



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 CO₂ 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.

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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 so	cenario(s)
Impact 1: Vessel displacement	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
leading to increased encounters and collision risk	Permanent infrastructure	•		Vessel displacement will be	1. Are there infrastructure	1. No. WTG Option B
	Number of WTGs / foundations	75	60	caused by the presence of surface infrastructure, and	layout options (permanent or temporary) which may	both options have sim indicates larger vesse
	WTG monopile diameter at mudline (m)	9	9.5	therefore the WTGs and OSSs will lead to vessel displacement.	introduce new impacts?	regardless of structure
	WTG rotor diameter (m)	250	276		Note - this could be a new impact entirely or the	the presentational bas conclusions being not
	Blade tip clearance above highest astronomical tide (HAT) (m)	34.22	34.22	During construction, advisory	introduction of an existing impact pathway to a new	2. No. WTG Option B
	Build out of array site	F	ull	safe passing distances may be used around ongoing works,	receptor.	both options have sim indicates larger vesse
	Offshore transmission infrastructure (OfTI)	WTG Option A	WTG Option B	and a buoyed construction area within the Marine Safety	2. Are there infrastructure layout options (permanent or	the MSDA regardless change in the frequen
	Permanent infrastructure	•		Demarcation Area (MDSA) will be deployed in agreement with	temporary) which may	and navigation assess Assessment (FSA) app consequence rather th A forms the presentation Option B conclusions b
	Number of offshore substation structures (OSSs)	:	3	Irish Lights. These would not exclude / prohibit entry, but are	<i>magnitude of impact?</i> consequence A forms the p Option B con	
	Length of OSS topside (m)	4	5	 still likely to lead to vessel displacement based on 		Option B conclusions
	Width of OSS topside (m)	35		experience of other constructing wind farms.	s. temporary) which may	3. Shipping and navig FSA approach which of
				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.	 layout options (permanent or temporary) which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)? A Are there alternative installation methods which may introduce new impacts? A Are there alternative installation methods which may introduce new impacts? A Are there alternative installation methods which may introduce new impacts? A Are there alternative installation methods which may introduce a materially different magnitude of impact? A Are there alternative installation methods which may introduce a materially different magnitude of impact? A Are there alternative installation methods which may introduce a materially different magnitude of impact? A Are there alternative installation methods which may introduce a materially different magnitude of impact? 	 4. There are no relevative layout options. On WTG Option A forms to (with WTG Option B control of the layout options. On WTG Option A forms to (with WTG Option A forms to (with WTG Option B control of the layout option b control option b

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B includes a lower number of structures, and imilar peripheries. Operational experience sels will avoid the buoyed construction area ure layout. Therefore, WTG Option A forms asis for the assessment with WTG Option B ot materially different.

B includes a lower number of structures, and imilar peripheries. Operational experience sels will avoid the buoyed constriction area in as of structure layout and therefore there is no ency or consequence of deviations (shipping essment is required to apply the Formal Safety approach which considers frequency and than magnitude). On this basis, WTG Option ational basis for the assessment with WTG is being not materially different.

igation assessment is required to apply the n does not consider sensitivity.

vant installation methods differing between On the basis of the answers to questions 1-3, s the presentational basis for the assessment conclusions being not materially different).

vant installation methods differing between On the basis of the answers to questions 1-3, s the presentational basis for the assessment conclusions being not materially different).

igation assessment is required to apply the n does not consider sensitivity.



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

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ect activities and vessel transits / behaviours ar for both WTG layout options. Therefore, s the presentational basis for the assessment e greatest number of vessel movements (with clusions being not materially different).

B includes a lesser number of structures and a lesser number of vessel movements and the ak vessels. Therefore there is no increase in lision risk, and consequences would be ar given similar vessels used in either and navigation assessment is required to bach which considers frequency and than magnitude). On this basis, WTG Option ational basis for the assessment with WTG s being not materially different.

igation assessment is required to apply the n does not consider sensitivity, however given rs are introduced it can be taken that the not materially differ.

B includes a lesser number of vessel same number of peak vessels. Therefore, no roduced and WTG Option A forms the for the assessment given it assumes the vessel movements (with WTG Option B ot materially different).

B assumes a lesser number of vessel same number of peak vessels. Therefore in the frequency of collision risk, and d be expected to be similar given similar er scenario (shipping and navigation red to apply the FSA approach which and consequence rather than magnitude). Option A forms the presentational basis for WTG Option B conclusions being not

igation assessment is required to apply the n does not consider sensitivity, however given rs are introduced it can be taken that the not materially differ.



