

# MONA OFFSHORE WIND PROJECT

## Annex 3.4 to the Applicant's response to NRW's Relevant Representation at the Procedural Deadline

### Applicant's Response to Relevant Representation from Natural Resources Wales (NRW): RR-011.98 to RR-011.104

Deadline: Procedural Deadline

Application Reference: EN01037

Document Number: MOCNS-J3303-RPS-10223

Document Reference: S\_PD\_3.4

25 June 2024

F01



Image of an offshore wind farm

**MONA OFFSHORE WIND PROJECT**

**Document status**

<b>Version</b>	<b>Purpose of document</b>	<b>Authored by</b>	<b>Reviewed by</b>	<b>Approved by</b>	<b>Review date</b>
F01	Procedural Deadline	RPS	Mona Offshore Wind Ltd	Mona Offshore Wind Ltd	June 2024

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## Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects.

## Acronyms

Acronym	Description
DCO	Development Consent Order
ENP	Eryri National Park
IoA	Isle of Anglesey
LVIA	Landscape and visual impact assessment
MDS	Maximum Design Scenario
NRW	Natural Resources Wales
NL	National Landscape
NP	National Park
PEIR	Preliminary Environmental Information Report
SDL	Statutory Designated Landscape
SLVIA	Seascape, landscape and visual impact assessment
SSZ	Seascape Sensitivity Zone
SVIA	Seascape and visual impact assessment
WCP	Wales Coast Path
ZTV	Zone of Theoretical Visibility

## Units

Unit	Description
km	Kilometres
m <sup>2</sup>	Cubic metres

# 1 Applicant's Response to Relevant Representation from Natural Resources Wales (NRW): RR-011.98 to RR-011.104

## 1.1 Introduction

1.1.1.1 This document has been prepared in response to NRWs relevant representation (RR-011) section 3.1.2 which states:

*NRW (A) are concerned that the SLVIA has not assessed the worst-case scenario because it is based on MDS Scenario 2 (i.e. 68 x 364m tall turbines). Assuming it is technically feasible, we advise the worst-case assessment scenario for SLVIA purposes is a combination of the maximum number of turbines from MDS Scenario 1 and the maximum turbine height from MDS Scenario 2 (i.e. 96 x 364m tall turbines). If approved, these parameters will be listed on the DCO (Document Reference C1) [APP-023]. It is not clear why this combined scenario did not form the basis for the SLVIA and visualisations.*

*We advise the Applicant's comment that no consultee objected to the approach to using MDS Scenario 2 for SLVIA (Table 8.17 Document Reference F2.8) [APP-060] is incorrect. We raised concerns with this approach in advising on the PEIR).*

*We disagree with conclusions in the SLVIA regarding the effects of the proposed turbines on the [Isle of Anglesey National Landscape] IoA NL, [Eryri National Park] ENP, and visual receptors within the [Statutory Designated Landscapes] SDLs. We advise the SLVIA has underreported and underestimated effects on SDLs. We advise conclusions regarding the effects on SDLs reported in the SLVIA are undermined by a number of fundamental issues. These include the omission of relevant receptors from the assessment, flaws within the SLVIA methodology, and flawed judgements. We advise that because the SLVIA has underestimated the effects of the proposed wind turbines, no specific mitigation measures have been considered.*

*We are concerned that local landscape and seascape character areas have been excluded from the SLVIA. Whilst studies such as the Anglesey Landscape Strategy 2011 and Anglesey Seascape Character Assessment, 2013, are referenced in the SLVIA, they are not receptors and it is not clear how – if at all - the review of these documents has informed an understanding of the character of the SDLs, their special qualities, and the impacts on these.*

*We advise there are methodological and presentational issues with the visualisations and figures intended to support the SLVIA. We advise these issues should be addressed. Issues include: visualisations not presented in accordance with best practice guidance; photography taken in unsuitable conditions; heavily pixilated baseline photography; and, information being illegible due to the presentation of figures/maps as insets within the ES report. We require that the applicant provides a full hard copy of all SLVIA figures and visualisations relevant to SDLs printed at the correct paper size.*

*We advise that the additional information requested in our PEIR response to understand the impacts of the proposal has not been provided. For example, we requested a cumulative Zone of Theoretical Visibility (ZTV) analysis for the Wales Coast Path be included in the ES, to highlight the route of the Path and be supported by more detailed 'sectional' cumulative and non-cumulative analysis. This has not been provided.*

