MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Applicants' Answer to Examination Question 2:1.1.3: Construction Scenarios

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Glossary

Term	Meaning
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Code of Construction Practice	A document detailing the overarching principles of construction, contractor protocols, construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the ES.
Design envelope	A description of the range of possible elements and parameters that make up the Transmission Assets options under consideration, as set out in detail in Volume 1, Chapter 3: Project Description. This envelope is used to define the Transmission Assets for EIA purposes when the exact engineering parameters are not yet known. This is also referred to as the Maximum Design Scenario or Rochdale Envelope approach.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Maximum design scenario	The realistic worst case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets.
Mitigation measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.

Term	Meaning
Onshore Infrastructure Area	The area within the Transmission Assets Order Limits landward of MHWS. Comprising the offshore export cable corridor from MHWS to the transition joint bay, onshore export cable corridor, onshore substations and 400 kV grid connection cable corridor, and associated temporary and permanent infrastructure including temporary and permanent compound areas and accesses. Those parts of the Transmission Assets Order Limits proposed only for ecological mitigation and/or biodiversity benefit are excluded from this area.
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Substation	Part of an electrical transmission and distribution system. Substations transform voltage from high to low, or the reverse by means of electrical transformers.

Acronyms

Acronym	Meaning
CoCP	Code of Construction Practice
CoT	Project Commitment
ES	Environmental Statement
MDS	Maximum Design Scenario

1 Applicants' answer to Examination Question 2:1.1.3: Construction Scenarios

1.1 Introduction

1.1.1.1 The Applicants have prepared this clarification note in response to Examination Question (ExQ)2: 1.1.3:

'Construction scenarios

a) NCFPC has made representations calling for simultaneous construction [including REP4-167] and states that "many environmental impacts would be more than doubled if the projects were built consecutively rather than concurrently". Noting that NCFPC intends to provide a fuller justification for requiring simultaneous construction at deadline 5 (D5), could it include within this a fuller justification of why it considers that many impacts would be more than doubled?

b) The applicants are requested to provide a summary of how the effects of the proposed development arising from a concurrent construction scenario would differ from those currently assessed in the Environmental Statement, cross referencing where necessary to the applicants Rule 9 – ES assessment of Construction Scenarios [AS-070]?'

1.1.1.2 This document should be read in conjunction with:

- Rule 9 - ES Assessment of Construction Scenarios (AS-070).
- Clarification Note: Construction Scenarios (REP1-060).
- Construction Noise and Vibration Assessment Clarification Note (REP3-068).

1.2 Background

1.2.1.1 As set out in every topic chapter of the ES, the maximum design scenarios (MDS) identified have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The MDS for each topic was discussed with stakeholders during the pre-application stage, as set out in the Technical Engagement Plan (TEP) (APP-189) and the TEP appendices (APP-190 to APP-192).

1.2.1.2 In response to the Rule 9 letter, a Construction Scenarios Statement was prepared to provide an overview and explanation of the construction scenarios together with an explanation of how these have been assessed in the Environmental Statement, including the potential for up to a four year gap between one project completing construction and one project commencing construction in a sequential scenario (refer to Rule 9 - ES Assessment of Construction Scenarios (AS-070) and Clarification Note: Construction Scenarios (REP1-060)).

1.2.1.3 AS-070 sets out every impact assessed in the ES against the maximum design construction scenario, and justification for each scenario on a topic-by-topic basis. It specifically considers concurrent or sequential construction impacts.

1.2.1.4 The only change to the MDS in AS-070 has been in relation to noise and vibration. AS-070 previously reported impacts in line with sequential construction. The Construction Noise and Vibration Assessment Clarification Note (REP3-068) confirmed that the MDS associated with these construction activities should be concurrent construction to ensure a precautionary and robust approach.

