codling wind park

Environmental Impact Assessment Report

Volume 4

Appendix 16.2 Representative Scenario and Limits of Deviation Assessment


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APPENDIX 16.2 REPRESENTATIVE SCENARIO AND LIMITS OF DEVIATION ASSESSMENT

1 Introduction

1. Complex, large-scale infrastructure projects with a terrestrial and marine interface such as the CWP Project, are consented and constructed over extended timeframes. The ability to adapt to changing supply chain, policy or environmental conditions and to make use of the best available information to feed into project design, promotes environmentally sound and sustainable development. This ultimately reduces project development costs and therefore electricity costs for consumers and reduces CO_2 emissions.

2. Case law recognises that the plans and particulars submitted with planning applications can allow for a certain limited flexibility, where this is applied reasonably and, in a context-specific way. In addition, section 287A of the Planning and Development Act (PDA) (as inserted by the Planning and Development, Maritime and Valuation (Amendment) Act 2022) has expanded the flexibility available and allows planning applications to be made and decided before the Applicant has confirmed certain details of the project.

3. Due to the complexity of the Codling Wind Park (CWP) Project, significant and rapid progression in wind farm technology development, potential changes in environmental conditions and in policy and legislation, the Applicant considers that consenting a degree of design flexibility is appropriate and legally compliant.

4. In this regard the approach to the design development of the CWP Project has sought to introduce flexibility where required to enable the best available technology to be constructed, whilst at the same time to specify project boundaries, project components and project parameters wherever possible, whilst having regard to known environmental constraints.

2 Approach to Presenting the Project Design

5. The approach to the design development of the CWP Project considers permanent infrastructure, temporary infrastructure and installation methods.

6. In general, the CWP Project has sought to specify the location, scale and extents of permanent and temporary infrastructure, however in some cases a degree of design flexibility is required. Subject to the detail concerned, this flexibility is presented in three ways:

   - **Options:** Consent is sought for up to two options for certain permanent infrastructure details and layouts, for example, wind turbine generator (WTG) Layout Option A (250m rotor diameter) or WTG Layout Option B (276m rotor diameter). Each design option is described in detail in **Chapter 4 Project Description**, which provides the details associated with each option**.**
   - **Dimensional flexibility:** Dimensional flexibility is described as a limited parameter range i.e. upper (maximum) and lower (minimum) values for a given detail such as cable length.
   - **Locational flexibility:** Locational flexibility of permanent infrastructure is described as a Limit of Deviation (LoD) from a specific point or alignment.

7. Installation methods for permanent infrastructure have been identified and described in full, however, as with the design of permanent infrastructure, a degree of flexibility is required as final decisions on methods and techniques to be employed will not be made until the appointment of the primary contractors closer to the time of construction.

8. Where required, flexibility concerning installation methods is presented by means of options. The details associated with the installation methods are specified, where possible, or otherwise described as a limited parameter range i.e. upper (maximum) and lower (minimum) values for a given detail.

3 Representative Scenario Assessment

9. The CWP Project Environmental Impact Assessment Report (EIAR) will identify, describe and assess all of the likely significant effects of the proposed development on the environment. To achieve this for all options and dimensional flexibility, and at the same time to produce application documents that are concise and readable, each chapter of the EIAR will assess a selection of representative scenarios, rather than assessing every possible scenario. A "representative scenario" is a combination of options and dimensional flexibility that has been selected to represent all of the likely significant effects of the project on the environment. Some topics may require several representative scenarios to be identified to ensure all impacts are identified, described and assessed.

10. For Shipping and Navigation this analysis for construction and operation and maintenance (O&M) phase impacts is presented in **Table 1** and **Table 2**, respectively. Each table identifies one or more representative scenarios for each impact with supporting text to demonstrate that no other scenarios would give rise to new or materially different effects; taking into consideration the potential impact of other scenarios on the magnitude of the impact or the sensitivity of the receptor(s) that is being considered.

11. Where the potential for a new or materially different impact is identified, then further representative scenarios must be assessed in full within the main chapter.

12. This is distinct from the approach to assessing locational flexibility, where differences in impacts are assessed in this Appendix. The difference in approaches arises because there is a much higher degree of confidence in the locations and alignments assessed in the main chapter than there is for the final options and dimensions.

