MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Clarification Note: Construction Scenarios

Deadline: Deadline 1
PINS Reference: EN020028

Document Numbers:
MRCNS-J3303-RPS-19072
MOR001-FLO-CON-CAG-TEC-0002

Document reference: S_D1_10
Rev: F01

20 May 2025

Document status					
Version	Purpose of document	Approved by	Date	Approved by	Date
F01	Deadline 1	HK	May 2025	IM	May 2025

Prepared by:

RPS

Prepared for:

Morgan Offshore Wind Limited,
Morecambe Offshore Windfarm Ltd

Contents

1. Clarification Note: Construction Scenarios

1.1 Introduction and Summary

1.1.1.1 Further to Section 2 of the Applicants' Response to the Rule 9 letter (AS-067) and ES assessment of construction scenarios (see paragraph 1.6.1.5 of AS-070), this note provides additional clarification on the maximum design construction scenarios with regard to the following assessments:

- air quality (ecological and human health impacts related to air quality);
- hydrology and flood risk; and
- noise and vibration.

1.1.1.2 In addition, this note confirms and provides further explanation of the maximum design construction scenario assessment for cumulative impacts (paragraph 1.6.2.3 of AS-070).

1.2 Air quality

1.2.1 Ecological impacts related to air quality

1.2.1.1 The Rule 9 – ES Assessment of Construction Scenarios (AS-070) explains that the maximum design scenario used in assessments is specific to environmental topics and this is demonstrated in the different construction scenarios used in the topic assessments. For the assessment of air emissions on ecological receptors, the assessment considers the maximum design scenario for air quality emissions (the impact) and onshore ecology (the receptor).

1.2.1.2 The impact of air quality emissions (annual-mean ammonia, nutrient nitrogen deposition and acid deposition) from construction traffic is based on construction traffic modelling. The maximum design scenario for construction traffic modelling assumes a concurrent construction scenario i.e. construction traffic from both projects will be utilising the highway network at the same time and will therefore generate the maximum air quality emissions at any given time.

1.2.1.3 The assessment of the effect on ecological receptors (Red Scar and Tun Brook Woods SSSI, Biological Heritage Site (BHS) and Local Nature Reserve (LNR)) is based on a sequential construction scenario because the maximum design scenario is that the longer the duration a receptor is exposed to an impact, the greater the significance of effect.

1.2.1.4 As the assessment of air emissions on ecological receptors is informed by two differing construction scenarios (concurrent traffic emissions over a sequential duration on ecological receptors), the Applicants have assessed a cautious and unrealistic scenario. This is because a higher magnitude of impact has been assessed than will occur within a realistic maximum design construction scenario for air emissions on ecological receptors.

1.2.1.5 If the assessment were to only consider the concurrent maximum design scenario or only the sequential construction maximum design scenario, the

effects would be the same (minor adverse) or lower (negligible or no change) and therefore, would remain as not significant in EIA terms.

1.2.1.6 Further details on the assessment are provided in Volume 3, Annex 9.1: Air quality impacts on ecologically designated sites (APP-122) and paragraphs 3.11.5.7 to 3.11.5.23 of Volume 3, Chapter 3: Onshore ecology and nature conservation (APP-075).

1.2.2 Human health impacts related to air quality

1.2.2.1 Similarly, in relation to human health, the assessment for the impact of vehicle emissions and the consequent effect on human health selected a sequential construction duration as the worst case (Table 1.17 Air Quality of the Rule 9 - ES Assessment of Construction Scenarios (AS-070)). However, the assessment also assumed the concurrent construction scenario for the greatest number of construction vehicle movements as this presents a larger potential magnitude of change of emissions (i.e. concurrent traffic emissions over a sequential duration on human health).

1.2.2.2 On the basis of the above, the Applicants have over assessed the maximum design scenario for the magnitude and duration of the impact of changes in air quality. If the assessment were to only consider the concurrent maximum design scenario or only the sequential construction maximum design scenario, the effect would be the same (negligible) and therefore, would remain as not significant in EIA terms.

1.3 Hydrology and flood risk

1.3.1.1 In Table 1.11 Hydrology and Flood Risk of the Rule 9 - ES Assessment of Construction Scenarios (AS-070), sequential construction was selected as the maximum design scenario as it represents the longest duration of construction and therefore, the longer period of time which watercourses and the local surface water drainage system would be exposed to additional surface water runoff as a result of construction of the Transmission Assets.

1.3.1.2 As set out in Table 1.11, following review of the maximum design scenario for the Rule 9 letter, the Applicants' Flood Risk Assessment considers construction impacts up to 2032 (APP-073 and APP-074). However, as set out in paragraph 1.5.1.2 of AS-070, the total sequential construction period could be up to 120 months, (although active construction activities would only take place for a combined period of up to 66 months for the Transmission Assets). As such, the Applicants have updated the Flood Risk Assessment (F3.2.3/F03) to reflect Projects' anticipated operational date of 2036.

1.3.1.3 This change to the end date of construction does not change the conclusions set out within the revised Flood Risk Assessment (F3.2.3/F03).

