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MONA OFFSHORE WIND PROJECT

Community Impact Clarification Note

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Image of an offshore wind farm

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Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Bodelwyddan National Grid Substation	This is the Point of Interconnection (POI) selected by the National Grid for the Mona Offshore Wind Project.
Competent Authority	Regulation 6(1) defines competent authorities as "any Minister, government department, public or statutory undertaker, public body of any description or person holding a public office".
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Mona Offshore Wind Project.
Landfall	The area in which the offshore export cables make contact with land and the transitional area where the offshore cabling connects to the onshore cabling.
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Local Highway Authority	A body responsible for the public highways in a particular area of England and Wales, as defined in the Highways Act 1980.
Maximum Design Scenario (MDS)	The scenario within the design envelope with the potential to result in the greatest impact on a particular topic receptor, and therefore the one that should be assessed for that topic receptor.
Mona 400kV Grid Connection Cable Corridor	The corridor from the Mona onshore substation to the National Grid substation at Bodelwyddan.
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 Offshore Wind Project Boundary	The area containing all aspects of the Mona Offshore Wind Project, both offshore and onshore.
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
National Policy Statement (NPS)	The current national policy statements published by the Department for Energy Security & Net Zero in 2024.
Non-statutory consultee	Organisations that an applicant may choose to consult in relation to a project who are not designated in law but are likely to have an interest in the project.
Pre-construction site investigation surveys	Pre-construction geophysical and/or geotechnical surveys undertaken offshore and, or onshore to inform, amongst other things, the final design of the Mona Offshore Wind Project.
Point of Interconnection	The point of connection at which a project is connected to the grid. For the Mona Offshore Wind Project, this is the Bodelwyddan National Grid Substation.

Term	Meaning
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.
the Secretary of State for Business, Energy and Industrial Strategy	The decision maker with regards to the application for development consent for the Mona Offshore Wind Project.
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).
Wind turbines	The wind turbine generators, including the tower, nacelle and rotor.
The Planning Inspectorate	The agency responsible for operating the planning process for NSIPs.

Acronyms

Acronym	Description
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EnBW	Energie Baden-Württemberg AG
EWG	Expert Working Group
HVAC	High Voltage Alternating Current
IEMA	Institute for Environmental Management and Assessment
LSOA	Lower Super Output Area
MDS	Maximum Design Scenario
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
PDE	Project Design Envelope
PEI	Preliminary Environmental Information

Units

Unit	Description
GW	Gigawatt
km	Kilometres
km^2	Kilometres squared

Unit	Description
kV	Kilovolt
MW	Megawatt

1 COMMUNITY IMPACT CLARIFICATION NOTE

1.1 Introduction

1.1.1.1 The agenda for Issue Specific Hearing 3: Environmental Matters (ISH3) [EV5-001], Item 4 discussed the Onshore Substation in relation to "*the effects, including cumulative effects, of the proposed Onshore Substation site during construction and operation*". This included the accumulation and interrelationship of effects (paragraph 4.3.19 of NPS EN-1). The NPS EN-1 text states that: 4.3.19 "*The Secretary of State should consider how the accumulation of, and interrelationship between, effects might affect the environment, economy, or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place*".

1.1.1.2 Issue Specific Hearing 3 Action Point 15 [EV5-006] is as follows:

"*With reference to NPS EN-1 para 4.3.19, is it possible that even if considered acceptable in their own right with mitigation measures in place, the various effects arising as a result of the onshore substation could add up to having a significant effect on the community or the environment either as a result of the project alone or cumulatively with other proposed development?*"

1.1.1.3 The Applicant provided a Deadline 4 Submission - Appendix to HAP ISH3_15: Inter-related Effects [REP4-037]. This included referencing the health assessment set out in F4.4 Environmental Statement (ES) - Volume 4, Chapter 4: Human health assessment [APP-078].

1.2 Purpose and content to this note

1.2.1.1 This document provides additional detail as to the potential for any significant effect on communities from the accumulation and interrelationship of effects.

1.2.1.2 The term 'community' is not defined by NPS EN-1. The Planning Act 2008 (as amended) uses the term 'community' in Section 47 to mean "*people living in the vicinity of the land*". The Office for National Statistics defines "*the usual residents of households and communal establishments*"[1] of an area as its 'population'. The terms community and population are therefore considered to have overlap, with the community relating to the localised population of a vicinity.

1.2.1.3 The NPS EN-1 paragraph 4.3.19 requirement is addressed through the EIA process by considering cumulative and inter-related effects as identified in the policy. These community and environmental effects are set out in ES Volume 3, Chapter 11: Inter-related effects (onshore) [APP-074], Table 11.1 stating "*Project lifetime effects and receptor-led effects are assessed throughout this chapter of the Environmental Statement*".

1.2.1.4 The part of the ES that takes an explicit population approach is ES Volume 4, Chapter 4: Human health assessment [APP-078]. This note therefore focuses on that assessment as it specifically considers people living in the vicinity of the

[1] Office for National Statistics. Census 2021. Population statistics and sources guide. Online. Accessed 7/11/2024. https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/methodologies/populationstatisticsandsourcesguide

Onshore Substation as a community group. It is also the case that the health assessment draws together the effects of the ES that affect the physical, mental or social wellbeing of people that comprise communities. The health assessment therefore provides a summary of where outcomes to groups of people are likely to be significant.