13. Overall, this approach will ensure that the EIAR will identify, describe and assess:

- Every impact type that could arise from the proposed development, taking account of the full range of options and dimensional flexibility;
- Every materially different magnitude of impact that could arise from the proposed development within the proposed options and dimensional flexibility; and
- Every materially different sensitivity of receptor that could arise from the proposed development within the proposed options and dimensional flexibility.

Table 1 Representative scenario assessment - construction phase impacts

Impact	Relevant project details			Representative scenario(s) and notes / assumptions	Rationale for representative scenario(s)	
Impact 1: Vessel displacement leading to increased encounters and collision risk	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B	Vessel displacement will be caused by the presence of surface infrastructure, and therefore the WTGs and OSSs will lead to vessel displacement. During construction, advisory safe passing distances may be used around ongoing works, and a buoyed construction area within the Marine Safety Demarcation Area (MDSA) will be deployed in agreement with Irish Lights. These would not exclude / prohibit entry, but are still likely to lead to vessel displacement based on experience of other constructing wind farms. It is noted that minimum blade clearance of 34.22m above HAT means that the vessel types anticipated to pass through the array site are unlikely to interact with the blades, and as such the differing rotor diameters are not considered as resulting in a materially different impact. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures, meaning internal displacement is more likely than WTG Option B.	Questions to demonstrate assessment has considered all scenarios	Response
	Permanent infrastructure				*1. Are there infrastructure layout options (permanent or temporary) which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options (permanent or temporary) which may introduce a materially different magnitude of impact?* *3. Are there infrastructure layout options (permanent or temporary) which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?* *4. Are there alternative installation methods which may introduce new impacts?* *5. Are there alternative installation methods which may introduce a materially different magnitude of impact?* *6. Are there alternative installation methods which may materially alter the sensitivity of the relevant receptor(s) (greater or lesser).*	1. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the buoyed construction area regardless of structure layout. Therefore, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the buoyed constriction area in the MSDA regardless of structure layout and therefore there is no change in the frequency or consequence of deviations (shipping and navigation assessment is required to apply the Formal Safety Assessment (FSA) approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity. 4. There are no relevant installation methods differing between the layout options. On the basis of the answers to questions 1-3, WTG Option A forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 5. There are no relevant installation methods differing between the layout options. On the basis of the answers to questions 1-3, WTG Option A forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 6. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity.
	Number of WTGs / foundations	75	60			
	WTG monopile diameter at mudline (m)	9	9.5			
	WTG rotor diameter (m)	250	276			
	Blade tip clearance above highest astronomical tide (HAT) (m)	34.22	34.22			
	Build out of array site	Full				
	Offshore transmission infrastructure (OfTI)	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of offshore substation structures (OSSs)	3				
	Length of OSS topside (m)	45				
	Width of OSS topside (m)	35				

Impact 2: Increased collision risk (third-party with project vessel)	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B	The presence of wind farm vessels associated with the CWP Project will pose a collision risk to third party vessels. The greater the number of additional vessels, the larger the collision risk. WTG Option A is being used as the Representative Scenario for this impact given it assumes a greater number of project vessel movements (resultant of the greater number of structures).	Questions to demonstrate assessment has considered all scenarios	Response
	Permanent infrastructure				*1. Are there infrastructure layout options (permanent or temporary) which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options (permanent or temporary) which may introduce a materially different magnitude of impact?* *3. Are there infrastructure layout options (permanent or temporary) which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?* *4. Are there alternative installation methods which may introduce new impacts?* *5. Are there alternative installation methods which may introduce a materially different magnitude of impact* *6. Are there alternative installation methods which may materially alter the sensitivity of the relevant receptor(s) (greater or lesser).*	1. No. Relevant project activities and vessel transits / behaviours are likely to be similar for both WTG layout options. Therefore, WTG Option A forms the presentational basis for the assessment given it assumes the greatest number of vessel movements (with WTG Option B conclusions being not materially different). 2. No. WTG Option B includes a lesser number of structures and therefore assumes a lesser number of vessel movements and the same number of peak vessels. Therefore there is no increase in the frequency of collision risk, and consequences would be expected to be similar given similar vessels used in either scenario (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ. 4. No. WTG Option B includes a lesser number of vessel movements and the same number of peak vessels. Therefore, no new impacts are introduced and WTG Option A forms the presentational basis for the assessment given it assumes the greatest number of vessel movements (with WTG Option B conclusions being not materially different). 5. No. WTG Option B assumes a lesser number of vessel movements and the same number of peak vessels. Therefore there is no increase in the frequency of collision risk, and consequences would be expected to be similar given similar vessels used in either scenario (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 6. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Number of WTGs / foundations	75	60			
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3	3			
	Installation methods and effects (Generating station and OfTI)					
	Peak Vessels on site simultaneously	38				
	Round Trips	2,409	2,387			