3 : to e	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
risk to	Permanent Infrastructure			Allision risk will be created via	1. Are there infrastructure	1. No. WTG Option B in
e)	Number of WTGs / foundations	75	60	the introduction of new surface piercing structures installed	layout options (permanent or temporary) which may	both options have simil are introduced, and W
	WTG monopile diameter at mudline (m)	9	9.5	within the array site. Generally, the greater the number of	introduce new impacts?	for the assessment with
	WTG rotor diameter (m)	250	276	structures, the greater the	Note - this could be a new impact entirely or the	materially different.
	Blade tip clearance above HAT (m)	34	.22	allision risk.	introduction of an existing	2. No. WTG Option B in
	Buildout of array site	F	ull	It is noted that minimum blade clearance of 34.22m above	impact pathway to a new receptor.	both options have simil indicates vessels will te
	OfTI	WTG Option A	WTG Option B	HAT means that the vessel		regardless of structure
	Permanent infrastructure			 types anticipated to pass through the array site are 	2. Are there infrastructure layout options (permanent or	the frequency of allision of an allision would not
	Number of OSSs	:	3	unlikely to interact with the blades, and as such the	temporary) which may	(shipping and navigatio
	Length of OSS topside (m)	4	5	differing rotor diameters are not	introduce a materially different magnitude of impact?	approach which consid than magnitude). On th
	Width of OSS topside (m)	3	5	considered as resulting in a materially different impact.	- John Charles	presentational basis for conclusions being not r
				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.	 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 	 3. Shipping and naviga FSA approach which d that no new receptors a conclusions would not 4. There are no relevan the layout options. On the WTG Option A forms the (with WTG Option B context)
					 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). 	 5. There are no relevant the layout options. On WTG Option A forms the (with WTG Option B construction) 6. Shipping and navigat FSA approach which d that no new receptors a conclusions would not would not the second second
4 : ion in ency	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		 introduce a materially different magnitude of impact? 6. Are there alternative installation methods which may materially alter the sensitivity of the relevant receptor(s) 	 the layout options. On the WTG Option A forms the (with WTG Option B conditions) 6. Shipping and navigation FSA approach which do that no new receptors and the statement of the statement of the statement of the statement optimized by the statemen
ion in	inter-array cables (IACs),	WTG Option A	WTG Option B	The presence of structures,	 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). Questions to demonstrate assessment has considered all scenarios 1. Are there infrastructure 	the layout options. On the WTG Option A forms the (with WTG Option B cond) of the WTG Option B cond) of the
on in ncy e	inter-array cables (IACs), interconnectors)	WTG Option A 75	WTG Option B	project vessels, personnel, and	 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). Questions to demonstrate assessment has considered all scenarios 1. Are there infrastructure layout options (permanent or 	the layout options. On the WTG Option A forms the (with WTG Option B cond) of the WTG Option B cond) of the
on in ncy ə	inter-array cables (IACs), interconnectors) Permanent Infrastructure				 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). Questions to demonstrate assessment has considered all scenarios 1. Are there infrastructure 	the layout options. On the WTG Option A forms the (with WTG Option B cond) of the WTG Option B cond) of the

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B includes a lower number of structures, and imilar peripheries. Therefore, no new impacts WTG Option A forms the presentational basis with WTG Option B conclusions being not

B includes a lower number of structures, and imilar peripheries. Operational experience II tend to avoid the buoyed construction area are layout and therefore there is no change in sion between the layouts, and consequences not change given similarly sized structures ation assessment is required to apply the FSA siders frequency and consequence rather in this basis, WTG Option A forms the of or the assessment with WTG Option B ot materially different.

igation assessment is required to apply the n does not consider sensitivity, however given rs are introduced it can be taken that the ot materially differ.

vant installation methods differing between On the basis of the answers to questions 1-3, s the presentational basis for the assessment conclusions being not materially different).

vant installation methods differing between On the basis of the answers to questions 1-3, s the presentational basis for the assessment conclusions being not materially different).

igation assessment is required to apply the n does not consider sensitivity, however given rs are introduced it can be taken that the not materially differ.

B includes a lower number of structures (and r number of vessel movements). On this basis eased incidents and impact on SAR r from WTG Option A. Therefore, WTG Option