*We advise that cumulative wireline visualisations – depicting the proposed turbines in combination with schemes scoped into the cumulative SLVIA - have only been prepared from a select number of viewpoints (5 in total across all three SDLs). This means at other viewpoints, where the nature of the view and impact would be different, no visualisation is provided. Given the nature of the proposal, the sensitivity of the receptors being assessed, and the conclusions of the SLVIA with regard to these receptors, we advise cumulative visualisations should be provided from all relevant viewpoints within the SDLs. We also consider cumulative visualisations showing the proposed substation and other Tier 1 developments (including the Awel y Môr substation) should be provided.*

## 1.2 Response

### 1.2.1 Introduction

1.2.1.1 The Applicant understand the main concerns from NRW to be as follows:

- The SLVIA has not assessed the maximum design scenario (MDS) and that consultation on the MDS has been incorrectly reported (paragraphs 3.1.2.1 and 3.1.2.2 of RR-011)
- The potential effect of the wind turbines on the IoA NL, ENP, visual receptors SDL and local landscape and seascape character areas (paragraphs 3.1.2.3 and 3.1.2.4 of RR-011)
- Methodological and presentational issues with the project alone and cumulative visualisations (paragraphs 3.1.2.5, 3.1.2.6 and 3.1.2.7 of RR-011).

1.2.1.2 The Applicant has responded to these points below.

### 1.2.2 Assessment of the MDS

1.2.2.1 The Applicant acknowledges that NRW provided the following comment on the MDS scenario 2 in response to the PEIR (as presented in Consultation Report Appendices - Part 3 (D.25 to F) (APP-040)).

*“...We advise that either Scenario 1 is used for the MDS, included as an alternative development scenario for SLVIA purposes, or further justification is provided for why Scenario 2 is considered to be the worst-case scenario. This is because whilst the horizontal field of view occupied by the turbines and their perceived height is similar between Scenarios 1 & 2, Scenario 1 has a higher number of turbines (39 more than Scenario 2) and this leads to a noticeable increase in the density of development at locations on the north coast of Wales, including within the Isle of Anglesey AONB (e.g. Viewpoint 3). NRW (A) therefore consider that this is likely to be the worst case MDS for SLVIA purposes.”*

1.2.2.2 Scenario 2 was selected as the MDS within Volume 2, Chapter 8: Seascape and visual resources (APP-060) as this scenario that could result in the greatest potential for change. At workshops in autumn 2022, wirelines of both design scenarios were presented to statutory consultees (see Table 8.7 of Volume 2, Chapter 8: Seascape and visual resources (APP-060)). The MDS (as set out in Table 8.17 of Volume 2, Chapter 8: Seascape and visual resources (APP-060)) is made up of the smallest number of wind turbines with the maximum rotor diameter and maximum tip height. The tallest turbines would be seen from greater distances/affect a larger area of sea/land.

1.2.2.3 The SVIA within Volume 2, Chapter 8: Seascape and visual resources (APP-060) assesses the worst-case scenario, and assumes that visibility conditions would be such that the proposed offshore windfarm, located at 28.8 km from the coast at its closest point, would be most visible from within the Study Area. In other words, the wind turbines would be seen at their maximum colour difference and maximum visual magnitude. In reality, this situation seldom occurs. Even in areas with very sunny conditions, the angle of the sun is constantly changing thereby creating a partial shadow on a turbine, affecting visibility and perception of distance.

1.2.2.4 The MDS (or worst-case scenario), as proposed by NRW in paragraph 3.1.2.1 of their relevant representation (RR-011), with maximum wind turbine height in combination with maximum number of turbines, is not a buildable option therefore there is no scenario in which this could occur. To confirm, the wirelines and photomontages in

Volume 6, Annex 8.6: Seascape visualisations (APP-106 to APP-112), illustrate the MDS, (i.e. the taller wind turbines). This MDS is secured through the maximum swept area of 5,468,994 m<sup>2</sup> which has been included within the draft DCO submitted at the Procedural Deadline (draft DCO F03). This ensures that the Mona Offshore Wind Project will not build maximum wind turbine height in combination with maximum number of turbines. The maximum swept area is derived from scenario 2 (smallest number of large wind turbines) of up to 68 wind turbines, each with a maximum rotor of 320 m (as presented as the MDS in Volume 2, Chapter 8: Seascape and visual resources (APP-060)) and maximum blade tip height of 364m.