Impact 3: Vessel to structure allision risk (vessel to structure)	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B	Allision risk will be created via the introduction of new surface piercing structures installed within the array site. Generally, the greater the number of structures, the greater the allision risk. It is noted that minimum blade clearance of 34.22m above HAT means that the vessel types anticipated to pass through the array site are unlikely to interact with the blades, and as such the differing rotor diameters are not considered as resulting in a materially different impact. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures, meaning frequency of allision risk is higher than WTG Option B.	Questions to demonstrate assessment has considered all scenarios	Response
	Permanent Infrastructure				*1. Are there infrastructure layout options (permanent or temporary) which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options (permanent or temporary) which may introduce a materially different magnitude of impact?* *3. Are there infrastructure layout options (permanent or temporary) which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?* *4. Are there alternative installation methods which may introduce new impacts?* *5. Are there alternative installation methods which may introduce a materially different magnitude of impact?* *6. Are there alternative installation methods which may materially alter the sensitivity of the relevant receptor(s) (greater or lesser).*	1. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Therefore, no new impacts are introduced, and WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates vessels will tend to avoid the buoyed construction area regardless of structure layout and therefore there is no change in the frequency of allision between the layouts, and consequences of an allision would not change given similarly sized structures (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ. 4. There are no relevant installation methods differing between the layout options. On the basis of the answers to questions 1-3, WTG Option A forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 5. There are no relevant installation methods differing between the layout options. On the basis of the answers to questions 1-3, WTG Option A forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 6. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Number of WTGs / foundations	75	60			
	WTG monopile diameter at mudline (m)	9	9.5			
	WTG rotor diameter (m)	250	276			
	Blade tip clearance above HAT (m)	34.22				
	Buildout of array site	Full				
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3				
	Length of OSS topside (m)	45				
	Width of OSS topside (m)	35				
Impact 4: Reduction in emergency response capability	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
	Permanent Infrastructure			The presence of structures, project vessels, personnel, and ongoing construction works could lead to an increase in	*1. Are there infrastructure layout options (permanent or temporary) which may introduce new impacts?*	1. No. WTG Option B includes a lower number of structures (and by extension a lower number of vessel movements). On this basis the potential for increased incidents and impact on SAR operations is greater from WTG Option A. Therefore, WTG Option
	Number of WTGs / foundations	75	60			
	WTG monopile diameter at mudline (m)	9	9.5			
	WTG rotor diameter (m)	250	276			

	Blade tip clearance above HAT (m)	34.22		incidents requiring emergency response. The presence of structures may also impact access to or through the area for SAR assets. This requires consideration of structure locations and rotor diameters (due to the impact on SAR helicopters). WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures and vessel movements.	*Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options (permanent or temporary) which may introduce a materially different magnitude of impact?* *3. Are there infrastructure layout options (permanent or temporary) which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?* *4. Are there alternative installation methods which may introduce new impacts?* *5. Are there alternative installation methods which may introduce a materially different magnitude of impact?* *6. Are there alternative installation methods which may materially alter the sensitivity of the relevant receptor(s) (greater or lesser).*	A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. SAR access is broadly similar between the two layout options given both are broadly grid based. WTG Option B also includes a lower number of structures (and by extension a lower number of vessel movements) and therefore is less likely to lead to an increase in incident numbers. Consequences are not anticipated to change between the layout options given these will depend on the incident cause/type. Therefore, there is no change in the frequency and consequences (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ. 4. No. Vessel movements are assumed to be lower in WTG Layout Option B (but not notably lower), and vessel behaviours / routeing are likely to be similar. WTG Option A therefore forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 5. No. Vessel movements are assumed to be lower in WTG Layout Option B (but not notably lower), and on this basis there are not be anticipated to be materially different changes in terms of impacts to baseline incident rates. Therefore, there is no change in the frequency and consequences (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). WTG Option A therefore forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 6. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Buildout of array site	Full				
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3				
	Length of OSS topside (m)	45				
	Width of OSS topside (m)	35				
	Installation methods and effects (Generating station and OfTI)					
	Peak Vessels on site	38				
	Round Trips	2,409	2,387			
Impact 5: Port Access Restrictions	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
	Permanent Infrastructure			The presence of structures, project vessels, personnel, and	*1. Are there infrastructure layout options (permanent or*	1. No. WTG Option B includes a lower number of structures (and by extension a lower number of vessel movements). On this basis
	Number of WTGs / foundations	75	60			