	Blade tip clearance above HAT (m)	34	1.22	incidents requiring emergency	Note - this could be a new	A forms the presentation
	Buildout of array site	F	Full	response.	impact entirely or the introduction of an existing	Option B conclusions
	OfTI	WTG Option A	WTG Option B	The presence of structures	impact pathway to a new	2. No. SAR access is
	Permanent infrastructure			may also impact access to or	receptor.	options given both are includes a lower num
	Number of OSSs		3	through the area for SAR assets. This requires	2. Are there infrastructure	number of vessel mo
	Length of OSS topside (m)		45	consideration of structure locations and rotor diameters	layout options (permanent or temporary) which may	to an increase in incid anticipated to change
	Width of OSS topside (m)		35	(due to the impact on SAR	introduce a materially different	depend on the incide
	Installation methods and effects (Genera			helicopters).	magnitude of impact?	in the frequency and assessment is require
	Peak Vessels on site		38	WTG Option A is being used as	3. Are there infrastructure	considers frequency a
	Round Trips	2,409	2,387	the Representative Scenario	layout options (permanent or	On this basis, WTG C the assessment with
		2,100	2,001	for this impact given it includes a greater number of structures	temporary) which may introduce a material change in	materially different.
				and vessel movements.	the sensitivity of the receptor(s)	2 Chinging and govid
					(greater or lesser)?	3. Shipping and navig
					4. Are there alternative	that no new receptors conclusions would no
					installation methods which may introduce new impacts?	
					Introduce new impacts?	4. No. Vessel movem
					5. Are there alternative	Layout Option B (but routeing are likely to l
					installation methods which may	the presentational ba
					introduce a materially different magnitude of impact?	conclusions being no
					-	5. No. Vessel movem
					6. Are there alternative	Layout Option B (but
					installation methods which may materially alter the sensitivity of	are not be anticipated
					the relevant receptor(s)	of impacts to baseline change in the frequer
					(greater or lesser).	navigation assessme
						which considers freque magnitude). WTG Op
						basis for the assessm
						not materially differen
						6 Shipping and pavid
						 Shipping and navig FSA approach which
						that no new receptors
						conclusions would no
Impact 5:	Generating station (including WTGs,	WTG Option A	WTG Option B		Questions to demonstrate	Response
Port Access Restrictions	inter-array cables (IACs),				assessment has considered all scenarios	
	interconnectors) Permanent Infrastructure			The presence of structures,	1. Are there infrastructure	1. No. WTG Option B
	Number of WTGs / foundations	75	60	project vessels, personnel, and	layout options (permanent or	by extension a lower
		70	00	<u> </u>	1	

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tational basis for the assessment with WTG ns being not materially different.

is broadly similar between the two layout are broadly grid based. WTG Option B also imber of structures (and by extension a lower novements) and therefore is less likely to lead cident numbers. Consequences are not ge between the layout options given these will dent cause/type. Therefore, there is no change id consequences (shipping and navigation uired to apply the FSA approach which ey and consequence rather than magnitude). G Option A forms the presentational basis for th WTG Option B conclusions being not

vigation assessment is required to apply the ch does not consider sensitivity, however given ors are introduced it can be taken that the not materially differ.

ements are assumed to be lower in WTG ut not notably lower), and vessel behaviours / o be similar. WTG Option A therefore forms basis for the assessment (with WTG Option B not materially different).

ements are assumed to be lower in WTG ut not notably lower), and on this basis there ted to be materially different changes in terms ine incident rates. Therefore, there is no uency and consequences (shipping and nent is required to apply the FSA approach equency and consequence rather than Option A therefore forms the presentational sment (with WTG Option B conclusions being rent).

vigation assessment is required to apply the ch does not consider sensitivity, however given ors are introduced it can be taken that the not materially differ.

B includes a lower number of structures (and er number of vessel movements). On this basis



WTG rotor diameter (m)	250	276	ongoing construction works could lead to restrictions on	temporary) which may introduce new impacts?	the potential for port a Option A. Therefore,
Buildout of Array Area	F	ull	port access during the	Note - this could be a new	basis for the assessm
OfTI	WTG Option A	WTG Option B	construction phase.	impact entirely or the	not materially differen
Permanent Infrastructure			WTG Option A is being used as	introduction of an existing impact pathway to a new	2. No. WTG Option B
Number of OSSs	:	3	the Representative Scenario	receptor.	both options have sin
Length of inter-array cabling on the seabed (km)	120–139	112 - 130	for this impact given it includes a greater number of structures and vessel movements.	2. Are there infrastructure layout options (permanent or	indicates larger vesse the MSDA regardless change in the frequer
Length of interconnector cabling on the seabed (km)	7.4-	-8.6		temporary) which may introduce a materially different magnitude of impact?	port approaches (ship to apply the FSA app consequence rather t
Minimum depth of cover (IACs and ICs) (m)		1			A forms the presentat Option B conclusions
Length of inter-array and interconnector cabling requiring cable protection (km)	29	9.8	temporary) which may	layout options (permanent or temporary) which may introduce a material change in	 3. Shipping and navig FSA approach which that no new receptors conclusions would no 4. No. Vessel movem Layout Option B (but routeing are likely to b the presentational base
Height of cable protection berm (IACs and ICs) (m)	1.	25		the sensitivity of the receptor(s) (greater or lesser)?	
Length of OSS topside (m)	4	15		 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 metarially offer the pagnitivity of the second statement of the second	
Width of OSS topside (m)	3	35			
Number of offshore export cables	:	3			
Total length of offshore export cables (km)	126.0	- 146.0			conclusions being not
Minimum depth of cover (offshore export cables) (m)	1	.4			5. There are no releva the layout options. Or WTG Option A forms
Length of export cables requiring cable protection (offshore export cables) (km)	1	5			(with WTG Option B of 6. Shipping and navig
Height of cable protection berm (OECC) (m)	1	.5		the relevant receptor(s)	FSA approach which that no new receptors conclusions would no
Installation methods and effects (General	ating Station and C	OfTI)			
Peak vessels on site	3	38			
Round trips	2,4	409]

rt access restrictions is lower than for WTG e, WTG Option A forms the presentational sment with WTG Option B conclusions being rent.

