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MONA OFFSHORE WIND PROJECT

Lighting Clarification Note

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Image of an offshore wind farm

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Mona Offshore Wind Ltd.

Contents

Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.
Mona Onshore Cable Corridor	The corridor between MHWS at the landfall and the Mona onshore substation, in which the onshore export cables will be located.
Mona Onshore Development Area	The area in which the landfall, onshore cable corridor, onshore substation, mitigation areas, temporary construction facilities (such as access roads and construction compounds), and the connection to National Grid substation will be located
Relevant Local Planning Authority	The Relevant Local Planning Authority is the Local Authority in respect of an area within which a project is situated, as set out in Section 173 of the Planning Act 2008. Relevant Local Planning Authorities may have responsibility for discharging requirements and some functions pursuant to the DCO, once made.
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees (see non-statutory consultee definition).
The Planning Inspectorate	The agency responsible for operating the planning process for NSIPs.

Acronyms

Acronym	Description
CCBC	Conwy County Borough Council
CoCP	Code of Construction Practice
DCC	Denbighshire County Council
DCO	Development Consent Order

1 Lighting Clarification Note

1.1 Introduction

1.1.1.1 This document has been prepared in response to a request by the Examining Authority in Hearing Action Point 11, which states:

Submit clarification note on lighting – to include nighttime landscape and visual effects and ecological effects during construction and operational stages. Clarify previous statements made about the extent to which lighting effects have been assessed.

1.1.1.2 Conwy County Borough Council (CCBC) and Denbighshire County Council (DCC) also made the following comment regarding lighting and the assessment of lighting in their Local Impact Report (REP1-048):

The Councils highlight that this Requirement [Requirement 15] relates to lighting, the visual impact of which has not been sufficiently assessed in the DCO application, as identified in Section 3.3 of this report.

1.1.1.3 This was reiterated in Q1.1.7 of the Response to ExQ1 by Conwy County Borough Council (CCBC) and Denbighshire County Council (DCC) (REP3-078):

Inclusion in the LVIA of the assessment of the potential effects of the proposed lighting on nighttime character and views and the significance of any such effects. The scope such an assessment would need to be proportionate to the sensitivity of the baseline nighttime environment and to the type, quantity and height of lighting proposed. For low level and temporary lighting, the assessment might be limited to just the nearest surrounding views and landscape receptors, but for permanent, bright and tall lighting with the potential to cause light spill and pollution, the assessment might need to be extended to cover the full LVIA study area to include, for example. potential impacts on the National Landscape at any of the Clwydian Range and Dee Valley Dark Sky Discovery Sites. This should be assessed against a baseline made up of nighttime photography and against the ILE Lighting Environmental Zones. This remains a concern following the Applicant's response to the Councils' LIR [REP2-085], confirming that some task lighting and lighting around the substation would be required. The Councils jointly remain of the view that this has not been assessed as part of the currently LVIA and this position is reflected in the SoCGs between the Councils and the Applicant.

1.1.1.4 The points above were also raised in the Statements of Common Ground (SoCG) with Denbighshire County Council (DCC) (REP3-060) and Conwy County Borough Council (CCBC) (REP3-061) and are being discussed through the SoCG process.

1.2 Response

1.2.1 Background

1.2.1.1 The construction and operation of the Mona Offshore Wind Project will require lighting for specific activities at the landfall, Onshore Cable Corridor and Onshore Substation. Information on lighting was provided in the Project Description chapter of the Preliminary Environmental Information Report published in Spring / Summer 2023. This same detail was included at the Application stage.

1.2.1.2 Potential impacts on receptors including designated landscapes, visual receptors, habitats and species) as a result of the construction of the landfall, onshore cable route

and the construction and operation of the onshore substation are considered at a high level as part of the assessment in Volume 3, Chapter 4: Onshore Ecology (APP-066) as potential disturbance of habitat (i.e. from light spill).Volume 3, Chapter 6: Landscape and Visual Resource (APP-065) considered the potential impacts associated with the proposed lighting and screened these out from detailed assessment. The context for that screening is included in this clarification note.

1.2.1.3 The Applicant considers that the high-level assessment of the lighting undertaken is proportionate given the nature of the potential impacts that could arise (or not) because of it.

1.2.2 Purpose of the document

1.2.2.1 The purpose of this lighting clarification note is to collate information from the Environmental Statement (and supplement with additional observations) for the benefit of the Examining Authority, DCC and CCBC.

1.2.2.2 The note provides a description of the construction lighting proposed for the landfall, onshore export cable and onshore substation works; and the lighting proposed for the operational phase of the onshore substation.

1.2.2.3 The note also provides details of the high-level assessment undertaken for the purposes of assessment of onshore ecology and landscape and visual resources; and why potential impacts were screened out from the Environmental Impact Assessment.