1.2.1.5 Notwithstanding this, other assessments of the ES also reference community receptors as appropriate in reaching their conclusions and in doing so consider the effects on the community and the environment. These include:

- Volume 3, Chapter 6: Landscape and visual resources, which considers the Landscape value of the Onshore Substation site (section 6.5.5) and views from residential properties.
- Volume 3, Chapter 7: Land use and recreation, which considers 'Community land and assets' as part of its methodology (Tables 7.19 and 7.21).
- Volume 3, Chapter 8: Traffic and transport, which considers the 'The impact on community severance' (Tables 8.20 and 8.39).
- Volume 3, Chapter 9: Noise and vibration, which considers 'Community noise' and 'Community relations' within World Health Organization and British Standard 5228 guidance, as well as effects at residential dwellings and non-residential properties.
- Volume 3, Chapter 10: Air quality, which considers all locations where members of the public might be regularly exposed, including residential properties, schools, hospitals, care homes.
- Volume 4, Chapter 3: Socio-economics, which considers the sensitivity of receptors in terms of their community value and considers potential impacts to community facilities.

1.2.1.6 This analysis is considered to provide appropriate information in relation to the NPS EN-1 para 4.3.19 requirement.

1.2.1.7 This note starts by explaining the approach to study areas taken in section 4.3.4 of ES Volume 4, Chapter 4: Human health assessment [APP-078].

1.2.1.8 There then follows a summary of the inter-related effects of the Project as set out in ES Volume 4, Chapter 4: Human health assessment [APP-078] section 4.12. That assessment did consider the combined effect on communities from both the impacts of the Project collectively and the effects taking into account cumulative projects, concluding there was not the potential for a likely significant population health effect. That assessment was proportionate in its reporting, so did not set out analysis or conclusions in relation to each community area individually.

1.2.1.9 To further clarify that conclusion, additional information is set out in this note. This aligns with the original assessment and provides a more granular analysis to show how the effects to these community areas were considered:

- Section 1.4 confirms how the ES Volume 4, Chapter 4: Human health assessment [APP-078] inter-related findings for the site-specific population associated with the Onshore Substation applies to these community areas.
- Section 1.5 confirms that at this level of additional detail it remains the case that the accumulation of, and interrelationship between, effects of the Project does not give rise to new or materially different population health effects.

This includes taking into account the Projects impacts in relation to: transport (access – onshore), community identity, open space, leisure and play, noise and vibration, perception of risk for electromagnetic fields (EMF) , climate change and wider societal resources.

- A conclusion is set out in section 1.6 and section 1.8 sets out a supporting Annex with a community profile for the community areas of Cefn Meiriadog, Bodelwyddan and St. Asaph, which are in proximity to the Onshore Substation.

1.3 Issues Raised by Communities Near the Onshore Substation

1.3.1.1 Cefn Meiriadog Community Council note in their response to ISH3 [REP4-094] that: "*Given that if consented this would be the fifth very large-scale infrastructure project, all of which are substations, in a community of 5 square miles and 359 people, the conclusion is inescapable that the effects of the project will amplify and be amplified by the visual and other impacts of the other four projects in such a small area*."

1.3.1.2 Although a range of effects are raised, the focus of Cefn Meiriadog Community Council is on these arising from visual impacts. These are primarily addressed through the ES Volume 3, Chapter 6: Landscape and visual resources [APP-069] assessment and the associated examination submissions.

1.3.1.3 ES Volume 4, Chapter 4: Human health assessment [APP-078] considers the effects and concludes that the visual impact of the Project's onshore infrastructure from private dwellings is not considered to be of a scale that could significantly affect population health outcomes.

1.3.1.4 The ES Volume 4, Chapter 4: Human health assessment [APP-078] has however considered how the individual and combined effects of the Onshore Substation have the potential to affect community health, including in relation to: transport; open space, leisure and play; noise and vibration; and perception of risk for EMF. These are set out in the following sections.

1.4 Position set out in the Environmental Statement Health Assessment

1.4.1 Onshore Substation Study Area

1.4.1.1 This section summarises information from ES Volume 4, Chapter 4: Human health assessment [APP-078] section 4.3.4.

1.4.1.2 The Mona Onshore Development Area is located within Conwy County Borough Council and Denbighshire County Council and comprises the area in which the landfall, Onshore Cable Corridor, Onshore Substation, mitigation areas, temporary construction facilities and the connection to National Grid infrastructure will be located.

1.4.1.3 The Human Health Study Area comprises of several geographical areas related to the Onshore and Offshore project areas, details of which are provided in ES Volume 4, Chapter 4: Human health assessment [APP-078] section 4.3.4. The most localised areas are termed 'site-specific' area. These are used to assess highly localised effects.

1.4.1.4 The relevant study area is 'the site-specific population for the Onshore Substation near St Asaph'. The sensitivity of this study area is based on the most deprived lower super output area (LSOA) within close proximity, which is St Asaph West (WO1000246). This approach ensures the assessment is worst case in terms of local vulnerability.