1.2.1.5 To clarify, the following terminology is used throughout the ES (and therefore is used in this document), as defined in Volume 1, Chapter 3: Project description (REP2-008) and further explained in AS-070:

- Concurrent (i.e., construction where each project commences or finishes at the same time); and
- Sequential (i.e., construction where the second project immediately follows the first project, or with up to a four year gap between one project finishing and the other commencing).

1.2.1.6 To reiterate section 1.5 of AS-070, the concurrent scenario would have an indicative total duration of 36 months. The sequential scenario would be a total indicative duration of up to 66 months, which with a gap of up to a maximum of four years, could amount to an overall period of 120 months. However, active construction activities would only take place for a combined period of up to 66 months for the transmission assets of both offshore wind farms. As set out in REP4-111 active construction would not take place across the whole order limits during this period.

1.2.1.7 Therefore the sequential scenario has a longer duration and less activities occurring at any one time compared to a concurrent scenario where the overall programme is shorter but with more activities occurring at any one time. Therefore, for some receptors, a concurrent construction scenario would be less impactful and for others a sequential construction scenario would be less impactful; this is reflected in the MDS for each receptor in the ES.

1.2.1.8 Taking the above into account and as further set out below, it is the Applicants' position that it is an oversimplification and incorrect to state that many impacts would be doubled if the projects were built consecutively rather than concurrently.

1.3 Methodology

1.3.1.1 In order to confirm '*how the effects of the proposed development arising from a concurrent construction scenario would differ from those currently assessed in the Environmental Statement'*, the following has been undertaken (summarised in **Figure 1.1**):

- **Review of construction impacts**: a review was undertaken of the 155 construction impacts assessed in the ES (refer to Table 1.1 to Table 1.23 of AS-070), of which:
  - 95 impacts were considered as a having a sequential construction as the most impactful
  - 45 impacts were considered as having a concurrent construction as the most impactful
  - Where an impact assessed in the EIA is not affected by the construction scenario, this has been listed as 'not applicable' or both sequential and concurrent in the tables within AS-070. 15 impacts fall into this category.
- **Comparison of MDS and review of significant residual effects**:

  Whilst the Applicants note that the Examining Authority has requested a summary of how the effects of the proposed development arising from a concurrent scenario would differ from those concurrently assessed in the ES, the Applicants have focussed their review on those construction impacts that result in a residual significant adverse effect (e.g., those effects that remain the largest), in order to describe and compare how those impacts might differ under the less impactful construction programme.

  The Applicants do not consider that it is reasonable or practical to compare all 95 construction impacts that were assessed in the ES sequentially with a concurrent construction programme for the following reasons:

  - Whilst the Applicants note that section 114 of the Planning Act 2008 gives the Secretary of State power to make Regulations to provide for a procedure to be followed if the Secretary of State proposes to make an order granting development consent on terms which are materially different from those proposed in the application, no such Regulations have been made or are in force.
  - The Applicants interpretation of Part 6 of the Planning Act 2008, the Infrastructure Planning (Examination Procedure) Rules 2010 and the Planning Act 2008: Guidance on the examination stage for Nationally Significant Infrastructure Projects (30 April 2024) is that the Examining Authority has an obligation to examine the application as submitted by the Applicants and to ensure that issues are proportionately, and reasonably, considered.
  - The Examining Authority's request is, in effect, seeking for the Applicants to provide an assessment of an application which is materially different to what it has submitted i.e., it is seeking for the Applicants to provide an assessment based on a concurrent only construction scenario. This is not what the Applicants have applied for. The Applicants have already provided significant commentary on why they require the flexibility to deliver each

project either in isolation, concurrently or sequentially (see the Applicants' response to Issue Specific Hearing 1 Action 28 (REP1-039) and the Applicants' response to ExQ1.1.7 (REP3-56)). Overall, the Applicants do not consider that it is reasonable to be asked to facilitate a potential material change to their own application.

- To undertake the full exercise requested would require substantial re-analysis of the baseline data and assessments undertaken of 95 impacts. This would be a very substantial and disproportionately onerous exercise, especially at this late stage in Examination.