B includes a lower number of structures, and similar peripheries. Operational experience ssels will avoid the buoyed constriction area in ess of structure layout and therefore there is no lency or consequence of deviations in terms of hipping and navigation assessment is required oproach which considers frequency and er than magnitude). On this basis, WTG Option tational basis for the assessment with WTG ns being not materially different.

vigation assessment is required to apply the ch does not consider sensitivity, however given ors are introduced it can be taken that the not materially differ.

ements are assumed to be lower in WTG ut not notably lower), and vessel behaviours / o be similar. WTG Option A therefore forms basis for the assessment (with WTG Option B not materially different).

evant installation methods differing between On the basis of the answers to questions 1-3, ns the presentational basis for the assessment B conclusions being not materially different).

vigation assessment is required to apply the ch does not consider sensitivity, however given ors are introduced it can be taken that the not materially differ.



Table 2 Representative scenario assessment - operational phase impacts

Impact	Relevant project details			Representative scenario(s) and notes / assumptions	Rationale for representative so	enario(s)
Impact 1: Vessel displacement leading to increased	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	·		Vessel displacement will be	1. Are there infrastructure	1. No. WTG Option B in
encounters	Number of WTGs / foundations	75	60	caused by the presence of surface infrastructure, and	layout options which may introduce new impacts?	both options have simila indicates larger vessels
and collision risk	WTG monopile diameter at mudline (m)	9	9.5	therefore the WTGs and OSSs will lead to vessel displacement. There will be no	Note - this could be a new impact entirely or the	regardless of layout. The WTG Option A forms the with WTG Option B con-
	WTG rotor diameter (m)	250	276	restrictions on entry into the	introduction of an existing impact pathway to a new	
	WTG blade tip clearance above HAT (m)	34.22	34.22	Array site however certain vessels are likely to deviate to avoid the structures and	receptor.	2. No. WTG Option B in both options have simila
	Buildout of Array Area	F	ull	therefore there will be	2. Are there infrastructure layout options which may	indicates larger vessels regardless of structure la
	OfTI	WTG Option A	WTG Option B	displacement.	introduce a materially different	the frequency or consec
	Permanent infrastructure			It is noted that minimum blade	magnitude of impact (greater or lesser)?	navigation assessment i which considers frequen
	Number of OSSs	3 45		clearance of 34.22m above HAT means that the vessel types anticipated to pass	m pi	magnitude). On this bas presentational basis for conclusions being not m
	Length of topside (m)					
	Width of topside (m)	3	5	through the array site are unlikely to interact with the	introduce a material change in	3. Shipping and navigati
				 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. 	the sensitivity of the receptor(s) (greater or lesser)?	FSA approach which do that no new receptors a conclusions would not n
Impact 2: Increased collision risk	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
(third-party with project	Permanent infrastructure			The presence of wind farm	1. Are there infrastructure	1. No. Relevant activitie
vessel)	Number of WTGs / foundations	75	60	vessels associated with the CWP Project will pose a	layout options which may introduce new impacts?	likely to similar for both impacts are introduced
	OfTI	WTG Option A	WTG Option B	collision risk to third party vessels. The greater the	Note - this could be a new presenta	presentational basis for greatest number of strue
	Permanent infrastructure			number of additional vessels,	impact entirely or the introduction of an existing	being not materially diffe
	Number of OSSs	:	3	the larger the collision risk.	impact pathway to a new receptor.	

includes a lower number of structures, and nilar peripheries. Operational experience els will avoid the operational structures Therefore, there are no new impacts and the presentational basis for the assessment onclusions being not materially different.

includes a lower number of structures, and nilar peripheries. Operational experience els will avoid the operational structures e layout and therefore there is no change in sequence of deviations (shipping and nt is required to apply the FSA approach uency and consequence rather than basis, WTG Option A forms the for the assessment with WTG Option B t materially different.

ation assessment is required to apply the does not consider sensitivity, however given are introduced it can be taken that the t materially differ.

ties and vessel transits / behaviours are th WTG layout options. Therefore, no new ed and WTG Option A forms the for the assessment given it assumes the ructures (with WTG Option B conclusions lifferent).