### **1.2.3 Potential effect of the wind turbines on the loA NL, ENP, visual receptors SDL and local landscape and seascape character areas**

1.2.3.1 The potential effect of the Mona Offshore Wind Project on the loA NL, ENP, visual receptors within the SDL and local landscape and seascape character areas is presented in section 8.8 of Volume 2, Chapter 8: Seascape and visual resources (APP-060).

1.2.3.2 NRW does not specify which ‘relevant receptors’ they are referring to in paragraph 3.1.2.3 of their relevant representation (RR-011) but the Applicant has addressed the specific points highlighted by NRW and looks forward to further discussion on more specific points as they are raised.

1.2.3.3 The seascape and landscape character areas within the study area are set out in Volume 6, Annex 8.2: Seascape and landscape character baseline technical report (APP-100). The representative viewpoints were agreed with all relevant statutory consultees (see Table 8.6 of Volume 2, Chapter 8: Seascape and visual resources (APP-060)). Given the location of the project, the Mona Array Area has the potential to affect the special qualities of the nationally designated landscapes. These special qualities are set out in full and assessed in Volume 6, Annex 8.5: International and nationally designated landscapes study (APP-100). This assessment is founded on a detailed examination of the ZTV together with fieldwork including reference to national and local landscape and seascape character assessments for Isle of Anglesey NL in section 1.7.6 and for Eryri NP in section 1.7.21 and for Clwydian Range and Dee Valley NL in paragraphs 1.7.13.5 to 1.7.13.10.

1.2.3.4 The Mona Array Area is located, at its closest point, 29 km from the designated landscapes. It does not directly affect the character of the local landscape and seascape areas. Due to the distances between the nationally designated landscape and the Mona Array Area, and in the interests of proportionality, the SLVIA is focussed on national landscape and seascape character. This accords with the Guidelines for Landscape and Visual Impact Assessment: Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013) (GLVIA3) preface to the third edition page X (roman numeral) and paragraph 1.17.

1.2.3.5 The ZTV described in Volume 6, Annex 8.5: International and nationally designated landscapes study (APP-100) indicates the theoretical visibility of the Mona Array Area primarily along the northeast coastal landscape of Anglesey overlooking the Irish Sea, with reference to the Landscape Character Areas in the Isle of Anglesey Landscape Strategy 2011 and the Seascape Character Areas in the Anglesey Seascape Character Assessment 2013. As presented in section 1.7.6 of Volume 6, Annex 8.5: International and nationally designated landscapes study (APP-100).

1.2.3.6 The SLVIA of the Mona Offshore Wind Project (within Volume 2, Chapter 8: Seascape and visual resources (APP-060)) has been undertaken in line with the NPS EN-3 requirements (see table 8.2 within Volume 2, Chapter 8: Seascape and visual

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resources (APP-060)). The assessment methodology used for the Mona SLVIA is derived from GLVIA3. The SLVIA is supported by photomontages, which have been produced in accordance with the Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals and NatureScot Visual Representation of Wind farms - Guidance: Version 2.2.