In any event, in order to try and assist the Examining Authority in a proportionate manner, the Applicants consider it is feasible to provide a summary assessment to show how the significant adverse residual effects with the sequential MDS would differ in concurrent construction and vice versa, how significant adverse residual effects with the concurrent MDS would differ in sequential construction. The assessment therefore focusses on:

- 8 construction impacts that were assessed as having significant adverse residual effects with the sequential MDS
- 2 construction impacts that were assessed as having significant adverse residual effects with the concurrent MDS.

- **Comparison of residual effect under the concurrent construction scenario**: where there are significant residual effects under the sequential construction scenario MDS, consideration was given to whether residual effects would remain significant if construction were to be undertaken concurrently, i.e., is the effect dependent on duration of the impact. If this is the case, further 'high level' commentary has been provided (refer to **Table 1.1**).

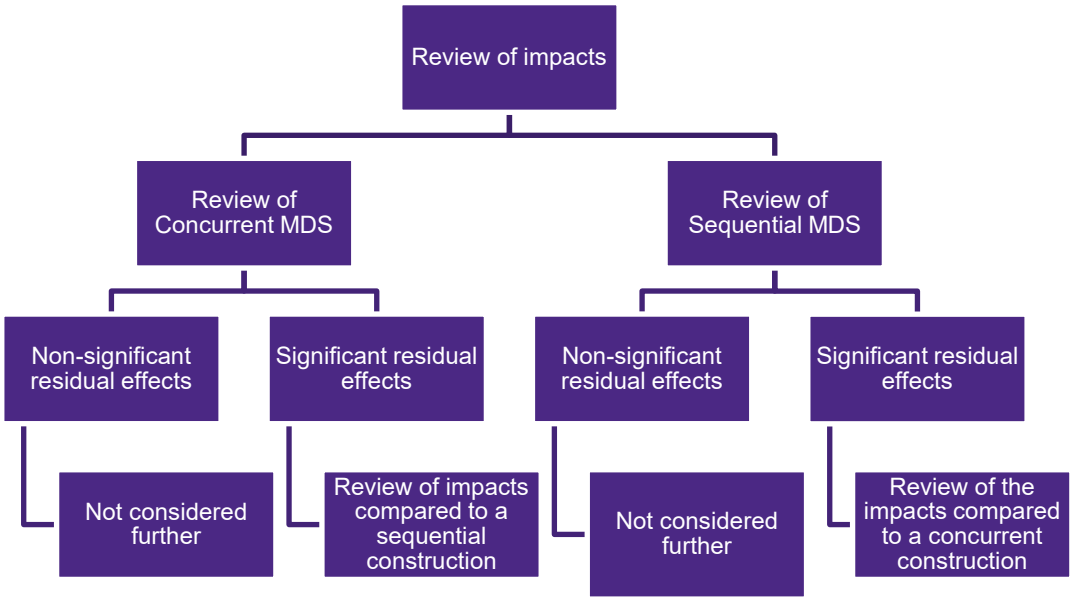

Figure 1.1: Methodology flow chart

1.4 Comparison of impacts

1.4.1.1 There are no significant adverse residual effects with secondary/further mitigation in place for the following topic areas.

- All offshore topics:
  - Physical processes;
  - Benthic ecology;
  - Fish and shellfish ecology;
  - Marine mammals;
  - Offshore ornithology;
  - Commercial fisheries;
  - Shipping and navigation;
  - Marine archaeology;
  - Other sea users.
- All combined topics:
  - Climate change;
  - Socio-economics.
- The following onshore chapters:
  - Geology, hydrogeology and ground conditions;
  - Hydrology and flood risk;
  - Onshore and intertidal ornithology;
  - Traffic and transport;

- Noise and vibration;
- Air Quality;
- Aviation.