1.2.3 Overview of the lighting requirements

Construction

1.2.3.1 The majority of construction activities for the Mona Offshore Wind Project will be undertaken under natural light conditions where reasonably practicable. However, where there is insufficient natural light for construction to continue safely and effectively, or where night-time working is required, construction lighting will be required.

1.2.3.2 The Project Description (APP-050) states that:

1.2.3.3 *As a maximum design scenario, it has been assumed that some periods of 24-hour construction may be required, for which task related flood lighting may be necessary. Details of construction lighting will be set out in the Artificial Light Emissions Plan as part of the CoCP. An Outline Artificial Light Emissions Plan is included in the DCO application (Document Reference J.26.10).*

1.2.3.4 The Outline Artificial Light Emissions Plan (REP2-058) is secured as an appendix to the Code of Construction Practice (J26 F03). The Outline Artificial Light Emissions Plan (REP2-058) states:

1.2.3.5 The key locations where construction lighting is likely to be required are:

- *Temporary construction compounds – security lighting, circulation areas, access tracks from the public highway to the compounds;*
- *Onshore Cable Corridor, Onshore Substation and 400kV Grid Connection Cable Corridor – daytime works during the winter months;*
- *Transition Joint Bays and complex trenchless technique locations where extended hours are required; and*

- *Perimeter of temporary construction compounds, emergency routes and footpath crossing points.*

1.2.3.6 *Lighting will be designed and positioned to:*

- *Provide the necessary levels for safe working;*
- *Minimise light spillage or pollution;*
- *Minimise disturbance to adjoining residents or occupiers; and*
- *Avoid impacts on retained ecological habitats.*

1.2.3.7 *Appropriate task lighting will be used to direct light towards the working areas during the night-time or during low light conditions. Task lighting would be positioned at low levels on towers around the specific construction areas and directed to most frequently used areas of work to provide the necessary levels for safe working and avoid causing glare or annoyance to sensitive receptors.*

1.2.3.8 *Surface mounted lighting arrangements may provide lighting for perimeter fencing, walkways and circulation areas at compounds. Luminaires will direct the lighting downward (and avoid tilting) and limit the lighting to within the intended area.*

1.2.3.9 *Lighting placed close to sensitive human and ecological receptors will take into account the following:*

- *Light intensity will be in accordance with CDM requirements; and*
- *Light spills towards any retained linear features will be reduced to a minimum (using cowls as necessary).*

1.2.3.10 *Details of the location, height, design and luminance of floodlighting and task lighting to be used during the construction of the Mona Offshore Wind Project will be set out in the final Artificial Light Emissions Plan.*

Operation

1.2.3.11 The Project Description (APP-050) states that:

Operational lighting requirements at the onshore substation site may entail:

- *Security lighting;*
- *Car park lighting – as per standard car park lighting, possibly motion sensitive; and*
- *Repair/maintenance – task related flood lighting may be necessary.*

No additional lighting is proposed along the B5381 Glascoed Road or the operational access road. An operational lighting strategy will be secured as a requirement of the DCO.

1.2.3.12 The requirement to develop an operational lighting strategy is secured under Requirement 16 within the draft Development Consent Order (C1 F05) which states:

Work No. 22a [the onshore substation] must not be brought into operation until a written scheme for the management and mitigation of internal and external artificial light emissions from Work No. 22a has been submitted to and approved by the relevant planning authority.

1.2.3.13 The Design Principles (REP2-026) also states that:

The Mona Onshore Substation will not be manned, and lighting will only be required during operation and maintenance activities. Directional lighting will be needed for safety and security. Task-specific lighting will be needed externally, however, this will only be required on a very infrequent basis. If lighting is required along the access track from Glascoed Road to the Mona Onshore Substation, this would be low level, bollard lighting that would only be used when visits to the site are being made.

1.2.3.14 Further detail has been requested from CCBC, DCC and the Examining Authority regarding the operational lighting requirements. These are outlined below.

Operational Lighting Clarification

1.2.3.15 External lighting of the onshore substation during the operational phase will be only required for the following purposes:

- access and egress;
- security lighting;
- car park lighting; and
- repair/maintenance.

1.2.3.16 The onshore substation will be unmanned, therefore any activity will only take place on an infrequent basis.

1.2.3.17 Lighting will only operate when required and be directional within the site boundary only to reduce light spill into the surrounding landscape. Examples of the type of lighting that would ensure this include:

- Building mounted lighting;
- Motion detecting lighting above entrances;
- Signage lighting; and
- Low level lighting such as bollards to reduce light spill along routes.

1.2.3.18 Luminaires to be selected will ensure reduction in spill light, glare and sky glow. Luminaires shall be Light Emitting Diode (LED) type with directable light output to minimise light pollution.