- 1.2.3.7 The methodology used in assessing potential impacts on the IoA NL, ENP, visual receptors SDL and local landscape and seascape character areas is set out in Volume 6, Annex 8.4: Seascape, landscape and visual assessment methodology (APP-104), with reasons as to why DTI 2005 and GLVIA3 were relied on over the NRW/White 2019 guidance. Whilst the NRW/White (2019) guidance is referenced in the revised National Policy Statement EN3 at paragraph 2.8.208, all three NRW/White guidance documents were reviewed on production of the PEIR and Environmental Statement. However, transcription errors were discovered from the DTI (2005) guidance, therefore the assessment methodology used in the SLVIA reverted to the source guidance on SLVIA (DTI 2005 and GLVIA3). It is understood that the NRW/White 2019 guidance was not peer-reviewed (by an external consultant or made available for wider industry review). By contrast DTI 2005 lists four pages of external consultees who were involved in the drafting of the document.
- 1.2.3.8 In assessing effects of a proposed development objective, measurable data is used where possible. However, a degree of professional judgement is required for the majority, if not all, decisions of significance. The degree to which a resource or receptor is affected by a proposed development does not usually change at a certain point (e.g. geographical location, distance or amount). The degree of impact on landscape and seascape character as well as on views and visual amenity are, in the majority of cases, a continuum, which require professional judgement to robustly assess effects.
- 1.2.3.9 NRW Report 331 (White 2019) uses split categories when attributing sensitivity to various Seascape Sensitivity Zones (SSZs). The 'UK Offshore Energy Strategic Environmental Assessment Future Leasing/Licensing for Offshore Renewable Energy, Offshore Oil & Gas and Gas Storage and Associated Infrastructure' (OESEA4 Environmental Report) (Department for Business, Energy and Industrial Strategy, March 2022) at Table 5.28: View of potential magnitude of effects [impacts] for 500 MW offshore wind farm scenarios viewed at 22 m AOD (page 369) uses split categories for impact magnitude. Using a split category for either magnitude of impact or sensitivity will most likely result in a split category for significance of effect. This is the case with the Mona SVIA and LVIA.
- 1.2.3.10 When judging the overall significance of effect, GLVIA3 reiterates the need to clearly distinguish between effects which are significant and those which are not. At paragraph 3.32, GLVIA3 explains that there are no hard or fast rules about what effects should be deemed to be significant. For the purposes of the Mona SLVIA 'moderate' effects can be either significant or not significant, depending on the context of the resource or receptor.
- 1.2.3.11 The Applicant maintains that the SVIA methodology is robust and does not underestimate or underreport the potential effects of the Mona Offshore Wind Project.

## 1.2.4 Project alone and cumulative visualisations

- 1.2.4.1 Viewpoint photography was undertaken in different conditions with multiple attempts made to photograph some viewpoints. A number of photographs were retaken for the purposes of better representation and photomontage preparation in response to NRW's feedback on the PEIR (Consultation Report Appendices - Part 3 (D.25 to F) (APP-040)). However, such are the atmospheric conditions of the East Irish Sea that



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it proved a considerable challenge (in an exceedingly wet few years), for a small number of the agreed viewpoints to obtain the clear conditions that might be gained on closer developments, or developments on land. The photography was undertaken in accordance with best practice (see Appendix A, Volume 6, Annex 8.4: Seascape, landscape and visual impact assessment methodology (APP-104)). The photographs have been provided at the highest quality to avoid pixelation where possible. The photography and full descriptions of the existing views and those receptors that might experience the views are set out in Volume 6, Annex 8.3: Visual baseline technical report – offshore development (APP-103).

1.2.4.2 The interpretation of the visual appearance of the MDS of the offshore windfarm is due to a several factors that influence the degree of visibility of any object located within marine conditions / at a considerable distance from the coast and viewer and include:

- Constant factors:
  - Curvature of the Earth (at sea level curvature of the earth becomes a significant factor at or beyond a distance of approximately 30 km)
  - Object characteristics (including colour, contrast, texture, form and size/scale)
  - Human visual acuity
  - Viewer elevation (extends the visibility distance)
  - Distance of the viewed object.
- Variable factors:
  - Refraction
  - Atmospheric or aerial perspective
  - Weather and atmospheric conditions (air clarity; the background cloud cover; haze can reduce contrast even at distances within the range of visibility; summer days sometimes have the lowest visibility and winter nights have the highest). The warmer the air, the more moisture it can hold and therefore the hazier the visibility.
  - Direction of the sun in relation to the wind turbines
  - Context
  - Degree of available screening.

1.2.4.3 Viewing distance is one influence on the level of contrast of wind turbines, however other influential factors such as the degree, direction and elevation of sunlight, the background cloud cover, and haze which can reduce contrast even at distances within the range of visibility. These factors do not operate independently and contrast cannot be therefore assessed by the analysis of viewing distance alone.

1.2.4.4 Differing levels of visibility derived from atmospheric conditions also influence the effect. When sunlight appears on individual wind turbines, the wind turbines could be visible from long distances. It should be noted that variations of visibility and / or how the wind turbines appear can vary across the windfarm itself in variable lighting conditions with some wind turbines in shade beneath or within cloud, while others in very limited sunlight and others fully projected. Therefore, it could be expected that a large-scale windfarm will not appear as one strong coherent group in variable weather/light conditions. Even in apparently clear summer conditions with sunny and clear skies, the wind turbines, which appear fully in bright sunlight can be hard to distinguish due to sun glitter - when sunlight reflects off the surface of the sea / from waves.

