

Norfolk Vanguard Offshore Wind Farm

The Applicant

Responses to First

Written

**Appendix 6.1 - Relationship Between
Design Parameters in Draft
Development Consent Order and
Environmental Statement (Q6.6;
Q20.3 and Q24.2)**

Applicant: Norfolk Vanguard Limited
Document Reference: ExA; WQApp6.1; 10.D1.3
Deadline 1

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Photo: Kentish Flats Offshore Wind Farm

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
07/01/19	01D	First draft for Norfolk Vanguard Ltd review	CC	GK	GK
08/01/19	02D	Second draft for Norfolk Vanguard Ltd review	GK	GK	GK
09/01/19	03D	Third draft	GK	GK	GK
14/01/19	04D	Final	GK	JT	RS

1 INTRODUCTION

1. This document provides an overview of the relationship between the maximum design parameters included in the draft Development Consent Order (DCO) and the parameters assessed in the Environmental Statement (ES).
2. The following First Written Questions relate to queries regarding parameters in the DCO and/or the ES:
 - Q6.6: *“Please comment on the concern raised by NE in its RR [RR-106] that some of the volumes and figures presented in the dDCO are not always represented in the ES project description and please provide evidence to demonstrate that the figures as presented in the dDCO have been fully considered.”*
 - Q20.3: *“Comment on the general criticism levelled by Natural England (RR’s Appendix 5) at the volumes and figures presented in the dDCO relative to the content of the Environmental Statement, and the suggestion that the project description should contain tables clearly highlighting all worst case scenarios and reflecting the figures in the DML’s.”*
 - Q24.2: *“Please address the comments raised about discrepancies between dDCO parameters presented in the ES referred to in NE Appendix 5 [RR-106] and the MMO RR [RR-186].”*
3. An overview and comparison of the parameters is outlined in Table 1 below.

2 RELATIONSHIP BETWEEN THE MAXIMUM DESIGN PARAMETERS IN THE DRAFT DCO AND DEEMED MARINE LICENCE(S) (AS SUBMITTED), AND THE ENVIRONMENTAL STATEMENT.

Table 1 Relationship between the maximum design parameters in the draft DCO and Deemed Marine Licence(s) (as submitted), and the Environmental Statement.

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedule 1, Part 3: Requirements		
Schedule 1, Part 3, 2(1)(a)	wind turbine generator must not exceed a height of 350 metres when measured from HAT to the tip of the vertical blade	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. This is used as the worst case scenario in Table 16.6 of Chapter 16 Aviation and Radar.
Schedule 1, Part 3, 2(1)(b)	wind turbine generator must not exceed a height of 200 metres to the height of the centreline of the generator shaft forming part of the hub when measured from HAT	A maximum height of 198.5m is assessed in the ES and this will be revised in the draft DCO at Deadline 2.
Schedule 1, Part 3, 2(1)(c)	wind turbine generator forming part of the authorised project must not exceed a rotor diameter of 303 metres	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description.
Schedule 1, Part 3, 2(1)(d)	wind turbine generator forming part of the authorised project must not be less than 680 metres from the nearest wind turbine generator in either direction perpendicular to the approximate prevailing wind direction (crosswind) or be less than 680 metres from the nearest wind turbine generator in either direction which is in line with the approximate prevailing wind direction (downwind)	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. A minimum spacing of 680m has been used as the worst case scenario for Chapter 8 Marine Geology, Oceanography and Physical Processes, Chapter 14 Commercial Fisheries and Chapter 15 Shipping and Navigation.
Schedule 1, Part 3, 2(1)(e)	wind turbine generator forming part of the authorised project must not have a draught height of less than 22 metres from MHWS	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. A draught height of 22m from MHWS has been used as the worst case scenario for Chapter 15 Shipping and Navigation.

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedule 1, Part 3, 3(1)	The total number of wind turbine generators forming part of the authorised project must not exceed 200	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. The maximum total infrastructure numbers are used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 3(2)	The total number of offshore electrical platforms forming part of the authorised project must not exceed two	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. The maximum total infrastructure numbers are used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 3(3)	The total number of accommodation platforms must not exceed two	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. The maximum total infrastructure numbers are used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 3(4)	The total number of meteorological masts must not exceed two	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description. The maximum total infrastructure numbers are used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 3(5)	The total number of LIDAR measurement buoys must not exceed two and the total number of wave measurement buoys must not exceed two	The maximum wave buoy and LiDAR parameters are outlined in Table 5.19 of Chapter 5 Project Description. The maximum total infrastructure numbers are used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 4(1)	The dimensions of any offshore electrical platforms forming part of the authorised project (excluding towers,	The maximum height is outlined in Table 5.3 of Chapter 5 Project Description.