1.4.2 Inter-related Population Health Effects

1.4.2.1 This section summarises information from ES Volume 4, Chapter 4: Human health assessment [APP-078] section 4.12. The summary covers the determinants of health scoped into the assessment as set out in Chapter 4: Human health assessment Table 4.8. A wide range of other health determinants were also considered and the rationale for scoping these out is set out in Chapter 4: Human health assessment Table 4.9.

1.4.2.2 Inter-relationships are the impacts and associated effects of different aspects of the Mona Offshore Wind Project on the same receptor population. A description of the likely interactive effects considered for the Mona Offshore Wind Project on human health (as stated in ES Volume 4, Chapter 4: Human health assessment [APP-078]) is provided in Table 1.1 and Table 1.2 below.

1.4.2.3 As can be seen here onshore substation site-specific area has been included and the relevant individual population health effects relevant to this area identified.

Table 1.1: Interaction between health determinants by geographic populations

	Site specific			Local		Regional		National	Inter-national
	Landfall	Onshore Cable Corridor	Onshore Substation	Isle of Man	Conwy and Denbighshire	North Wales	North-west England	UK	Global
Transport (access – offshore)				✓					
Transport (access – onshore)	✓	✓	✓		✓				
Community identity						✓	✓		
Open space, leisure and play	✓	✓	✓		✓				
Employment (adverse)							✓		
Noise and vibration	✓	✓	✓		✓				
Perception of risk for EMF	✓	✓	✓		✓				
Climate change	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	✓	✓

	Site specific			Local		Regional		National	Inter-national
Wider societal resources	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	✓	

Key:	Positive (green)	Positive as a component within wider area assessment (light green)	Negative (blue)	Positive and negative (orange)

Table 1.2: Summary of likely significant inter-related effects

Description of impact	Phase[a]			Likely significant inter-related effects	Significance
	C	O	D		
Combined transport access effects across project phases.	✓	✓	✓	Effects relating to ongoing disruption to access across construction, operations and maintenance and decommissioning are already taken into account by the health assessment, including where effects are characterised as 'long-term'.	No change.
Receptor-led effects					
Potential reduction in use of open spaces for recreation, leisure and play due to a combination of reduced access to such spaces or connecting active travel routes (including public rights of way (PRoW)) and additional noise disturbance and concern about EMF.	✓	✓	✓	Changes in access to open space (e.g. at the Mona Landfall) are not expected to overlap with issues of any active travel disruption (e.g. along the Onshore Cable Corridor) or with issues of noise and EMF concern (e.g. close to the Onshore Substation). Construction noise and any disruption of active travel routes or open space are all transitory and short-term at any given location, this limits the potential for effects, even in combination to be significant public health effects.	No change.
Combination of reduced transport access and effects on community identity locally on the population of the Isle of Man.		✓		A small minority of the population of the Isle of Man may experience views of the wind farm (adversely affecting community identity health outcomes) and adverse impacts affecting health due to shipping route disruption. Combined effects are considered likely during the operational phase, once the windfarm is a feature of the seascape. The combined effects may particularly affect vulnerable groups with existing poor mental health. At a population level it is not expected that the combination of effects would interact in a way that would significantly reinforce health outcomes. No greater effect is therefore likely.	No change.

Description of impact	Phase[a]			Likely significant inter-related effects	Significance
	C	O	D		
Combined national population benefits relating to climate change and wider societal resources		✓		Nationally the population would benefit both from a reduction in the severity of health effects associated with climate change and from the benefits to public health of energy security. Effects would be greatest for vulnerable groups, particularly those on low incomes less able to adapt or afford alternatives. As the effects associated with climate change are expected to be driven by the benefit to deprived populations globally, the combined effect in the UK of these health determinants is not expected to be greater than the individual effects.	No change.

1.4.3 Cumulative Population Health Effects

1.4.3.1 ES Volume 3, Chapter 6: Landscape and visual resources [APP-069] includes a cumulative assessment of other projects in proximity to the Onshore Substation.

1.4.3.2 This section summarises information from ES Volume 4, Chapter 4: Human health assessment [APP-078] section 4.10.

1.4.3.3 ES Volume 4, Chapter 4: Human health assessment [APP-078] Section 4.10 considers the cumulative health effects for the Mona Offshore Wind Project, in combination with related developments including the Awel y Môr Offshore Wind Farm, Morgan Generation Assets, Morecambe Generation Assets, Mooir Vannin Offshore Wind Farm, and other large-scale infrastructure projects.

1.4.3.4 These effects, where relevant to communities near the Onshore Substation, are summarised below:

1.4.3.5 **Traffic and Transport (onshore):** The combined effect of the projects means the scale of change is considered to be small, with more frequent disruptions. Disruption is still likely to be occasional, but more frequent than the individual level effect. The effect will be of minor adverse significance, which is not significant in EIA terms.

1.4.3.6 **Open space, leisure and play:** There is likely to be a small scale of change over the medium-term from construction activities, including onshore recreational and leisure activities. Any such effect is likely to be characterised as an occasional effect on opportunities to be active at a given location, (e.g. due to transitory cable laying). These effects primarily relate to the populations at landfall and along the Onshore Cable Corridor. It is likely there would be rapid reversal of any effect once the given construction activity concluded, with limited potential to cause lasting behavioural change. The outcome is likely to be a minor change in quality of life and/or cardiovascular related morbidity for a small minority of the affected population. No effect on healthcare services would be expected. The effect will, therefore, be of minor adverse significance, which is not significant in EIA terms.