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- 1.2.4.5 The Applicant maintains that there is sufficient quality of images and material provided for assessment and decision making. Site work together with the visualisations have enabled an accurate assessment of the potential significance of effects.
- 1.2.4.6 Each wireline and photomontage figure has the size that the image should be printed and viewed at. The Applicant will provide NRW with hard copies of the visualisations within Volume 6, Annex 8.6: Seascape visualisations Part 1-7 (APP-106 to APP 112).
- 1.2.4.7 Cumulative wirelines from representative viewpoints within nationally designated landscapes in Wales have been prepared from viewpoints 6 Carnedd Llewelyn, Eryri National Park (Figure 48), Viewpoint 10, Graig Fawr, Clwydian Range and Dee Valley (Figure 50), Viewpoint 11, Moel y Parc, Clwydian Range and Dee Valley (Figure 51) and viewpoint 28, Penmon Point, Isle of Anglesey (Figure 56). These are presented in Volume 6, Annex 8.6: Seascape Visualisations Part 7 (APP-112).
- 1.2.4.8 Taking into account the distance between the Mona Array Area and Nationally Designated landscapes at distances of approximately 29 km (Isle of Anglesey NL), 36 km (Eryri NP) and 41 km (Clwydian Range and Dee Valley NL), site work and a selection of viewpoints (in addition to those listed above) was deemed to adequately demonstrate the cumulative visual effects and consequent effects on special qualities of a perceptual nature within the three nationally designated landscapes. Representative viewpoints within these designated landscapes were selected, including those in the eastern part of the study area, extending from Penmon Point to Prestatyn to align with Mona Array Area and the cumulative projects which generally occupy the eastern part of the Irish Sea within the SLVIA study area.
- 1.2.4.9 Cumulative visualisations showing the Mona Offshore Wind Project alongside Tier 1 offshore projects are presented in - Volume 6, Annex 8.6: Seascape visualisations Part 7 (Figures 47- 56) (APP112). Cumulative visualisations showing the proposed onshore substation and other Tier 1 developments (including the Awel y Môr substation) from representative viewpoints within Clwydian Range and Dee Valley NL have not been generated, in part as the nature of the Awel y Môr onshore substation is not known. However, the effects from the proposed onshore substation are anticipated to be limited as outlined in Volume 3, Chapter 6: Landscape and visual resources (APP-069), due to:
- The character of the landscape baseline in which the proposed substation site would be located, south and close to St. Asaph Business Park and the National Grid substation at Bodelwyddan and within a wider landscape, featuring mature hedgerows and mature woodland as outlined in section 6.5.4: Site specific description – Onshore Substation of Volume 3, Chapter 6: Landscape and visual resources (APP-069),
  - Mitigation measures to integrate the Mona Onshore Substation into the receiving landscape which will substantially screen the Mona Onshore Substation, over time. These measures are presented in the Outline LEMP (APP-208) and the Design Principles Document (APP-189) and summarised in section 6.8 of Volume 3, Chapter 6: Landscape and visual resources (APP-069). Mitigation measures include earth modelling to provide immediate screening of the lower structures within the Mona Onshore Substation and to provide higher land on which to plant new woodland. Woodland creation and the restoration of historic hedgerows will provide further screening of the proposed substation.
- 1.2.4.10 The ZTV production and its limitations are described in Appendix A.1.2 in Volume 6, Annex 8.4: Seascape, landscape and Visual Resources Impact Assessment Methodology (APP-104). The Wales Coast Path (WCP) extends around the coastline of Wales from Chester in the north, to Chepstow in the south. A proportion of the

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Wales Coast Path (WCP) falls within the ZTV along the eastern coast of the Isle of Anglesey and the north coast of Wales. The WCP also falls within the ZTV of the consented Awel y Môr Offshore Wind Farm. As the Awel y Môr array is almost three times closer to the coast than the Mona Array Area which is located approximately 29 km from the WCP at the closest point. The Awel y Môr array forms the focus in most views from this section of the coast path, which lies approximately 11 km from the Awel y Môr array at its closest point. The Mona Array Area would be a subsidiary and distant feature in views from the WCP, compared with the Awel y Môr array.