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
	helipads, masts and cranes) must not exceed 100 metres in height when measured from HAT, 120 metres in length and 80 metres in width	
Schedule 1, Part 3, 4(2)	The dimensions of any accommodation platform forming part of the authorised project (excluding helipads) must not exceed 100 metres in height when measured from HAT, 90 metres in length and 60 metres in width	The maximum height is outlined in Table 5.3 of Chapter 5 Project Description.
Schedule 1, Part 3, 4(3)	Each meteorological mast must not exceed a height of 200 metres above HAT.	The offshore project parameters are outlined in Table 5.3 of Chapter 5 Project Description.
Schedule 1, Part 3, 4(4)	Each meteorological mast must not have more than one supporting foundation	The maximum meteorological mast parameters are outlined in section 5.4.5 and Table 5.18 of Chapter 5 Project Description.
Schedule 1, Part 3, 5(1)	<p>The total length of the cable for Work No 1(e) (array) and the volume of cable protection must not exceed 600 kilometres and 209,000m³</p> <p>The total length of the cable for Work No 3 (interconnector link) and the volume of cable protection must not exceed 150 kilometres and 38,000m³</p> <p>The total length of the cable for Work No 4A and 4B (export cable) and the volume of cable protection must not exceed 400 kilometres and 119,836m³</p>	<p>The maximum cable length parameters are outlined in Table 5.3 of Chapter 5 Project Description and used in the calculations of the worst case scenario in the relevant offshore ES Chapters.</p> <p>It should be noted that the Applicant has committed to the use of HVDC export cables which would be laid in pairs, therefore it is the total length of export cable trenches (i.e. 200km) rather than the total cable length (400km) that has been included in the relevant impact assessments. This is based on 4 cables laid in 2 trenches with an average length of 100km each.</p> <p>Cable protection parameters are given in Table 5.23 of Chapter 5 Project Description and assessed as either volumes or areas (depending on which is the most relevant to the receptor) in the relevant offshore ES chapters where appropriate.</p> <p>It is acknowledged that there is a typographical error in ES Chapter 5 paragraph 225 which includes an incorrect length of unburied export cable as identified in response to Q6.11. The</p>

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		correct parameters are provided in Table 5.23 of Chapter 5 Project Description and assessed in the relevant ES Chapters.
Schedule 1, Part 3, 6(1)(a)	In relation to a wind turbine generator, each foundation using piles must not have more than four driven piles	Section 5.4.3 of Chapter 5 Project Description describes the types of piles considered for wind turbine foundations. The maximum number of driven piles considered per foundation is four based on the quadropod foundation. This has been assessed in Chapter 12 Marine Mammals, as outlined in Table 12.24.
Schedule 1, Part 3, 6(1)(b)	In relation to a wind turbine generator, each foundation using piles must not have in the case of single pile structures, a pile diameter which is more than 15 metres	Table 5.10 of Chapter 5 Project Description outlines the maximum wind turbine foundation monopile parameters. This has been assessed in Chapter 12 Marine Mammals, as outlined in Table 12.24.
Schedule 1, Part 3, 6(1)(c)	In relation to a wind turbine generator, each foundation using piles must not have in the case of two or more pile structures, have a pile diameter which is more than five metres	Table 5.9 of Chapter 5 Project Description outlines the maximum wind turbine foundation pin-pile parameters. This has been assessed in Chapter 12 Marine Mammals, as outlined in Table 12.24.
Schedule 1, Part 3, 6(2)(a)	In relation to a wind turbine generator, each floating foundation must not have a diameter at the sea surface which is greater than 70 metres	Table 5.14 of Chapter 5 Project Description outlines the maximum parameters for floating wind turbine foundations. This maximum is used in the calculations of the maximum footprint for worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 6(2)(b)	In relation to a wind turbine generator, each floating foundation must not have more than 12 anchor lines	Table 5.14 of Chapter 5 Project Description outlines the maximum parameters for floating wind turbine foundations. This has been assessed in Chapter 12 Marine Mammals, as outlined in Table 12.24 and Chapter 14 Commercial Fisheries (Table 14.16)