	Number of WTGs / foundations	75	60	איטוטע איטאראיז איטאראין איטעראין איטעראין איטעראין איטעראיטעראיטעראין איטעראין איטעראין איטעראין איטעראין איט		
capability	Permanent Infrastructure			The presence of structures, project vessels, personnel, and		1. No. WTG Option B in this basis the potential
Impact 4: Reduction in emergency response	Generating station (including WTGs, inter-array cables (IACs), interconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
	Length of OSS topside (m) Width of OSS topside (m)	4	15 15	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.	3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?	Option A forms the pres WTG Option B conclus 3. Shipping and naviga FSA approach which do that no new receptors a conclusions would not n
	Permanent infrastructure Number of OSSs		3	unlikely to interact with the blades, and as such the	 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)? 	required to apply the FS and consequence rathe
	OfTI	WTG Option A	WTG Option B	types anticipated to pass through the array site are		layouts, and conseque similarly sized structure
	Buildout of array site	F	ull	clearance of 34.22m above HAT means that the vessel		within the Array Area re there is no change in th
	WTG blade tip clearance above HAT (m)		.22	structures, the greater the allision risk. It is noted that minimum blade		2. No. WTG Option B in both options have similindicates vessels will te
	WTG rotor diameter (m)	250	276			
	WTG monopile diameter at mudline (m)	9	9.5	within the array site. Generally, the greater the number of		for the assessment with materially different.
(vessel to structure)	Number of WTGs / foundations	75	60	the introduction of surface piercing structures installed		both options have simil are introduced and WT
allision risk	Permanent infrastructure			Allision risk will be created via	1. Are there infrastructure	1. No. WTG Option B ir
Impact 3: 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
	Peak Vessel Numbers 14 Number of Vessel Round Trips 1,209 Image: Station Continue WTGs WTG Option A			WIG 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)? 	 No. WTG Option B in however the same num number of peak vessels change in the frequence would be expected to b vessels used in either s assessment is required considers frequency an On this basis, WTG Op the assessment with W materially different. Shipping and navigar FSA approach which do that no new receptors a conclusions would not new
	O&M vessels (Generating Station and	OfTI)		WTG Option A is being used as		2. No. WTG Option B in

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B includes a lesser number of structures, umber of vessel movements and the same sels and movements. Therefore, there is no ncy of collision risk, and consequences b be similar given similar or the same O&M er scenario (shipping and navigation ed to apply the FSA approach which and consequence rather than magnitude). Option A forms the presentational basis for WTG Option B conclusions being not

gation assessment is required to apply the does not consider sensitivity, however given s are introduced it can be taken that the ot materially differ.

B includes a lower number of structures, and nilar peripheries. Therefore, no new impacts VTG Option A forms the presentational basis *v*ith WTG Option B conclusions being not

B includes a lower number of structures, and nilar peripheries. Operational experience tend to avoid the operational structures regardless of structure layout and therefore the frequency of allision between the uences of an allision would not change given ures (shipping and navigation assessment is FSA approach which considers frequency ther than magnitude). On this basis, WTG resentational basis for the assessment with usions being not materially different.

gation assessment is required to apply the does not consider sensitivity, however given s are introduced it can be taken that the ot materially differ.

B includes a lower number of structures. On al for increased incidents and impact on SAR



	WTG monopile diameter at mudline (m)	9	9.5	any maintenance works could lead to an increase in incidents	1. Are there infrastructure layout options which may	operations is greater fro Option A forms the pres WTG Option B conclusion
	WTG rotor diameter (m)	250	276	requiring emergency response.	introduce new impacts? Note - this could be a new	
	Buildout of array site	F	ull	The presence of structures	impact entirely or the	2. No. SAR access is b
	Blade tip clearance above HAT (m)	34	.22	may also impact access to or through the area for SAR	introduction of an existing impact pathway to a new	options given both are t includes a lower numbe
	OfTI	WTG Option A	WTG Option B	assets. This requires	receptor.	to lead to an increase ir
	Permanent infrastructure			consideration of structure locations and rotor diameters		anticipated to change be depend on the incident
	Number of OSSs		3	(due to the impact on SAR	2. Are there infrastructure layout options which may	in the frequency and co
	Length of topside (m)	4	15	helicopters).	introduce a materially different	assessment is required considers frequency and
	Width of topside (m)	3	35	WTG Option A is being used as	magnitude of impact (greater or lesser)?	On this basis, WTG Opt the assessment with W
	O&M vessels (Generating Station and	OfTI)		the Representative Scenario for this impact given it includes		materially different.
	Peak vessel numbers	1	4	a greater number of structures	3. Are there infrastructure layout options which may	· · · · · · · · · · · · · · · · · ·
	Number of Vessel Round Trips	1,2	209	and vessel movements.	introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?	 Shipping and navigat FSA approach which do that no new receptors a conclusions would not r
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,	1. Are there infrastructure	1. No. WTG Option B in
	Number of WTGs / foundations	75	60	project vessels, and personnel could lead to restrictions on	layout options which may introduce new impacts?	both options have simila indicates larger vessels
	WTG monopile diameter at mudline (m)	9	9.5	port access during the construction phase.	<i>receptor.</i> 2. Are there infrastructure	regardless of layout. Th approach and WTG Opt the assessment with WT materially different.
	WTG rotor diameter (m)	250	276	WTG Option A is being used as		
	Buildout of array site	F	ull	the Representative Scenario		
	Length of inter-array cabling on the seabed (km)	120–139	112 - 130	for this impact given it includes a greater number of structures and vessel movements.		 No. WTG Option B in both options have simila indicates larger vessels
	Length of interconnector cabling on the seabed (km)	7.4	-8.6		layout options which may introduce a materially different magnitude of impact (greater or	regardless of structure I the frequency or consec
	Minimum depth of cover (IACs and ICs) (m)		1		lesser)?	(shipping and navigation approach which conside than magnitude). On thi
	Length of inter-array and interconnector cabling requiring cable protection (km)	29.8 1.25			3. Are there infrastructure layout options which may introduce a material change in the sensitivity of the receptor(s) (greater or lesser)?	presentational basis for conclusions being not n
	Height of cable protection berm (IACs and ICs) (m)					 Shipping and navigat FSA approach which do that no new receptors a
	Number of OSSs		3]		conclusions would not n
	Length of Topside (m)	4	15]		
	Width of Topside (m)	3	35			