1.4.1.2 The following significant residual effects have been identified for those impacts with the sequential construction scenario MDS:

- Ecology and nature conservation.
  - The impact of temporary and permanent habitat loss at Biological Heritage Sites and Local Nature Reserves.
  - The impact of temporary and permanent habitat loss to Priority Habitats.
- Land use and recreation.
  - The permanent loss of agricultural land including best and most versatile (BMV).
  - The temporary disruption caused to the operation of agricultural land holdings.
- Landscape and visual resources.
  - Landscape character - landfall and onshore export cable corridor.
  - Landscape character – onshore substations.
  - Visual impacts - landfall and onshore export cable corridor.
  - Visual impacts - substations.
  - Visual impacts - 400 kV gird connection cable.

1.4.1.3 The following significant residual effects have been identified for those impacts with the concurrent construction scenario MDS:

- Historic environment
  - Loss of, or harm to, buried archaeological remains and deposits of geoarchaeological and palaeoenvironmental interest in the construction phase

1.4.1.4 Of these significant residual effects, consideration of how the effects of the proposed development arising from the opposite construction scenario would differ from those currently assessed in the Environmental Statement and whether or not these would remain as significant is set out in **Table 1.1**.

Table 1.1 Comparison of impacts and effects under sequential and concurrent construction scenarios

TOPIC	IMPACT ASSESSED IN ES	SUMMARY OF RESIDUAL EFFECT AS ASSESSED IN THE ES	COMPARISON OF IMPACT AND RESIDUAL EFFECT UNDER EACH CONSTRUCTION SCENARIO
Onshore Ecology and Nature Conservation	The impact of temporary and permanent habitat loss at Biological Heritage Sites (BHS) and Local Nature Reserves (sequential construction scenario MDS assessed in the ES)	The Onshore Order Limits include land required for the Morgan/Morecambe National Grid connection works and the National Grid connection compound would remove approximately 1.78 ha of the Mill Brook Valley BHS. To mitigate for potential temporary habitat loss associated with Mill Brook Valley BHS, temporary construction compounds will be micro-sited to avoid the site wherever reasonably practicable (CoT126). Habitat would be reinstated but the impact and effect is long term and there is a risk that habitat of comparable quality cannot be provided or maintained. Therefore, the magnitude of impact would be high, resulting in an effect of moderate adverse significance.	**Comparison of the impact of temporary and permanent habitat loss at BHS and Local Nature Reserves and significance of residual effect** Under the sequential scenario, whilst the impacts to the BHS habitats will extend in duration compared to the concurrent scenario, the overall temporary and permanent loss would remain very similar. The possibility of the habitats being disturbed for a longer duration, could mean that they would be less intensely impacted for a shorter duration. Overall the difference on temporary and permanent habitat loss would be very similar in either scenario, albeit the temporary impacts prolonged in a sequential scenario. In terms of habitat recovery, under both scenarios the temporary disturbance would be prolonged but ultimately habitats would recover similarly over time. The effect on the Mill Brook Valley BHS is not dependent on duration of the MDS and would also be assessed as moderate adverse under the concurrent construction scenario. This is because the timing and duration of the impact to the BHS would be dependent on when the National Grid connection works are undertaken and construction compounds for those works are introduced. However, as there would be direct impacts to 1.78 ha of the BHS, the effect of temporary habitat loss would be significant even if the duration of the impact was reduced. **Conclusion** No change to residual effect under concurrent construction scenario.
	The impact of temporary and permanent habitat loss to Priority Habitats (sequential construction scenario MDS assessed in the ES)	The loss of good quality semi-improved grassland within Mill Brook Valley BHS (2.25 ha) qualifying as priority habitat is of moderate adverse significance.	**Comparison of the impact of temporary and permanent habitat loss to Priority Habitats and significance of residual effect** Under the sequential scenario, whilst the impacts to the BHS habitats will extend in duration compared to the concurrent scenario, the overall temporary and permanent loss would remain very similar. The possibility of the habitats being disturbed for a longer duration, could mean that they would be less intensely impacted for a shorter duration. Overall the difference on temporary and permanent habitat loss would be very similar in either scenario, albeit the temporary impacts prolonged in a sequential scenario. In terms of habitat recovery, under both scenarios the temporary disturbance would be prolonged but ultimately habitats would recover similarly over time. The effect on the Priority Habitat associated with Mill Brook Valley BHS is not dependent on duration of the MDS and would also be assessed as moderate adverse under the concurrent construction scenario. This is because the timing and duration of the impact to the Priority Habitat would be dependent on when the National Grid connection works are undertaken and construction compounds for those works are introduced. However, as there would be direct impacts to 1.78 ha of Priority Habitat, the effect of temporary habitat loss would be significant even if the duration of the impact was reduced. **Conclusion** No change to residual effect under concurrent construction scenario.