	WTG rotor diameter (m)	250	276	ongoing construction works could lead to restrictions on port access during the construction phase. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures and vessel movements.	*temporary) which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options (permanent or temporary) which may introduce a materially different magnitude of impact?* *3. Are there infrastructure layout options (permanent or temporary) which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?* *4. Are there alternative installation methods which may introduce new impacts?* *5. Are there alternative installation methods which may introduce a materially different magnitude of impact?* *6. Are there alternative installation methods which may materially alter the sensitivity of the relevant receptor(s) (greater or lesser).*	the potential for port access restrictions is lower than for WTG Option A. Therefore, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the buoyed constriction area in the MSDA regardless of structure layout and therefore there is no change in the frequency or consequence of deviations in terms of port approaches (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ. 4. No. Vessel movements are assumed to be lower in WTG Layout Option B (but not notably lower), and vessel behaviours / routeing are likely to be similar. WTG Option A therefore forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 5. There are no relevant installation methods differing between the layout options. On the basis of the answers to questions 1-3, WTG Option A forms the presentational basis for the assessment (with WTG Option B conclusions being not materially different). 6. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Buildout of Array Area	Full			
	OfTI	WTG Option A	WTG Option B		
	Permanent Infrastructure				
	Number of OSSs	3			
	Length of inter-array cabling on the seabed (km)	120–139	112 - 130		
	Length of interconnector cabling on the seabed (km)	7.4–8.6			
	Minimum depth of cover (IACs and ICs) (m)	1			
	Length of inter-array and interconnector cabling requiring cable protection (km)	29.8			
	Height of cable protection berm (IACs and ICs) (m)	1.25			
	Length of OSS topside (m)	45			
	Width of OSS topside (m)	35			
	Number of offshore export cables	3			
	Total length of offshore export cables (km)	126.0 - 146.0			
	Minimum depth of cover (offshore export cables) (m)	1.4			
	Length of export cables requiring cable protection (offshore export cables) (km)	15			
	Height of cable protection berm (OECC) (m)	1.5			
	Installation methods and effects (Generating Station and OfTI)				
	Peak vessels on site	38			
	Round trips	2,409			

Table 2 Representative scenario assessment - operational phase impacts

Impact	Relevant project details			Representative scenario(s) and notes / assumptions	Rationale for representative scenario(s)	
Impact 1: Vessel displacement leading to increased encounters and collision risk	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B	Vessel displacement will be caused by the presence of surface infrastructure, and therefore the WTGs and OSSs will lead to vessel displacement. There will be no restrictions on entry into the Array site however certain vessels are likely to deviate to avoid the structures and therefore there will be displacement. It is noted that minimum blade clearance of 34.22m above HAT means that the vessel types anticipated to pass through the array site are unlikely to interact with the blades, and as such the differing rotor diameters are not considered as resulting in a materially different impact. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures, meaning internal displacement is more likely than WTG Option B.	Questions to demonstrate assessment has considered all scenarios	Response
	Permanent infrastructure				*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	1. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the operational structures regardless of layout. Therefore, there are no new impacts and WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the operational structures regardless of structure layout and therefore there is no change in the frequency or consequence of deviations (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Number of WTGs / foundations	75	60			
	WTG monopile diameter at mudline (m)	9	9.5			
	WTG rotor diameter (m)	250	276			
	WTG blade tip clearance above HAT (m)	34.22	34.22			
	Buildout of Array Area	Full				
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3				
	Length of topside (m)	45				
	Width of topside (m)	35				
Impact 2: Increased collision risk (third-party with project vessel)	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B	The presence of wind farm vessels associated with the CWP Project will pose a collision risk to third party vessels. The greater the number of additional vessels, the larger the collision risk.	Questions to demonstrate assessment has considered all scenarios	Response
	Permanent infrastructure				*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.*	1. No. Relevant activities and vessel transits / behaviours are likely to similar for both WTG layout options. Therefore, no new impacts are introduced and WTG Option A forms the presentational basis for the assessment given it assumes the greatest number of structures (with WTG Option B conclusions being not materially different).
	Number of WTGs / foundations	75	60			
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3				