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedule 1, Part 3, 6(2)(c)	In relation to a wind turbine generator, each floating foundation must not have more than four anchors	Table 5.14 of Chapter 5 Project Description outlines the maximum parameters for floating wind turbine foundations. This has been assessed in Chapter 12 Marine Mammals in relation to piled anchors, as outlined in Table 12.24.
Schedule 1, Part 3, 6(2)(d)	In relation to a wind turbine generator, each floating foundation must not have draught clearance of less than four metres	Chapter 15 Shipping and Navigation, Section 15.7.1 Embedded Mitigation includes ensuring foundation do not impact on vessels transiting within the array (under keel clearance issues), including a minimum of 4m under keel clearance.
Schedule 1, Part 3, 6(2)(e)	In relation to a wind turbine generator, each floating foundation must not have an angle of greater than 30° between the mooring line and the vertical	Table 5.14 of Chapter 5 Project Description outlines the maximum parameters for floating wind turbine foundations. This has been assessed in Chapter 12 Marine Mammals, Chapter 14 Commercial Fisheries and Chapter 15 Shipping and Navigation.
Schedule 1, Part 3, 6(3)	In relation to a wind turbine generator, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 4,900 m ²	Tables 5.9, 5.10, 5.11, 5.12, 5.13 and 5.14 of Chapter 5 Project Description outline the maximum parameters for each type of wind turbine foundation considered in the application. The maximum footprint is based on the floating foundation (ES Chapter 5, Table 5.14). This has been assessed in chapters where the largest (20MW) turbines are considered the worst case scenario, including Chapter 10 Benthic and Intertidal Ecology and Chapter 11 Fish and Shellfish Ecology. It should be noted that the worst case scenario seabed footprints consider the area of foundations and scour protection combined to provide a conservative worst case scenario.
Schedule 1, Part 3, 7(1)(a)	In relation to a meteorological mast, each foundation using piles must not have more than four driven piles	Table 5.18 of Chapter 5 Project Description outlines the maximum parameters for meteorological mast foundations.

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		This maximum is used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 7(1)(b)	In relation to a meteorological mast, each foundation using piles must not have in the case of single pile structures, a pile diameter which is more than 10 metres	<p>This parameter is not explicitly stated in the ES. Reference to the monopile foundation option is included in ES Chapter 5, Table 5.3. Other options include suction caisson monopile; piled tripod or quadropod; suction caisson tripod or quadropod; Gravity Base System (GBS); and Tension leg floating.</p> <p>The maximum seabed footprint based on GBS (as outlined below) is assessed in the relevant ES Chapters.</p> <p>Chapter 12 Marine Mammals includes the piled quadropod as the worst case scenario for the maximum number of piles (as outlined in Table 12.24).</p> <p>While the monopile foundation option is the worst case scenario for underwater noise impacts at any one time, the underwater noise modelling uses 15m diameter monopiles as the overall worst case scenario, based on the maximum diameter of wind turbine generator monopile foundations. This provides a conservative approach which encompasses the worst case scenario for met masts of 10m diameter.</p>
Schedule 1, Part 3, 7(1)(c)	In relation to a meteorological mast, each foundation using piles must not have in the case of two or more pile structures, have a pile diameter which is more than three metres	As outlined above, Chapter 12 Marine Mammals includes the piled quadropod as the worst case scenario for the maximum number of piles (as outlined in Table 12.24). The underwater noise modelling uses 5m diameter pin-piles as the overall worst case scenario, based on the maximum diameter of wind turbine generator pin-pile foundations. This provides a conservative approach which encompasses the worst case scenario for met masts of 3m diameter.

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedule 1, Part 3, 7(2)	In relation to a meteorological mast, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 314 m ²	<p>Table 5.18 of Chapter 5 Project Description outlines the maximum seabed footprint for meteorological mast foundations based on the gravity base option with a maximum 20m diameter.</p> <p>This maximum is used in the calculations of the maximum footprint including scour protection for worst case scenarios in ES Chapters 8 to 18 where relevant.</p> <p>It should be noted that the worst case scenario seabed footprints consider the area of foundations and scour protection combined to provide a conservative worst case scenario.</p>
Schedule 1, Part 3, 8(1)(a)	In relation to an offshore electrical platform, each foundation using piles must not have more than six driven piles	<p>Table 5.15 of Chapter 5 Project Description outlines the maximum parameters for offshore electrical platform foundations.</p> <p>This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant.</p> <p>It should be noted that a Change Report (document reference "Pre-ExA_Change Report_9.3") was submitted to the Planning Inspectorate on the 12th December 2018 which proposes an increase from six to 18 driven piles per offshore electrical platform and confirms that this change would have no implications on the conclusion of the ES. If the Change Report is accepted, this parameter will be updated in the draft DCO.</p>
Schedule 1, Part 3, 8(1)(b)	In relation to an offshore electrical platform, each foundation using piles must not have in the case of two or more pile structures, have a pile diameter which is more than three metres	<p>Table 5.15 of Chapter 5 Project Description outlines the maximum parameters for offshore electrical platform foundations.</p> <p>This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant.</p>