TOPIC	IMPACT ASSESSED IN ES	SUMMARY OF RESIDUAL EFFECT AS ASSESSED IN THE ES	COMPARISON OF IMPACT AND RESIDUAL EFFECT UNDER EACH CONSTRUCTION SCENARIO
Land use	The permanent loss of agricultural land including BMV. (sequential construction scenario MDS assessed in the ES)	The permanent loss of best and most versatile subgrade 3a land, arising mainly at the onshore substations, has been assessed to be of major adverse significance.	**Comparison of the permanent loss of agricultural land including BMV and significance of residual effect** There would be no difference between either scenario because of the irreversible nature of impact. The permanent loss of agricultural land would remain the same in the concurrent scenario and would remain of major adverse significance. **Conclusion** No change to residual effect under concurrent construction scenario.
	The temporary disruption caused to the operation of agricultural land holdings. (sequential construction scenario MDS assessed in the ES)	The temporary disruption caused to farm holdings during the construction phase has been assessed to be of moderate adverse significance.	**Comparison of the temporary disruption caused to the operation of agricultural land holdings and significance of residual effect** The temporary disruption to farm holdings would remain of moderate significance within the concurrent scenario, as the sensitivity of the holdings, which would be the same farms, would remain as high and the magnitude of impact, particularly those affected by the implementation of the cable route and substation infrastructure would remain as medium. **Conclusion** No change to residual effect under concurrent construction scenario.
Landscape and visual resources	Landscape character - landfall and onshore export cable corridor (sequential construction scenario MDS assessed in the ES)	19a: Fylde Coastal Dunes: The temporary construction activities within an open sandy beach and dunes would be discordant although reversible in nature within a natural, dark coastal location or less intrusive within the part of the character area that has an urban fringe location of Blackpool Airport, lit road corridor and golf course.	**Comparison of the impact on landscape character and significance of residual effect** For landscape character, the assessment remains valid under either a sequential or concurrent construction scenario. Whilst a concurrent approach could result in more concentrated construction activities at any one time, the overall duration of construction remains medium-term, consistent with the MDS (for a sequential scenario of 66 months for active construction) assessed in the ES. Consequently, the magnitude of change to landscape character, and the resulting significance of effects, would not differ between the two scenarios. It is further noted that duration is only one component of a landscape and visual assessment. The significance of effect is determined by the combination of impact magnitude, which encompasses scale, nature, geographic extent, duration and reversibility of change, and receptor sensitivity, which considers value, integrity, capacity, and susceptibility. **Conclusion** No change to residual effect under concurrent construction scenario.
	Landscape character - substations (sequential construction scenario MDS assessed in the ES)	LCA 15d: Coastal Plain – The Fylde: The direct impacts during the construction phase would be discordant in nature within an open agricultural, urban fringe landscape. The substantial loss of elements and impact on the rural features of the landscape within the footprint of the substation/construction compound sites, which are uncharacteristic in nature, is predicted to be of local spatial extent and long term, temporary duration.	