	O&M vessels (Generating Station and OfTI)			WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures (noting that assumed O&M vessel movements do not change between the two scenarios).	*2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	2. No. WTG Option B includes a lesser number of structures, however the same number of vessel movements and the same number of peak vessels and movements. Therefore, there is no change in the frequency of collision risk, and consequences would be expected to be similar given similar or the same O&M vessels used in either scenario (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Peak Vessel Numbers	14				
	Number of Vessel Round Trips	1,209				
Impact 3: Vessel to structure allision risk (vessel to structure)	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
	Permanent infrastructure			Allision risk will be created via the introduction of surface piercing structures installed within the array site. Generally, the greater the number of structures, the greater the allision risk. It is noted that minimum blade clearance of 34.22m above HAT means that the vessel types anticipated to pass through the array site are unlikely to interact with the blades, and as such the differing rotor diameters are not considered as resulting in a materially different impact. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures, meaning frequency of allision risk is higher than WTG Option B.	*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	1. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Therefore, no new impacts are introduced and WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates vessels will tend to avoid the operational structures within the Array Area regardless of structure layout and therefore there is no change in the frequency of allision between the layouts, and consequences of an allision would not change given similarly sized structures (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Number of WTGs / foundations	75	60			
	WTG monopile diameter at mudline (m)	9	9.5			
	WTG rotor diameter (m)	250	276			
	WTG blade tip clearance above HAT (m)	34.22				
	Buildout of array site	Full				
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3				
	Length of OSS topside (m)	45				
	Width of OSS topside (m)	35				
Impact 4: Reduction in emergency response capability	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
	Permanent Infrastructure			The presence of structures, project vessels, personnel, and		1. No. WTG Option B includes a lower number of structures. On this basis the potential for increased incidents and impact on SAR
	Number of WTGs / foundations	75	60			

	WTG monopile diameter at mudline (m)	9	9.5	any maintenance works could lead to an increase in incidents requiring emergency response. The presence of structures may also impact access to or through the area for SAR assets. This requires consideration of structure locations and rotor diameters (due to the impact on SAR helicopters). WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures and vessel movements.	*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	operations is greater from WTG Option A. Therefore, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. SAR access is broadly similar between the two layout options given both are broadly grid based. WTG Option B also includes a lower number of structures and therefore is less likely to lead to an increase in incident numbers. Consequences are not anticipated to change between the layout options given these will depend on the incident cause/type. Therefore, there is no change in the frequency and consequences (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	WTG rotor diameter (m)	250	276			
	Buildout of array site	Full				
	Blade tip clearance above HAT (m)	34.22				
	OfTI	WTG Option A	WTG Option B			
	Permanent infrastructure					
	Number of OSSs	3				
	Length of topside (m)	45				
	Width of topside (m)	35				
	O&M vessels (Generating Station and OfTI)					
	Peak vessel numbers	14				
	Number of Vessel Round Trips	1,209				
Impact 5: Port Access Restrictions	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
	Permanent Infrastructure			The presence of structures, project vessels, and personnel could lead to restrictions on port access during the construction phase. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures and vessel movements.	*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	1. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the operational structures regardless of layout. Therefore, there are no new impacts on port approach and WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. WTG Option B includes a lower number of structures, and both options have similar peripheries. Operational experience indicates larger vessels will avoid the operational structures regardless of structure layout and therefore there is no change in the frequency or consequence of deviations to port approaches (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Number of WTGs / foundations	75	60			
	WTG monopile diameter at mudline (m)	9	9.5			
	WTG rotor diameter (m)	250	276			
	Buildout of array site	Full				
	Length of inter-array cabling on the seabed (km)	120–139	112 - 130			
	Length of interconnector cabling on the seabed (km)	7.4–8.6				
	Minimum depth of cover (IACs and ICs) (m)	1				
	Length of inter-array and interconnector cabling requiring cable protection (km)	29.8				
	Height of cable protection berm (IACs and ICs) (m)	1.25				
	Number of OSSs	3				
	Length of Topside (m)	45				
	Width of Topside (m)	35				