1.4 Noise and vibration

1.4.1 Noise

1.4.1.1 In Table 1.16 Noise and Vibration of the Rule 9 - ES Assessment of Construction Scenarios (AS-070), the maximum design scenario for open-cut trenching (treated as transient) associated with residential and other sensitive receptors (such as Rowan Veterinary Centre and Quaker Wood Stables) was assessed as sequential construction as the duration of noise generating works would be experienced over a longer period. However, the maximum design scenario is concurrent construction due to increased quantity of plant in use (i.e., an increased quantity of construction plant in use which would increase the construction noise level).

1.4.1.2 The Applicants have undertaken a comprehensive review of the construction noise modelling and impacts reported in Volume 3, Chapter 8: Noise and vibration (APP-117) and in Volume 3, Annex 8.2: Construction noise and vibration (APP-119). The noise model has been updated with the concurrent construction scenario for the assessment of transient works. This amendment has shown an increased numbers of properties are predicted to experience high, medium and low transient noise impacts. However, noise impacts resulting from these works would not be experienced at properties for the temporal duration set out in paragraph 8.10.3.3 of APP-117[1], due to their transient nature. It should also be noted that this is an over-assessment as the precautionary, worst case assumption is that all equipment will be in operation at the same time on the boundary of the onshore export cable corridor and 400kV grid connection cable corridor which will not be the case in practice. Notwithstanding the updates to the model with the concurrent construction scenario, the conclusion set out in paragraph 8.11.4.17 of APP-117 (minor adverse significance) remains unchanged.

1.4.1.3 The Applicants will be contacting the relevant Environmental Health Officers to discuss the points raised above and will provide an update into Examination at Deadline 2.

1.4.2 Vibration

1.4.2.1 The vibration assessment reported in Volume 3, Chapter 8: Noise and vibration (APP-117) was informed by the methodology set out in Annex E of BS 5228-2:2009+A1:2014, as described in paragraph 8.11.7.4 in APP-117. BS 5228-2 is the nationally accepted industry code of practice for construction vibration and has been applied in other consented Nationally Significant Infrastructure Projects. This method predicts peak particle velocity levels

[1] Paragraph 8.10.3.3 of APP-117 states 'Section 3 of DMRB LA 111 states the following with regard to durations to be considered in the assessment of significant effects: '*Construction noise and construction traffic noise shall constitute a significant effect where it is determined that a major or moderate magnitude of impact will occur for a duration exceeding:*

1) 10 or more days or nights in any 15 consecutive days or nights;

2) a total number of days exceeding 40 in any 6 consecutive months'.

(PPV) from individual vibration sources associated with compaction and piling. The Applicants' assessment, using the BS 5228-2 methodology, has predicted high and medium impacts at several receptors, which have been based on the highest PPV predicted to result from the vibratory works from the nearest project to the receptor, based on conservative assumptions.

1.4.2.2 The Applicants acknowledge that during concurrent construction there is the potential for vibratory plant to be operated at the same time on each project. However, due to the complex nature of vibration propagation through the ground, the PPV values likely to result from multiple items of vibratory construction plant operating at the same time cannot be derived from a simple addition of PPV values predicted from each individual item of plant. Therefore, a qualitative approach has been applied using professional judgement to derive impacts resulting from concurrent construction.

1.4.2.3 The qualitative assessment of the concurrent scenario has identified that high and medium impacts are also likely to occur due to concurrent working. However construction vibration impacts from both compaction and piling activities are based on conservative assumptions and only likely to be experienced for a short period of time, as presented in paragraphs 8.11.7.9 – 8.11.7.11 of APP-117. Therefore, taking these factors into consideration, the overall impact due to construction vibration from concurrent operation will be low and the effect is considered to be of minor adverse significance which is not significant in EIA terms. This remains unchanged from the conclusion for sequential construction reported in the ES (paragraph 8.11.7.12 of APP-117).

1.5 Cumulative Effects Assessment – temporal overlap

1.5.1 Sequential construction scenario with a 4-year gap

1.5.1.1 As set out in the Applicants' response to Rule 9 - ES Assessment of Construction Scenarios (AS-070), Volume 1, Annex 5.5: Cumulative screening matrix and location plan (APP-039) considered the sequential construction scenario with a 4-year gap when considering whether to screen projects into the cumulative effects assessment on a topic-by-topic basis (i.e., until 2036). Exact dates for start of construction of other projects are generally unknown, therefore a conservative assumption has been made that all other projects would have a temporal overlap. CEA screening is reliant on information in the public domain, but worst case assumption was that there would be overlap with other projects. For clarification purposes, both the construction and operational phases of other projects have been assessed in combination with all phases of the Transmission Assets if the construction timeline is not readily available (where relevant).

1.5.2 Overall CEA timescales

1.5.2.1 The offshore CEA screening is set up to 2055 as this is deemed the timescale for which any cumulative impacts could be reasonably foreseen and potentially overlap with the operational period of the Transmission Assets. Any projects which are to occur beyond this period are not currently known, and therefore increasing this time beyond 2055 would not change the outcomes of the CEA

as all relevant known impacts have been taken into account. There is no guidance to specify this period, but the Applicants have used precedent in terms of what has been done for other EIAs, such as the Generation Assets.

1.5.2.2 With respect to the onshore CEA, any known projects were also considered for their anticipated project lifespans during the operation and maintenance phase, which would be up to and including 2055, where relevant (e.g., solar farms within the onshore cable corridors). This has been clarified within Volume 1, Annex 5.5: Cumulative screening matrix and location plan (F1.5.5/F02).