1.4.3.7 **Noise and Vibration:** This section has been informed by Volume 3, Chapter 9: Noise and vibration of the Environmental Statement, which sets out relevant cumulative assessment findings and mitigation measures that have been taken into account. Volume 3, Chapter 9: Noise and vibration of the Environmental Statement concludes that:

- The cumulative effect for noise impacts due to the Onshore Substation for both the Mona Offshore Wind Project and Awel y Môr during all project phases is deemed to be minor adverse.
- The cumulative effect for noise impacts due to operation of the Mona Offshore Wind Project Onshore Substation and St Asaph Solar Farm is assessed to be minor adverse. The cumulative level predicted is entirely a result of predicted noise emission levels from the St Asaph Solar Farm. Both developments will be designed such that significant adverse effects are avoided via the implementation of mitigation measures and layout design.

1.4.3.8 As no cumulative effects significant in EIA terms are identified in Volume 3, Chapter 9: Noise and vibration of the Environmental Statement, the cumulative effect is predicted to be similar to the individual level effect described in section 4.8.7 of ES Volume 4, Chapter 4: Human health assessment [APP-078].

1.4.3.9 **Public understanding of risk (EMF)**: Cumulative effects in terms of actual risks or public perception of risk are not expected. Effects in terms of risk perception are similarly not expected to be cumulatively greater than the individual effects of each project as effects would relate to localised visual or auditory cues.

1.4.3.10 **Climate change and adaptation:** The Mona Offshore Wind Project in combination with Morgan Generation Assets, Awel y Môr Offshore Wind Farm, Morecambe Generation Assets and Mooir Vannin Offshore Wind Farm will all contribute towards wider energy sector transition to renewable energy which is expected to reduce the severity of climate change. Cumulatively these projects have a greater magnitude of effect. In the context of effects on global atmospheric conditions, rather than localised effects, the cumulative effect is arguably inclusive of all energy projects currently being consented, and likely much broader than just this one sector. Such a broad cumulative assessment is not within the scope of project level EIA. On this basis the cumulative effect is noted as greater, but for this subset of Tier 1 and Tier 2 projects the effect is conservatively considered to remain minor beneficial.

1.4.3.11 **Wider societal infrastructure and resources:** In combination with Morgan Generation Assets, Awel y Môr Offshore Wind Farm, Morecambe Generation Assets, and Mooir Vannin Offshore Wind Farm the Mona Offshore Wind Project will provide enhanced energy security. The national context of such energy security has been considered and the individual effects are not expected to be collectively greater. Sensitivity of the population remains unchanged as does the overall magnitude. On this basis the cumulative effect would remain moderate beneficial, which is significant in EIA terms.

1.4.3.12 As set out in the Deadline 4 Submission - Response to Cefn Meiriadog Community Council D3 Submission [REP4-051]: "*The Applicant's assessment of cumulative effects has been undertaken in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, National Policy Statements (NPS EN-1, 2024) and guidance from the Planning Inspectorate (Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (updated in September 2024) and the Guidelines for Landscape and Visual Impact Assessment: Third Edition (2013). The existing substations form part of the baseline assessment and are considered in the characterisation of the environment. The landscape planting illustrated in the Deadline 2 Submission – J22 Outline Landscape and Ecology Management Plan (REP2-034) has been designed to mitigate impacts from the Mona Offshore Wind Project onshore substation. As a consequence, the planting will also partly limit*

cumulative impacts from other developments but the Applicant notes that this will be addressed post-consent through strategic coordination with Denbighshire County Council as part of the discharge of requirements. The Applicant has applied a robust site selection process and provided a detailed account of the process in the Issue Specific Hearing 3: Environmental Matters. It has sought to minimise the 'spread' of electrical infrastructure within the landscape by grouping of the Mona Onshore Substation with existing infrastructure including the substations and overhead line pylons, and to retain existing landscape features to provide a level of screening."

1.5 Additional Detail and Confirmation of Community Level Findings

1.5.1 Inter-related Population Health Effects

1.5.1.1 This section provides additional granularity to the information set out in Volume 4, Chapter 4: Human health assessment [APP-078] Section 4.12.

1.5.1.2 This section provides further detail on the potential inter-related effects for the three communities located in proximity to the Onshore Substation (Cefn Meiriadog, Bodelwyddan and St. Asaph) during the construction, operational and maintenance, and decommissioning phases of the Project.

Construction

Table 1.3: Interaction between health determinants by geographic location for the construction and decommissioning phases

	Cefn Meiriadog	Bodelwyddan	St. Asaph
Transport (access – onshore)	✓	✓	✓
Open space, leisure and play	✓	✓	✓
Noise and vibration	✓	✓	✓

Key:	Positive (green)	Positive as a component within wider area assessment (light green)	Negative (blue)	Positive and negative (orange)

1.5.1.3 Table 1.5 above shows the potential inter-related effects on the 3 community areas located close to the Onshore Substation during the construction and decommissioning phases of the Project.