	Number of offshore export cables	3				
	Total length of offshore export cables (km)	126.0 - 146.0				
	Offshore export cables minimum depth of cover (m)	1.4				
	Total length of export cables requiring cable protection (km)	15				
	Height of cable protection berm (offshore export cables) (m)	1.5				
	O&M vessels (Generating Station and OfTI)					
	Peak Vessel Numbers	14				
	Number of Vessel Round Trips	1,209				
Impact 6: Reduction in under keel clearance	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B	The presence of subsea cables (inter-array cables, interconnector cables, and offshore export cables) may lead to a reduction in navigable depth where cable protection is used. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures and hence a larger total length of subsea cable.	Questions to demonstrate assessment has considered all scenarios	Response
	Permanent Infrastructure				*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	1. No. There is no change in the height of cable protection between the two WTG options. WTG Option B assumes a lesser length of cable that will require external cable protection and therefore WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. Height of cable protection is the same between both WTG options, and while there is a limited change in lengths of cables requiring protection, this is not to the degree to which there would be a notable change in expected frequency of an underkeel interaction. Consequences will not differ between the WTG options given this will depend on the vessel type. Therefore, there is no change in the frequency and consequences (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Number of WTGs / foundations	75	60			
	Length of inter-array cabling on the seabed (km)	120-139	112-130			
	Length of interconnector cabling on the seabed (km)	7.4-8.6				
	IACs and interconnectors minimum depth of cover (m)	1.0				
	Length of inter-array and interconnector cabling requiring cable protection (km)	29.8				
	Height of cable protection berm (m)	1.25				
	OfTI	WTG Option A	WTG Option B			
	Number of OSSs	3				
	Number of offshore export cables	3				
	Total length of offshore export cables (km)	126.0-146.0				
	Offshore export cables minimum depth of cover (m)	1.4				
	Total length of export cables requiring cable protection (km)	15				
	Height of cable protection berm (m)	1.5				

Impact 7: Anchor interaction with subsea cables	Generating station Note – includes WTGs, IACs and interconnectors	WTG Option A	WTG Option B	The presence of subsea cables (inter-array cables, interconnector cables, and offshore export cables) will create a risk of anchor interaction. The greater the length of cable, the greater the potential interaction risk. WTG Option A is being used as the Representative Scenario for this impact given it includes a greater number of structures and hence a larger total length of subsea cable.	*1. Are there infrastructure layout options which may introduce new impacts?* *Note - this could be a new impact entirely or the introduction of an existing impact pathway to a new receptor.* *2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?* *3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?*	1. No. There is no change in the assumed minimum depth of cover between the two WTG options. WTG Option B assumes a lesser overall total length of cable and therefore there are no new impacts and WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 2. No. The assumed minimum depth of cover is the same between both WTG options, and while there is a limited change in total length, this is not to the degree to which there would be a notable change in expected frequency of an anchor interaction when accounting for the CBRA which will ensure cables are suitably buried and / or protected. Consequences will not differ between the WTG options given this will depend on the vessel type and size. Therefore, there is no change in the frequency and consequences (shipping and navigation assessment is required to apply the FSA approach which considers frequency and consequence rather than magnitude). On this basis, WTG Option A forms the presentational basis for the assessment with WTG Option B conclusions being not materially different. 3. Shipping and navigation assessment is required to apply the FSA approach which does not consider sensitivity, however given that no new receptors are introduced it can be taken that the conclusions would not materially differ.
	Permanent Infrastructure					
	Number of WTGs / foundations	75	60			
	Length of inter-array cabling on the seabed (km)	120 - 139	112 - 130			
	Length of interconnector cabling on the seabed (km)	7.4 - 8.6				
	Offshore export cables minimum depth of cover (m)	1.0				
	Length of inter-array and interconnector cabling requiring cable protection (km)	29.8				
	OfTI	WTG Option A	WTG Option B			
	Number of OSSs	3				
	Number of offshore export cables	3				
	Total length of offshore export cables (km)	126.0-146.0				
	Offshore export cables minimum depth of cover (m)	1.4				
	Total length of export cables requiring cable protection (km)	15				

4 Limit of Deviation Assessment

14. As described in **Section 1** of this document, locational flexibility of permanent and temporary infrastructure is described as a LoD from a specific point or alignment.