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from WTG Option A. Therefore, WTG resentational basis for the assessment with usions being not materially different.

broadly similar between the two layout e broadly grid based. WTG Option B also ber of structures and therefore is less likely e in incident numbers. Consequences are not between the layout options given these will nt cause/type. Therefore, there is no change consequences (shipping and navigation ed to apply the FSA approach which and consequence rather than magnitude). Option A forms the presentational basis for WTG Option B conclusions being not

gation assessment is required to apply the does not consider sensitivity, however given s are introduced it can be taken that the ot materially differ.

B includes a lower number of structures, and nilar peripheries. Operational experience els will avoid the operational structures Therefore, there are no new impacts on port Option A forms the presentational basis for WTG Option B conclusions being not

B includes a lower number of structures, and nilar peripheries. Operational experience els will avoid the operational structures re layout and therefore there is no change in sequence of deviations to port approaches tion assessment is required to apply the FSA siders frequency and consequence rather this basis, WTG Option A forms the for the assessment with WTG Option B t materially different.

gation assessment is required to apply the does not consider sensitivity, however given s are introduced it can be taken that the ot materially differ.



Tota (km	Imber of offshore export cables tal length of offshore export cables	;	3			
(km	tal length of offshore export cables	(
	n)	126.0	- 146.0			
	fshore export cables minimum pth of cover (m)	1	.4			
	tal length of export cables quiring cable protection (km)	15 1.5				
	eight of cable protection berm fshore export cables) (m)					
O&!	M vessels (Generating Station and C	OfTI)				
Pea	ak Vessel Numbers	1	4			
Nur	Imber of Vessel Round Trips	1,2	209			
Reduction in inte under keel inte	enerating station (including WTGs, er-array cables (IACs), erconnectors)	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
clearance			The presence of subsea cables	1. Are there infrastructure	1. No. There is no chan	
Nur	Imber of WTGs / foundations	75	60	(inter-array cables, interconnector cables, and offshore export cables) may lead to a reduction in navigable depth where cable protection is	layout options which may introduce new impacts? Note - this could be a new impact entirely or the	between the two WTG of length of cable that will therefore WTG Option A assessment with WTG of different. 2. No. Height of cable p
	ngth of inter-array cabling on the abed (km)	120-139	112-130			
	ngth of interconnector cabling on e seabed (km)	7.4	-8.6	used.	introduction of an existing impact pathway to a new receptor.	
	Cs and interconnectors minimum pth of cover (m)	1	.0	WTG Option A is being used as the Representative Scenario	2. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or	options, and while there requiring protection, this
inte	ngth of inter-array and erconnector cabling requiring cable otection (km)	29	9.8	for this impact given it includes a greater number of structures and hence a larger total length of subsea cable.		be a notable change in interaction. Consequer options given this will c is no change in the free
Hei	eight of cable protection berm (m)	1.	25		lesser)?	navigation assessment
OfT	ТІ	WTG Option A	WTG Option B		3. Are there infrastructure	which considers freque magnitude). On this bas
Nur	Imber of OSSs	;	3		layout options which may introduce a material change in	presentational basis for conclusions being not n
Nur	Imber of offshore export cables	;	3		the sensitivity of the receptor(s)	
Tota (km	tal length of offshore export cables n)	126.0	-146.0		(greater or lesser)?	3. Shipping and navigat FSA approach which do
	fshore export cables minimum pth of cover (m)	1	.4			that no new receptors a conclusions would not r
	tal length of export cables quiring cable protection (km)	1	5			
Hei	eight of cable protection berm (m)	1	.5			

ange in the height of cable protection G options. WTG Option B assumes a lesser vill require external cable protection and on A forms the presentational basis for the G Option B conclusions being not materially

e protection is the same between both WTG ere is a limited change in lengths of cables this is not to the degree to which there would in expected frequency of an underkeel ences will not differ between the WTG I depend on the vessel type. Therefore, there requency and consequences (shipping and ent is required to apply the FSA approach uency and consequence rather than basis, WTG Option A forms the for the assessment with WTG Option B ot materially different.

gation assessment is required to apply the does not consider sensitivity, however given s are introduced it can be taken that the ot materially differ.