1.5.1.4 It is noted that while the health assessment (Volume 4, Chapter 4: Human health assessment [APP-078]) assessed visual impacts of the Project under the 'Community identity' health determinant, this relates to visual impacts of the Offshore Wind Farm elements of the Project. Visual impacts of onshore infrastructure, including the Onshore Substation, are assessed in Volume 3, Chapter 6: Landscape and visual resources [APP-069]. The onshore infrastructure's visual impact from private dwellings has been considered by the health assessment and the visual impact is not considered to be of a scale that could affect population health outcomes.

1.5.1.5 During construction and decommissioning, construction activities have the potential to general noise effects, and cause temporary disruption to transport access and access to open space and recreation amenities such as public rights of way (PRoW). The **sensitivity** of the vulnerable population remains the same as assessed in ES Volume 4, Chapter 4: Human health assessment [APP-078] – **high**. The **magnitude** for these impacts remain **low**, due to these being temporary impacts that will be managed through appropriate management plans (such as J26 Outline Code of Construction Practice [APP-212] and J26.17 Outline Public Rights of Way Management Strategy [APP-229]). Additionally, disruptions to PRoW are largely related to work on the Onshore Cable Corridor, rather than the Onshore Substation, therefore potential impacts on the communities of Cefn Meiriadog, Bodelwyddan and St. Asaph are minimal.

1.5.1.6 The combined effects at the community area level (Cefn Meiriadog, Bodelwyddan and St. Asap), is not greater than the effects assessed for the site-specific population for the Onshore Substation (within which they are located).

1.5.1.7 The public health conclusion for the community level areas are therefore the same as reported in ES Volume 4, Chapter 4: Human health assessment [APP-078], i.e. **minor adverse** individually and in combination, which are **not significan**t effects.

Operation

Table 1.4: Interaction between health determinants by geographic location for the operation and maintenance phase

	Cefn Meiriadog	Bodelwyddan	St. Asaph
Transport (access – onshore)	✓	✓	✓
Open space, leisure and play	✓	✓	✓
Noise and vibration	✓	✓	✓
Perception of risk for EMF	✓	✓	✓
Climate change	(✓)	(✓)	(✓)
Wider societal resources	(✓)	(✓)	(✓)

Key:	Positive (green)	Positive as a component within wider area assessment (light green)	Negative (blue)	Positive and negative (orange)

1.5.1.8 Table 1.6 above shows the potential inter-related effects on the 3 community areas located close to the Onshore Substation during the operation phase of the Project.

1.5.1.9 During operation and maintenance, the potential for transport access effects is **negligible**, due to the Onshore Substation operating with minimal staffing and maintenance activities. The **sensitivity** of the vulnerable population remains the same as assessed in ES Volume 4, Chapter 4: Human health assessment [APP-078] – **high**. Operational noise and perceived EMF risks from the electrical infrastructure associated with the Onshore Substation have the potential to affect use of nearby open space and recreational routes (such as PRoW). However, no PRoW or recreational resources have been identified in ES Volume 3, Chapter 7: Land use and recreation [APP-070] as being located close to the

Onshore Substation. The operational impacts on noise and EMF risk perception remain **low** in **magnitude**, therefore the combined effects are not expected to be greater than that of the individual effects assessed in the health assessment.

1.5.1.10 The combined effects at the community area level (Cefn Meiriadog, Bodelwyddan and St. Asap), is not greater than the effects assessed for the site-specific population for the Onshore Substation (within which they are located).

1.5.1.11 The public health conclusion for the community level areas are therefore the same as reported in ES Volume 4, Chapter 4: Human health assessment [APP-078], i.e. **minor adverse** individually and in combination, which are **not significant** effects.

1.5.1.12 While positive effects on climate change and wider societal infrastructure will benefit the communities near the Onshore Substation, these are most relevant to the national level and are not specifically related to the community level, albeit there would be expected to be an apportioned beneficial effect as assessed in ES Volume 4, Chapter 4: Human health assessment [APP-078].

1.5.2 Cumulative Population Health Effects

1.5.2.1 This section provides additional granularity to the information set out in ES Volume 4, Chapter 4: Human health assessment [APP-078] Section 4.10.

1.5.2.2 The cumulative effects of the Mona Offshore Wind Project alongside other proposed developments in the area are assessed in detail in section 4.10 of ES Volume 4, Chapter 4: Human health assessment [APP-078], and summarised in section 1.4.3 of this note. This includes proposed developments close to the Onshore Substation area, and therefore those that will impact the communities of Cefn Meiriadog, Bodelwyddan and St. Asaph. No further or greater impacts are anticipated for these communities, therefore this effect is covered within the main health assessment.

1.6 Conclusion

1.6.1.1 This note responds from the public health perspective to the Issue Specific Hearing 3 Action Point 15 [EV5-006] question: "*is it possible that even if considered acceptable in their own right with mitigation measures in place, the various effects arising as a result of the onshore substation could add up to having a significant effect on the community or the environment either as a result of the project alone or cumulatively with other proposed development?"*

1.6.1.2 The ES has considered the community receptors close to the Onshore Substation and specifically ES Volume 4, Chapter 4: Human health assessment [APP-078] has considered the effects for the community of people living in the vicinity, i.e. the site-specific population close to the Onshore Substation. This assessment considered interactions between project impacts and cumulative effects with other projects. The assessment concluded there would not be significant adverse effects.