TOPIC	IMPACT ASSESSED IN ES	SUMMARY OF RESIDUAL EFFECT AS ASSESSED IN THE ES	COMPARISON OF IMPACT AND RESIDUAL EFFECT UNDER EACH CONSTRUCTION SCENARIO
	Visual impacts - landfall and onshore export cable corridor (sequential construction scenario MDS assessed in the ES)	• Representative VP19: Blackpool Beach south. People using the beach for leisure and recreation • People using National Cycle Route 62 at Hillock Lane • People using local footpaths and bridleways within 1 km of the corridor route • People using public open space at Blackpool Road Recreation Ground • Occupiers of residential properties	**Comparison of the visual impact and significance of residual effect** For visual receptors, a concurrent scenario could increase the simultaneous presence of workforce and plant, giving rise to a greater perception of construction activities. However, this does not alter the assessed significance of effects, as the ES already accounts for the combined influence of scale, extent, duration and receptor sensitivity. The conclusions reached in the ES therefore remain applicable to both sequential and concurrent construction of these temporary construction effects. **Conclusion** No change to residual effect under concurrent construction scenario.
	Visual impacts - substations (sequential construction scenario MDS assessed in the ES)	• Representative viewpoint VP1: Bridleway south of Morgan onshore substation site • Representative VP3: View from bridleway BW0505016 • Representative VP6: View from footpath south of Morecambe onshore substation site • Sequential effects on people using PRoW BW0505016, FP050503 and FP050504	
	Visual impacts - 400 kV grid connection cable (sequential construction scenario MDS assessed in the ES)	• People using local footpaths and bridleways within 1 km of the corridor route • Occupiers of residential properties	
Historic Environment	Loss of, or harm to, buried archaeological remains and deposits of geoarchaeological and palaeoenvironmental interest in the construction phase. (concurrent construction scenario MDS assessed in the ES)	There is potential for effects of up to moderate adverse significance to occur during construction in respect of physical loss of, or harm to, buried archaeological remains and deposits of geoarchaeological and palaeoenvironmental interest.	**Comparison of the impact on buried archaeological remains and deposits of geoarchaeological and palaeoenvironmental interest and significance of residual effect** The MDS construction scenario chosen for this impact is concurrent construction because it represents the greatest area of disturbance, and therefore the greatest potential for impacts on buried archaeological remains and deposits of palaeoenvironmental interest. If sequential construction were the MDS, the area of disturbance would decrease (compared to concurrent construction) but the overall effect on physical loss of, or harm to, buried archaeological remains and deposits of geoarchaeological and palaeoenvironmental interest would remain significant. **Conclusion** No change to residual effect under sequential construction scenario.

1.5 Conclusion

1.5.1.1 A review was undertaken of all impacts presented in the ES, of which eight were concluded as resulting in significant effects in the sequential scenario and two in the concurrent scenario. This document sets out how the effects of the proposed development arising from a concurrent construction scenario would differ from those currently assessed in the ES, and vice versa. The Applicants confirm that for ten of the impacts, although there would be slight differences in effects, there would be no change to the assessment outcome were the opposite construction scenario to be assessed in place of the assessed approach.

1.5.1.2 Therefore, in relation to changing the assessment from the sequential to concurrent scenario, the Applicants' analysis above, together with the Rule 9 - ES Assessment of Construction Scenarios (AS-070), Clarification Note: Construction Scenarios (REP1-060) and Construction Noise and Vibration Assessment Clarification Note (REP3-068), demonstrates that it is incorrect to assert that effects would 'double' if the projects were built sequentially rather than concurrently. The Applicants' EIA does not support that conclusion and no evidence has been provided by any other party to support that statement. Rather the analysis undertaken by the Applicants demonstrates that, even where the MDS for an impact is considered to be sequential and significant residual effects are identified, the impacts would not be halved in the concurrent construction scenario. In fact it confirms that there would be no change to the residual effects.