Access and egress

1.2.3.19 Exterior lighting will allow safe access and egress (including emergency egress) for personnel (including from buildings) and safe operation of equipment, subject to the following indicative requirements:

- Maintained average illuminance 5-6 lux.
- Minimum maintained point illuminance 2.5-3 lux.

1.2.3.20 If lighting is required within the car park or along the access track from Glascoed Road to the Mona Onshore Substation, this would be low level, bollard lighting that would only be used when visits to the site are being made.

Security lighting

1.2.3.21 Exterior lighting to buildings will be controlled by PIR-based motion detectors (passive infrared), with short (approximately 5 minutes) timers. An internal wall override switch

for the PIR detectors will be fitted adjacent to the entrance door to enable constant operation, when needed.

1.2.3.22 The interior lighting system will be controlled manually via switches within the buildings. Only emergency escape lighting within the building, which will not be visible from the exterior, will be constantly illuminated.

Repair/maintenance

1.2.3.23 Repair and maintenance activities may need to take place, albeit on an infrequent basis. Any repair and maintenance activities (including emergency works) will be undertaken within daylight hours, wherever possible, to remove the need for operational lighting requirements. If lights are required, they will only be used when work is to be carried out within non-daylight hours and lights will be positioned to suit the work. For repair and maintenance, portable luminaires to suit the work may be used to supplement the permanent lighting in place at the onshore substation.

1.2.3.24 The location, number, height, type and specification details of the luminaries that will be installed at the onshore substation will be provided within the Operational Artificial Light Emissions Management Plan to be discharged as Requirement 16 of the draft Development Consent Order [C1 F05] through submission and approval by DCC. Any scheme approved must also be implemented as approved. A detailed assessment of lighting requirements would be defined at detailed design, as part of this written scheme.

1.2.4 High-level Assessment

1.2.4.1 Clarifications regarding how the lighting of the Mona Offshore Wind Project has been assessed have been requested by the Examining Authority.

Construction

1.2.4.2 In its response to the Examining Authority's First Written Questions Q1.13.1 (REP3-062) the Applicant confirmed that task lighting was included as one of the associated construction activities in the assessment of impacts on landscape and visual resources and receptors (Table 6.19 and paragraph 6.11.1.26 of Volume 3, Chapter 6: Landscape and Visual Resources (APP-069)). A separate assessment of lighting was not considered proportionate given that the use of task lighting will be temporary and localised and given the fact that task lighting will be controlled through the implementation of the Outline Artificial Light Emissions Plan (REP2-058).

1.2.4.3 The Applicant has also assessed the potential impacts of construction lighting (including temporary task lighting) as part of the assessment of habitat disturbance on sensitive ecological receptors (otter, hazel dormouse and bats) and concluded that there would be no significant effects (Environmental Statement - Volume 3, Chapter 3: Onshore Ecology (APP-066)).

1.2.4.4 As set out in the Applicant's response to Q1.13.1 at Deadline 3 (REP3-062) the final Artificial Light Emissions Plan is part of the CoCP that is secured through Requirement 9 of the draft development consent order (REP2-004) and will be agreed with the relevant planning authority prior to commencement of works. Requirement 9 offers a suitable control on construction lighting and no additional limit on task lighting is necessary.

Operation

1.2.4.5 The Applicant has considered the potential for likely significant effects to be experienced by landscape and visual resources and receptors, from incident-related lighting of the unmanned substation, during the operations and maintenance phase at a high-level (as reported in ISH2 (EV3-003a)). The Applicant found that there was no potential for likely significant effects, given the type of lighting that would be deployed (detailed by the Applicant at Issue Specific Hearing 3 (EV5-003a)) and that lighting would only be deployed during the core working hours (i.e. not overnight). Consequently, the effects of lighting at the Onshore Substation were not taken forward to a full assessment. The validity of this approach is confirmed by the Landscape Institute in LITGN-2024-01: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Assessment Third Edition (GLVIA3) ((published August 2024). At section 8(2) the Landscape Institute's GLVIA Advisory Panel explain that "A night-time assessment should not be a routine requirement and will only be required where lighting will have a potential significant influence on landscape character and/ or visual amenity, as a result of the combination of the sensitivity of the receiving night-time environment and the nature of the proposed lighting."

1.2.4.6 The Applicant assessed the impacts of disturbance on ecological receptors from the operation of the Onshore Substation including security lighting. The assessment concluded that there would be no significant effects (Environmental Statement - Volume 3, Chapter 3: Onshore Ecology (APP-066)).

1.2.4.7 Requirement 16 prevents the commencement of Work No. 22a (i.e. creation of the substation platform) until a written scheme for the management and mitigation of internal and external artificial light emissions from Work No. 22a has been submitted to and approved by the relevant planning authority. The approved scheme for the management and mitigation of artificial light emissions must be implemented and maintained during the lifetime of Work No. 22a. Requirement 16 offers a suitable control on operational lighting and no additional limit on operational lighting is necessary.