1.6.1.3 This note confirms that this remains the case at the community area level within the site-specific population for the Onshore Substation.

1.6.1.4 There would not be greater population health effects for the communities of Cefn Meiriadog, Bodelwyddan and St. Asaph due to inter-related or cumulative effects than those reported in ES Volume 4, Chapter 4: Human health assessment [APP-078]. This takes into account effect magnitude and the sensitivity of these

local populations as indicated by the community profile (Annex in section 1.8) of this clarification note.

1.7 References

Office for National Statistics. (2021). *Office for National Statistics Census*. https://www.ons.gov.uk/census

Welsh Government (2019). *Welsh Index of Multiple Deprivation (WIMD) 2019*. https://wimd.gov.wales/

A.1. ANNEX – Community Health Profile

1.7.1 Profile of Community Areas in the Onshore Substation Study Area

A.1.1.1.1 This section provides additional granularity to the information set out in ES Volume 4, Chapter 4: Human health assessment [APP-078] Section 4.4.

A.1.1.1.2 This section provides a health baseline for the community areas of Cefn Meiriadog, Bodelwyddan and St. Asaph near the Onshore Substation. These profiles are based on 2021 Census Data (Office for National Statistics, 2021). The indicators used reflect available small area statistics and therefore differ in some respects to the indicators used in ES Chapter 4: Human health assessment.

A.1.1.1.3 The statistics demonstrate that, as with the wider Onshore Substation Study Area used by ES Chapter 4: Human health, it remains the case that the general population is rated as being of low sensitivity and there is a vulnerable group population present which it is rated as being of high sensitivity.

Table 1.5: Community profile

Indicator\Community	Cefn Meiriadog	Bodelwyddan	St. Asaph	Wales
Age				
0-14	9.0%	16.0%	14.4%	16.6%
15-64	61.0%	63.6%	59.5%	62.1%
65+	30.0%	20.4%	26.1%	21.3%
General health				
Very good health	41.9%	47.4%	44.6%	46.2%
Good health	38.2%	32.4%	33.9%	32.4%
Fair health	14.0%	14.4%	14.6%	14.5%
Bad health	4.8%	3.8%	4.9%	5.3%
Very bad health	1.1%	2.0%	2.0%	1.7%
Disability				
Disabled under the Equality Act	22.9%	20.1%	22.4%	21.6%
Not disabled under the Equality Act	77.1%	79.9%	77.6%	78.4%
Economic activity status (% of people aged 16 years and over)				
Economically active: In employment	56.2%	58.2%	52.9%	53.5%
Economically active: Unemployed	1.9%	2.3%	2.1%	3.1%
Economically inactive	42.0%	39.5%	44.9%	43.5%
Employment history (% of people aged 16 years and over not in employment)				
Not in employment: Worked in the last 12 months	12.0%	10.9%	10.5%	11.5%
Not in employment: Not worked in the last 12 months	76.8%	66.8%	68.2%	65.4%
Not in employment: Never worked	11.3%	22.3%	21.3%	21.1%
Highest level of qualification (% of people aged 16 years and over)				
No qualification	17.1%	17.7%	20.3%	19.9%
Level 1, 2 or 3 qualifications	40.1%	39.8%	37.4%	40.3%
Apprenticeship	3.4%	5.4%	6.1%	5.6%
Level 4 qualifications and above	37.9%	33.7%	33.2%	31.5%

Indicator\Community	Cefn Meiriadog	Bodelwyddan	St. Asaph	Wales
Other qualifications	1.6%	3.4%	3.0%	2.7%
Household deprivation (% of all households)				
Household is not deprived in any dimension	43.9%	47.1%	48.5%	45.9%
Household is deprived in one dimension	41.5%	35.9%	32.8%	33.4%
Household is deprived in two dimensions	12.3%	14.6%	14.6%	16.0%
Household is deprived in three dimensions	2.3%	2.3%	4.0%	4.5%
Household is deprived in four dimensions	0.0%	0.0%	0.2%	0.2%
Method of travel to workplace (% of people aged 16 and over in employment)				
Work mainly at or from home	30.2%	17.6%	25.8%	25.6%
Train	0.5%	0.2%	0.1%	0.8%
Bus, minibus or coach	0.5%	1.5%	2.7%	2.3%
Driving a car or van	63.7%	59.6%	58.3%	56.5%
Passenger in a car or van	2.2%	6.0%	3.9%	4.8%
On foot	1.6%	13.6%	6.2%	7.1%
Taxi	0.0%	0.2%	0.2%	0.6%
Motorcycle, scooter or moped	0.0%	0.2%	0.6%	0.3%
Bicycle	0.0%	0.8%	1.4%	1.1%
Other method of travel to work	0.0%	0.3%	0.8%	0.9%

Age distribution

A.1.1.1.4 Cefn Meiriadog has a notably high percentage of residents aged 65+ at 30%, compared to the Wales average of 21.3%. This indicates a higher proportion of elderly residents in Cefn Meiriadog.

