options and from this supported the development of the Outline Operational Drainage Strategy. As part of the ongoing dialogue with the Lead Local Flood Authority, there are a number of minor amendments to be made to the drainage design which will lead to document updates. However, the Applicant confirmed this would comprise further iterations of the existing modelling through a refinement of parameters and no new modelling will be presented.</p>
7.iv	<p>The disapplication of relevant provisions and securing appropriate protective provisions which will govern the process for securing the relevant watercourse consents.</p>	<p>The Applicant confirmed that there are various consents which can be sought outside of the DCO regime but which, under the Planning Act 2008, the Applicant has chosen to dis-apply within the DCO. As set out in paragraph 51 of the Explanatory Memorandum (Revision E) [document 3.1] (EM), Article 6(a) to (d) are included to dis-apply provisions which would otherwise require various watercourse consents from the Environment Agency under the Environmental Permitting (England and Wales) Regulations 2016 and the Water Resources Act 1991 and the Lead Local Flood Authority and Norfolk Rivers Internal Drainage Board under the Land Drainage Act 1991. The Applicant felt it would be more effective for these consents to be controlled within the draft DCO [REP2-008] and provides the Applicant with the opportunity to discuss more detailed protective provisions for the benefit of the relevant drainage authorities. The Applicant confirmed that this is an approach which has been taken on other offshore wind farm DCOs as set out in paragraph 51 of the EM.</p> <p>The Applicant confirmed that the relevant bodies will need to provide their consent for the dis-applications so the Applicant will need to agree protective provisions to provide certainty for the relevant bodies. Regarding the Environment Agency and Norfolk Rivers Internal Drainage Board, the starting point for protective provisions was provided in the submission version of the draft DCO [APP-024]. The negotiations of these are not yet concluded but the parties continue to make good progress. In respect of the Lead Local Flood Authority, the Applicant confirmed it was still discussing whether they were happy to take this approach at submission</p>

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		<p>stage, but the Applicant confirmed they have now indicated that they are content to use protective provisions for this development as security for the Lead Local Flood Authority in light of the dis-applications. The Applicant confirmed there is a draft of the protective provisions which is circulating and being discussed. The Applicant is confident those will be agreed before the end of examination. The Applicant is not sure whether they will be in final form at Deadline 3 but has confirmed it will provide a draft set of protective provisions in the draft DCO (Revision F) [document reference 3.1] to be submitted to give the Examining Authority a view of how those protective provisions are progressing [Post hearing note: see Part 5 of Schedule 14 of the draft DCO [document reference 3.1]]. In many respects the protective provisions for the Lead Local Flood Authority are similar to what is already included in the draft DCO [document reference 3.1] as protective provisions for the benefit of the Environment Agency and the Water Management Alliance on behalf of the Norfolk Rivers Internal Drainage Board.</p>
7.v	<p>Adequacy of the Outline Code of Construction Practice in securing necessary mitigation and whether more detail is needed, particularly in relation to landfall, the onshore substation and watercourse crossing methodologies.</p>	<p>The Applicant confirmed that the watercourse crossing methods are set out in Section 6.1.3 of the oCoCP [REP1-024] which provides details of the measures that would be in place to minimise the effects of trenched watercourse crossings and temporary access arrangements during construction. This includes a commitment to the use of appropriate measures to prevent an increase in flood risk ensuring that any pumps, flumes, pipes or diversion channels are appropriately sized to maintain flows downstream of temporary dams whilst minimising upstream impoundment and ensuring that any temporary culverts would be adequately sized to avoid impounding flows, including an allowance for potential increases in flow as a result of projected climate change.</p> <p>The Applicant confirmed it would review and provide updates, where appropriate, at Deadline 3 regarding the oCoCP in relation to the landfall compound and necessary control measures, as well as at the onshore substation location. [Post-hearing note: please see the oCoCP (Revision C) [document reference 9.17]]</p>

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7.vi	The Lead Local Flood Authority consider that some initial site investigations at crossings would be appropriate to mitigate some of the associated risks. Discussion on this matter and clarification on where the Lead Local Flood Authority consider these should be done.	This item was directed to and addressed by Norfolk County Council.
7.vii	Whether the Lead Local Flood Authority is, or is not, content that sufficient drainage information and mitigation is before the Examination to reassure the ExA that the approach to surface water drainage for all onshore infrastructure is sound.	The Applicant confirmed it was working with the Lead Local Flood Authority to address minor outstanding queries on the hydraulic modelling and outline drainage design. Updated documents (the Outline Operational Drainage Study (Revision C) [document reference 6.3.18.2.1], the Outline Operational Drainage Strategy (Revision C) [document reference 9.2], the Addendum to the Flood Risk Assessment (Revision B) [document reference 14.31] and the Onshore substation Hydraulic Modelling Report (Revision B) [document reference 14.34]) are being submitted at Deadline 3 to address the queries raised.

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