Impact 7: Anchor interaction with subsea	Generating station Note – includes WTGs, IACs and interconnectors	WTG Option A	WTG Option B		Questions to demonstrate assessment has considered all scenarios	Response
cables	Permanent Infrastructure			The presence of subsea cables	1. Are there infrastructure	1. No. There is no chang
	Number of WTGs / foundations	75	60	(inter-array cables, interconnector cables, and	layout options which may introduce new impacts?	cover between the two W lesser overall total length
	Length of inter-array cabling on the seabed (km)	120 - 139	112 - 130	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	Note - this could be a new impact entirely or the	impacts and WTG Option assessment with WTG O
	Length of interconnector cabling on the seabed (km)	7.4	- 8.6		impact pathway to a new receptor.22. Are there infrastructure layout options which may introduce a materially different magnitude of impact (greater or lesser)?23. Are there infrastructure layout options which may5	different. 2. No. The assumed mini between both WTG optio total length, this is not to notable change in expect when accounting for the 0 suitably buried and / or pr between the WTG option type and size. Therefore, consequences (shipping to apply the FSA approac consequence rather than A forms the presentational
	Offshore export cables minimum depth of cover (m)	1	.0			
	Length of inter-array and interconnector cabling requiring cable protection (km)	29	9.8			
	OfTI	WTG Option A	WTG Option B	of subsea cable.		
	Number of OSSs	:	3			
	Number of offshore export cables	:	3			
	Total length of offshore export cables (km)	126.0-146.0 1.4 15			the sensitivity of the receptor(s) (greater or lesser)?	Option B conclusions be
	Offshore export cables minimum depth of cover (m)					3. Shipping and navigation FSA approach which doe
	Total length of export cables requiring cable protection (km)					that no new receptors are conclusions would not m

nge in the assumed minimum depth of WTG options. WTG Option B assumes a th of cable and therefore there are no new on A forms the presentational basis for the Option B conclusions being not materially

inimum depth of cover is the same tions, and while there is a limited change in to the degree to which there would be a ected frequency of an anchor interaction e CBRA which will ensure cables are protected. Consequences will not differ ons given this will depend on the vessel re, there is no change in the frequency and ng and navigation assessment is required bach which considers frequency and an magnitude). On this basis, WTG Option onal basis for the assessment with WTG being not materially different.

tion assessment is required to apply the oes not consider sensitivity, however given are introduced it can be taken that the materially differ.



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

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- 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.

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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	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No. Larger commerc
displacement leading to increased encounters and collision risk	WTGs	100 m buffer from the centre point of each WTG location	 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? 	construction area in the operational experience vessels will likely still tra Hence no new impacts
	WTG monopile locations	100 m buffer from the centre point of each WTG location		2. No. Larger commerci construction area in the spacing is such that sm regardless of use of Lol assessed will not chang
	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).	1. No. LoDs are not of r vessel numbers and me 2. No. LoDs are not of r
				vessel numbers and mo
			2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?	
Impact 3: Vessel to	Offshore Project Components		Does the proposed LoD (locational flexibility) introduce new	1. No. Larger commerc
structure allision risk (vessel to structure)	WTGs	100 m buffer from the centre point of each WTG location	 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? 	construction area in the regardless of layout ba is searoom to accomm when accounting for Lo through the buoyed con arising from LoDs still a spacing. Hence no new
	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		 No. Larger commerce construction area in the regardless of layout bas is searoom to accommended
	OSS monopile locations	Same as OSSs.		when accounting for Lo through the buoyed cor arising from LoDs still a spacing. Hence the sign materially.
Impact 4 : Reduction in emergency response capability	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No. LoDs would not
	WTGs	100 m buffer from the centre point of each WTG location	 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? 	change in marine incide for other impacts. The M MGN 654 requirements Hence no new impacts
	WTG monopile locations	100 m buffer from the centre point of each WTG location		2. No. LoDs would not l incident numbers leadir risk on the basis of the

ercial vessels will avoid the buoyed he MSDA regardless of layout based on ce. Minimum spacing is such that smaller transit through regardless of use of LoD. tts are introduced.

ercial vessels will avoid the buoyed he MSDA regardless of layout. Minimum smaller vessels will likely still transit through _oD. Hence the significance of risk ange materially.

of relevance to this impact which is based on movements.

of relevance to this impact which is based on movements.

ercial vessels will avoid the buoyed he MSDA (and hence the structures) based on operational experience and there modate any necessary deviations including LoDs. Smaller vessels may still transit construction area, and changes in spacing I allow for such transits based on minimum ew impacts are introduced.

rcial vessels will avoid the buoyed he MSDA (and hence the structures) based on operational experience and there modate any necessary deviations including LoDs. Smaller vessels may still transit construction area, and changes in spacing I allow for such transits based on minimum ignificance of risk assessed will not change

ot be expected to lead to a significant ident numbers on the basis of the findings e WTGs allow for SAR access in line with nts including when LoDs are accounted for. cts are introduced.

bt be expected to lead to a change in marine ding to a materially different significance of the findings for other impacts. The WTGs