15. The project components for which a LoD has been defined are presented in **Table 3**. These are further described in EIAR **Chapter 4 Project Description** and have been presented on the planning drawings that accompany the planning application.

Table 3 Defined limits of deviation

Project component	LoD
Offshore project components	
WTGs	100 m from the centre point of each WTG location
WTG monopile locations	Same as WTGs
WTG monopile scour protection	Same as WTG
OSSs	100 m from the centre point of each OSS location
OSS monopile locations	Same as OSSs
OSS monopile scour protection	Same as OSSs
IACs and interconnector cables	100 m either side of the preferred alignment of each IAC and interconnector cable 200 m from the centre point of each WTG location
Offshore export cables	250 m either side of the preferred alignment within the array site. The offshore export cable corridor (OECC) outside of the array site.
Landfall	
Transition Joint Bays (TJBs)	0.5 m either side (i.e. east / west) of the preferred TJB location
Landfall cable ducts (and associated offshore export cables within the ducts)	Defined LoD boundary
Intertidal cable ducts (and associated offshore export cables within the ducts)	The OECC
Intertidal offshore export cables (non ducted sections)	The OECC
Onshore substation	
Location of onshore substation revetment perimeter structure	Defined LoD boundary

16. For the purposes of the EIAR, the main chapter for shipping and navigation assesses the specific preferred location for permanent infrastructure. However, this document provides further analysis to determine if the proposed LoD for permanent infrastructure may give rise to any new or materially different effects, taking into consideration the potential impact of the proposed LoD on the magnitude of the impact.

17. For shipping and navigation this analysis for construction and O&M phase impacts is presented in **Table 4** and **Table 5**, respectively. Where the potential for a LoD to cause a new or materially different effect is identified, then this is noted in the tables below and is considered in full within the main chapter.

Table 4 Limit of deviation assessment - construction phase impacts

Impact	Relevant project element	Limit of deviation	Questions to demonstrate assessment has considered all scenarios	Response
Impact 1: Vessel displacement leading to increased encounters and collision risk	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. Larger commercial vessels will avoid the buoyed construction area in the MSDA regardless of layout based on operational experience. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence no new impacts are introduced. 2. No. Larger commercial vessels will avoid the buoyed construction area in the MSDA regardless of layout. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence the significance of risk assessed will not change materially.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
Impact 2: Increased collision risk (third-party with project vessel)	n/a		*Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. LoDs are not of relevance to this impact which is based on vessel numbers and movements. 2. No. LoDs are not of relevance to this impact which is based on vessel numbers and movements.
Impact 3: Vessel to structure allision risk (vessel to structure)	Offshore Project Components		*Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. Larger commercial vessels will avoid the buoyed construction area in the MSDA (and hence the structures) regardless of layout based on operational experience and there is searoom to accommodate any necessary deviations including when accounting for LoDs. Smaller vessels may still transit through the buoyed construction area, and changes in spacing arising from LoDs still allow for such transits based on minimum spacing. Hence no new impacts are introduced. 2. No. Larger commercial vessels will avoid the buoyed construction area in the MSDA (and hence the structures) regardless of layout based on operational experience and there is searoom to accommodate any necessary deviations including when accounting for LoDs. Smaller vessels may still transit through the buoyed construction area, and changes in spacing arising from LoDs still allow for such transits based on minimum spacing. Hence the significance of risk assessed will not change materially.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
Impact 4: Reduction in emergency response capability	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. LoDs would not be expected to lead to a significant change in marine incident numbers on the basis of the findings for other impacts. The WTGs allow for SAR access in line with MGN 654 requirements including when LoDs are accounted for. Hence no new impacts are introduced. 2. No. LoDs would not be expected to lead to a change in marine incident numbers leading to a materially different significance of risk on the basis of the findings for other impacts. The WTGs
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		

	OSSs	100 m buffer from the centre point of each OSS location		allow for SAR access in line with MGN 654 requirements including when LoDs are accounted for, and therefore the SAR access available is not deemed as being materially different. Hence the significance of risk assessed will not change materially.
	OSS monopile locations	Same as OSSs.		
Impact 5: Port Access Restrictions	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. Larger commercial vessels will avoid the buoyed construction area in the MSDA regardless of layout based on operational experience. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence no new impacts on port access are introduced. 2. No. Larger commercial vessels will avoid the buoyed construction area in the MSDA regardless of layout. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence the significance of risk assessed will not change materially.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
	Offshore export cables	250 m buffer either side of the preferred alignment of each export cable within the array site. The OECC outside of the array site.		