A.1.1.1.5 St Asaph also has a high percentage of residents aged 65+ at 26.1%, above the national average, while Bodelwyddan is close to the Wales average.

General health

A.1.1.1.6 The percentage of residents “very good health is higher in Bodelwyddan (47.4%) compared to the Wales average of 46.2%. However, St Asap aligns more closely with the national average at 44.6%. Cefn Meiriadog falls below the national average, at 41.9%.

A.1.1.1.7 The percentage of residents reporting “good health” is higher in Cefn Meiriadog (38.2%) than the national average (32.4%). For Bodelwyddan and St Asaph, the percentage is on par with the Wales average.

A.1.1.1.8 The percentage of residents reporting bad health in all three localities is lower than the national average.

Disability

A.1.1.1.9 Cefn Meiriadog and St Asaph have higher percentages of residents disabled under the Equality Act at 22.9% and 22.4% respectively, compared to the national average of 21.6%. Bodelwyddan has a lower percentage of residents disabled under the Equality Act (20.1%) compared to the Wales average (21.6%).

Economic Activity

A.1.1.1.10 Bodelwyddan has higher percentage of economically active residents (In employment) (58.2%) compared to the national average of 53.5%. Similarly, the percentage of economically active residents (in employment) is higher in Cefn Meiriadog (56.2%) compared to the national average (53.5%). In St Asaph, the percentage (52.9%) is slightly lower than the national average.

A.1.1.1.11 The percentages of people unemployed in Cefn Meiriadog (1.9%), Bodelwyddan (2.3%), and St Asaph (2.1%) are below (better) than the national average (3.1%).

Education and Qualifications

A.1.1.1.12 All three areas have a higher percentage of those with level 4 qualifications and above than the national average, with Cefnmairiagod at 37.9% which is considerably higher than the national average.

A.1.1.1.13 St Asaph has a slightly higher percentage of residents with no qualifications (20.3%) than the national average (19.9%). However, this percentage is lower (better) in Cefn Meiriadog (17.1%) and Bodelwyddan (17.7%) than the Wales percentage (19.9%).

A.1.1.1.14 The percentages of residents with level 1, 2 or 3 qualifications in the three areas are slightly lower but on par with the national average.

Household deprivation

A.1.1.1.15 The percentage of households that are not deprived in any dimension is higher in all three areas compared to the national average.

A.1.1.1.16 For Cefn Meiriadog, the percentage of households deprived in one dimension (41.5%) is higher (worse) than the national average (33.4%). Similarly, the percentage is slightly higher (worse) in Bodelwyddan (35.9%) than in Wales (33.4%). However, the percentage is lower (better) in St Asaph (32.8%) than the national average (33.4%).

Method of Travel to Work

A.1.1.1.17 The percentage of people who work mainly at or from home is higher in Cefn Meiriadog (30.2%) than the national average (25.6%). In St Asaph, the percentage (25.8%) is slightly higher but on par with the Wales average (25.6%). However, the percentage of people who work mainly at or from home is lower in Bodelwyddan (17.6%) than the national average (25.6%).

A.1.1.1.18 Cefn Meiriadog has a higher percentage of residents who drive a car of van to work (63.7%), compared to the national average (56.5%). The percentage is slightly higher in Bodelwyddan (59.6%) and St Asaph (58.3%) compared to the Wales average (56.5%).

A.1.1.1.19 The percentage of people who travel on foot to work is considerably higher in Bodelwydan (13.6%) than the national average (7.1%).

Key sensitive facilities within these communities

A.1.1.1.20 The following establishments have been identified as facilities associated with relevant vulnerable groups. These have been taken into account by the health assessment:

- Schools
  - Ysgol Cefn Meiriadog
  - Cefn Meiriadog County Primary School
  - Ysgol Glan Clwyd
  - Fairholme Preparatory School
  - Esgob Morgan Primary School
  - St Asaph V P Infant School
  - Ysgol Y Faenol Primary School
  - St Asaph Day Nursery Ltd
- Residential Care
  - Bryn Derwen
  - Vista Health Care
  - Park Lodge Residential Home
  - Grange Residential Care Ltd
  - The Old Deanery
  - St Kentigern Hospice
- Healthcare Facilities
  - Glan Clwyd Hospital
  - North Wales NHS Trust
  - Informing Healthcare
  - Ezra Health
  - Paul Roose Therapy
  - Anna Rose Healthcare - Private Healthcare
  - Back Doctor Chiropractic & Physiotherapy Clinic
  - Beech House Surgery
  - Pen Y Bont Surgery
- Other Vulnerable Populations
  - Cartref Ni Ltd
  - Cadmhas

Deprivation

Table 1.6: Deprivation domains (Welsh Government, 2019)

Deprivation indicator	Trefnant (for Cefn Meiriadog)	Bodelwyddan	St Asaph West	St Asaph East
Overall	50%	50%	50%	50%
Income	50%	50%	30-50%	50%
Employment	50%	50%	30-50%	50%
Health	50%	30-50%	30-50%	50%
Education	50%	30-50%	20-30%	50%
Access to Services	10-20%	30-50%	50%	50%
Community Safety	50%	10-20%	50%	50%
Physical Environment	50%	50%	50%	50%
Housing	30-50%	30-50%	50%	50%
Legend				
	Least deprived			
	Most deprived			

A.1.1.1.21 All LSOAs are amongst the 50% least deprived in the country (Welsh Government, 2019).