	OSSs	100 m buffer from the centre point of each OSS location	_	allow for SAR access in including when LoDs an access available is not Hence the significance
	OSS monopile locations Offshore Project Components	Same as OSSs.		materially.
Restrictions WTGs 100 m buffer from the centre point of each WTG location impacts? (i.e. the introduction of an existing impact part of a new receptor).		 No. Larger commerci construction area in the operational experience. vessels will likely still tra Hence no new impacts 		
	WTG monopile locations	centre point of each WTG	2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?	2. No. Larger commerci construction area in the spacing is such that sm regardless of use of Lol assessed will not chang
	OSSs	centre point of each OSS		
	OSS monopile locations	Same as OSSs.		
	Offshore export cables	the preferred alignment of each export cable within the array site. The OECC outside of the		

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	1. No. Larger commerc
	WTGs	100 m buffer from the centre point of each WTG location	 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? 	regardless of layout ba spacing is such that sm regardless of use of Lo
	WTG monopile locations	100 m buffer from the centre point of each WTG location		2. No. Larger commerce regardless of layout. M vessels will likely still tr Hence the significance
	OSSs	100 m buffer from the centre point of each OSS location		materially.
	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).	1. No. LoDs are not of vessel numbers and m
				2. No. LoDs are not of vessel numbers and m
			2. Does the proposed LoD (locational flexibility) introduce a materially greater magnitude of impact?	

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s in line with MGN 654 requirements are accounted for, and therefore the SAR not deemed as being materially different. ce of risk assessed will not change

ercial vessels will avoid the buoyed the MSDA regardless of layout based on ce. Minimum spacing is such that smaller I transit through regardless of use of LoD. cts on port access are introduced.

ercial vessels will avoid the buoyed the MSDA regardless of layout. Minimum smaller vessels will likely still transit through LoD. Hence the significance of risk ange materially.

ercial vessels will avoid the array site based on operational experience. Minimum smaller vessels will likely still transit through LoD. Hence no new impacts are introduced. ercial vessels will avoid the array site

Minimum spacing is such that smaller I transit through regardless of use of LoD. ce of risk assessed will not change

of relevance to this impact which is based on movements.

of relevance to this impact which is based on movements.



Impact 3: Vessel to structure allision risk (vessel to structure)	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No. Larger commerce
	WTGs	100 m buffer from the centre point of each WTG location	 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? 	 hence the structures) reexperience and there is necessary deviations in Smaller vessels may st changes in spacing arise based on minimum spatintroduced. No. Larger commerce hence the structures) reexperience and there is necessary deviations in Smaller vessels may st changes in spacing arise based on minimum spatial assessed will not change assesses as a specific as a specific aspecific as a specific
	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	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No. LoDs would not
emergency response capability	WTGs	100 m buffer from the centre point of each WTG location	 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? 	change in marine incide for other impacts. 2. No. LoDs would not incident numbers leadir risk on the basis of the
	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	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No. Larger comme
Restrictions	WTGs	100 m buffer from the centre point of each WTG location	 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? 	regardless of layout ba spacing is such that sn regardless of use of Lo are introduced. 2. No. Larger commerce regardless of layout. M vessels will likely still tr Hence the significance materially.
	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.		

ercial vessels will avoid the array site (and) regardless of layout based on operational e is searoom to accommodate any s including when accounting for LoDs. r still transit through the array site and arising from LoDs still allow for such transits spacing. Hence no new impacts are

ercial vessels will avoid the array site (and) regardless of layout based on operational e is searoom to accommodate any s including when accounting for LoDs. r still transit through the array site, and arising from LoDs still allow for such transits spacing. Hence the significance of risk ange materially.

ot be expected to lead to a significant cident numbers on the basis of the findings

ot be expected to lead to a change in marine ading to a materially different significance of the findings for other impacts.

ercial vessels will avoid the array site based on operational experience. Minimum smaller vessels will likely still transit through LoD. Hence no new impacts on port access

ercial vessels will avoid the array site in the Minimum spacing is such that smaller I transit through regardless of use of LoD. ce of risk assessed will not change



Impact 6: Reduction in under keel clearance	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No, assuming cables
	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	2. Does the proposed LoD (locational flexibility) introduce a materially different magnitude of impact?	 then there are no new in the height of protection 2. No, assuming cables then there is no materia impact given the risk is which is unaffected by the second se
	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	Offshore Project Components		1. Does the proposed LoD (locational flexibility) introduce new	1. No, assuming cables
interaction with subsea cables	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 	 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? 	 then there are no new in burial risk assessment p cover and / or protection 2. No, assuming cables then there is no materia impact given the mitigat process to implement s protection.
	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.		

les remain within the array site and OECC w impacts given the risk is associated with on which is unaffected by the LoDs.

les remain within the array site and OECC erial change in significance of risk of the is associated with the height of protection by the LoDs.

les remain within the array site and OECC w impacts given the mitigation of a cable nt process to implement suitable depth of tion.

les remain within the array site and OECC rial change in significance of risk of the gation of a cable burial risk assessment t suitable cable depth of cover and / or