Table 5 Limit of deviation assessment - operational phase impacts

Impact	Relevant project element	Limit of deviation	Questions to demonstrate assessment has considered all scenarios	Response
Impact 1: Vessel displacement leading to increased encounters and collision risk	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. Larger commercial vessels will avoid the array site regardless of layout based on operational experience. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence no new impacts are introduced. 2. No. Larger commercial vessels will avoid the array site regardless of layout. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence the significance of risk assessed will not change materially.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
Impact 2: Increased collision risk (third-party with project vessel)	n/a		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially greater magnitude of impact?*	1. No. LoDs are not of relevance to this impact which is based on vessel numbers and movements. 2. No. LoDs are not of relevance to this impact which is based on vessel numbers and movements.

Impact 3: Vessel to structure allision risk (vessel to structure)	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially greater magnitude of impact?*	1. No. Larger commercial vessels will avoid the array site (and hence the structures) regardless of layout based on operational experience and there is searoom to accommodate any necessary deviations including when accounting for LoDs. Smaller vessels may still transit through the array site and changes in spacing arising from LoDs still allow for such transits based on minimum spacing. Hence no new impacts are introduced. 2. No. Larger commercial vessels will avoid the array site (and hence the structures) regardless of layout based on operational experience and there is searoom to accommodate any necessary deviations including when accounting for LoDs. Smaller vessels may still transit through the array site, and changes in spacing arising from LoDs still allow for such transits based on minimum spacing. Hence the significance of risk assessed will not change materially.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
Impact 4: Reduction in emergency response capability	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. LoDs would not be expected to lead to a significant change in marine incident numbers on the basis of the findings for other impacts. 2. No. LoDs would not be expected to lead to a change in marine incident numbers leading to a materially different significance of risk on the basis of the findings for other impacts.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
Impact 5: Port Access Restrictions	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No. Larger commercial vessels will avoid the array site regardless of layout based on operational experience. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence no new impacts on port access are introduced. 2. No. Larger commercial vessels will avoid the array site in the regardless of layout. Minimum spacing is such that smaller vessels will likely still transit through regardless of use of LoD. Hence the significance of risk assessed will not change materially.
	WTGs	100 m buffer from the centre point of each WTG location		
	WTG monopile locations	100 m buffer from the centre point of each WTG location		
	OSSs	100 m buffer from the centre point of each OSS location		
	OSS monopile locations	Same as OSSs.		
	Offshore export cables	250 m buffer either side of the preferred alignment of each export cable within the array site. The OECC outside of the array site.		

Impact 6: Reduction in under keel clearance	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No, assuming cables remain within the array site and OECC then there are no new impacts given the risk is associated with the height of protection which is unaffected by the LoDs. 2. No, assuming cables remain within the array site and OECC then there is no material change in significance of risk of the impact given the risk is associated with the height of protection which is unaffected by the LoDs.
	IACs and interconnector cables (including cable protection)	100 m buffer either side of the preferred alignment of each IAC and interconnector cable 200 m buffer from the centre point of each WTG location		
	Offshore export cables	250 m buffer either side of the preferred alignment of each export cable within the array site. The OECC outside of the array site.		
Impact 7: Anchor interaction with subsea cables	Offshore Project Components		*1. Does the proposed LoD (locational flexibility) introduce new impacts? (i.e. the introduction of an existing impact pathway to a new receptor).* *2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?*	1. No, assuming cables remain within the array site and OECC then there are no new impacts given the mitigation of a cable burial risk assessment process to implement suitable depth of cover and / or protection. 2. No, assuming cables remain within the array site and OECC then there is no material change in significance of risk of the impact given the mitigation of a cable burial risk assessment process to implement suitable cable depth of cover and / or protection.
	IACs and interconnector cables (including cable protection)	100 m buffer either side of the preferred alignment of each IAC and interconnector cable 200 m buffer from the centre point of each WTG location		
	Offshore export cables	250 m buffer either side of the preferred alignment of each export cable within the array site. The OECC outside of the array site.		