A.1.1.1.22 Trefnant (W01000247) (for Cefn Meiriadog) ranks amongst the 50% least deprived for income, employment, health, education, community safety and physical environment. For access to services, Trefnant (W01000247) (for Cefn Meiriadog) ranks amongst the 10-20% most deprived in the country. For housing, Trefnant (W01000247) (for Cefn Meiriadog) ranks amongst the 30-50% most deprived in the country.

A.1.1.1.23 Bodelwyddan (W01000191) ranks amongst the 50% least deprived in the country for income, employment, and physical environment. Bodelwyddan (W01000191) ranks amongst the 30-50% most deprived for health, education, access to services, and housing. For community safety, Bodelwyddan (W01000191) ranks amongst the 10-20% most deprived.

A.1.1.1.24 For income, employment and health, St Asaph West (W01000246) ranks amongst the 30-50% most deprived in the country. St Asaph West (W01000246) ranks amongst amongst the 50% least deprived for access to services, community safety, physical environment and housing.

A.1.1.1.25 St Asaph East (W01000245) ranks amongst the 50% least deprived for all deprivation domains.

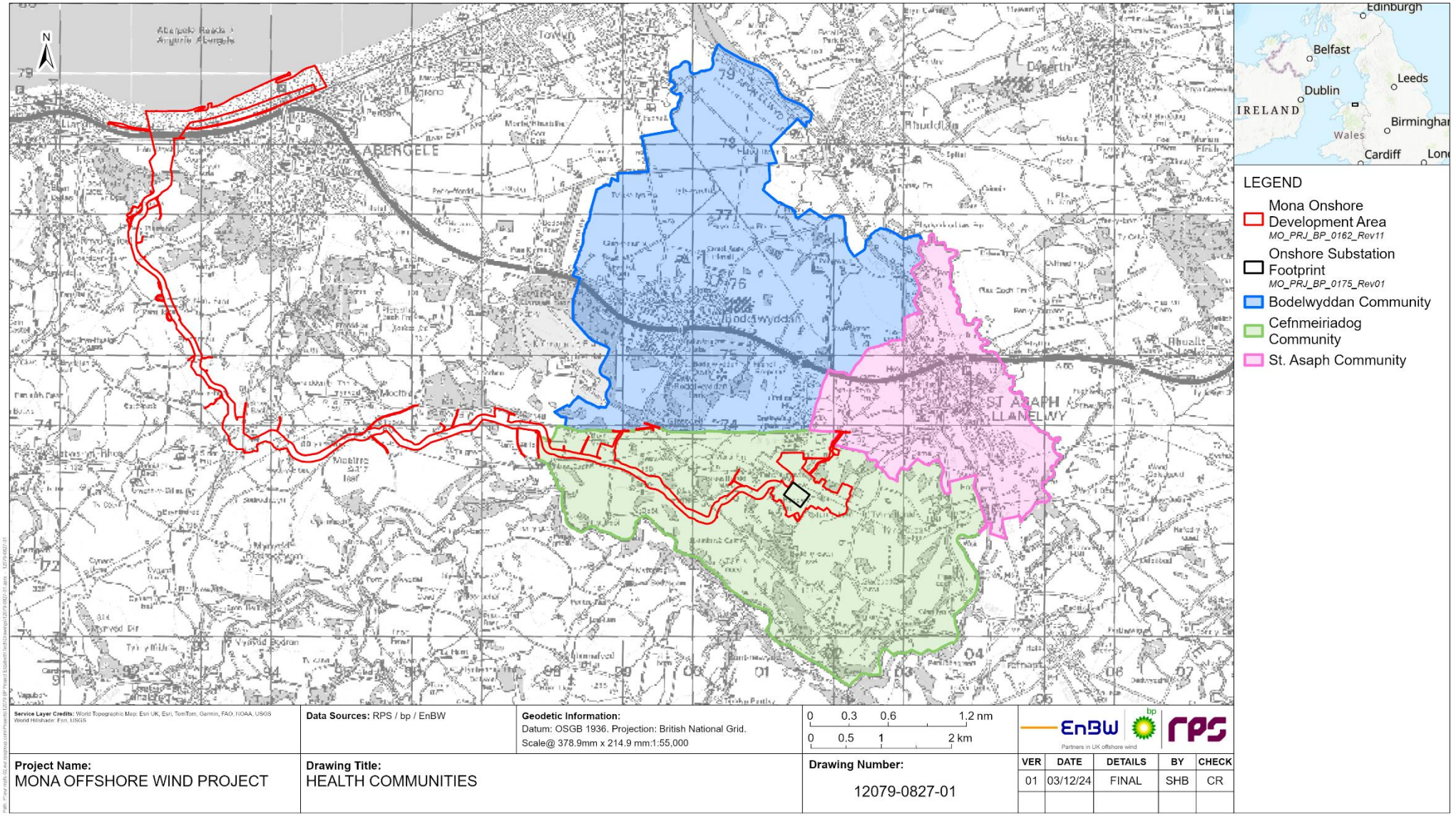

Figure 1.1: Health Communities