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		<p>It should be noted that a Change Report (document reference “Pre-ExA_Change Report_9.3”) was submitted to the Planning Inspectorate on the 12th December 2018 which proposes an increase from 3m to 5m piles for the offshore electrical platform and confirms that this change would have no implications on the conclusion of the ES. If the Change Report is accepted, this parameter will be updated in the draft DCO.</p>
Schedule 1, Part 3, 8(2)	<p>In relation to an offshore electrical platform, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 7,500 m²</p>	<p>Table 5.15 of Chapter 5 Project Description outlines the maximum parameters for offshore electrical platform foundations.</p> <p>This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant. It should be noted that the worst case scenario seabed footprints consider the area of foundations and scour protection combined to provide a conservative worst case scenario.</p>
Schedule 1, Part 3, 9(1)(a)	<p>In relation to any accommodation platform, each foundation using piles must not have more than six driven piles</p>	<p>Table 5.15 of Chapter 5 Project Description outlines the maximum parameters for offshore electrical platform foundations.</p> <p>This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant.</p> <p>It should be noted that the worst case scenario seabed footprints consider the area of foundations and scour protection combined to provide a conservative worst case scenario.</p>
Schedule 1, Part 3, 9(1)(b)	<p>In relation to any accommodation platform, each foundation using piles must not have in the case of two or more pile structures, have a pile diameter which is more than three metres</p>	<p>Accommodation platforms would require a foundation structure similar to that of the offshore electrical platforms. Table 5.15 of Chapter 5 Project Description outlines the maximum parameters for offshore electrical platform foundations.</p>

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 9(2)	In relation to an accommodation platform, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 7,500m ²	Table 5.15 of Chapter 5 Project Description outlines the maximum parameters for offshore electrical platform foundations. This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant.
Schedule 1, Part 3, 10(1)	In relation to any LIDAR measurement buoys, each foundation using piles must not have a pile diameter of greater than 10 metres	Table 5.6 of Chapter 5 Project Description includes the maximum seabed footprint of 157m ² for 2 Lidar piles. This is based on two LiDAR of 10m diameter. This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant. It is acknowledged that Table 5.19 of ES Chapter 5 provides incorrect values. The correct parameters are provided in Table 5.6 of Chapter 5 Project Description and assessed in the relevant ES Chapters.
Schedule 1, Part 3, 10(2)	In relation to any LIDAR measurement buoys, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 157 m ² .	Table 5.6 of Chapter 5 Project Description includes the maximum seabed footprint of LiDAR. This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant. It is acknowledged that Table 5.19 of ES Chapter 5 provides incorrect values. The correct parameters are provided in Table 5.6 of Chapter 5 Project Description and assessed in the relevant ES Chapters.
Schedule 1, Part 3, 10(3)	In relation to any wave measurement buoys, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 300 m ²	Table 5.6 of Chapter 5 Project Description includes the maximum seabed footprint of 150m ² per wave measurement buoy (300m ² in total for two buoys).

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		<p>This maximum parameter is used in the calculations of the worst case scenarios in ES Chapters 8 to 18 where relevant.</p> <p>It is acknowledged that the DCO includes 300m² per wave measurement buoy, this will be revised in the updated DCO submitted at Deadline 2.</p>
Schedule 1, Part 3, 11	The total amount of scour protection for the wind turbine generators, accommodation platform, meteorological masts, offshore electrical platforms and LIDAR measurement buoys forming part of the authorised project must not exceed 53,195,398 m ³	<p>The ES considers scour protection and foundation structures combined in order to provide a conservative and meaningful assessment (i.e. scour protection would never be installed in the absence of the foundation structure).</p> <p>The volume of scour protection included within the DCO represents the total area of foundations with scour protection minus the area of foundations excluding scour. The volume is based on a conservative assumption of 5m height of scour protection.</p>
Schedules 9 and 10 (Generation DMLs), Part 4: Conditions		
Schedules 9 and 10, Part 4, 1(1)(a)	Subject to paragraph (2), each wind turbine generator forming part of the authorised scheme must not exceed a height of 350 metres when measured from HAT to the tip of the vertical blade	As per Schedule 1, Part 3, 2(1)(a).
Schedules 9 and 10, Part 4, 1(1)(b)	Subject to paragraph (2), each wind turbine generator forming part of the authorised scheme must not exceed a height of 200 metres to the height of the centreline of the generator shaft forming part of the hub when measured from HAT	As per Schedule 1, Part 3, 2(1)(b) and, as noted above, this maximum height will be changed to 198.5m in the draft DCO to be submitted at Deadline 2.
Schedules 9 and 10, Part 4, 1(1)(c)	Subject to paragraph (2), each wind turbine generator forming part of the authorised scheme must not exceed a rotor diameter of 303 metres	As per Schedule 1, Part 3, 2(1)(c).

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedules 9 and 10, Part 4, 1(1)(d)	Subject to paragraph (2), each wind turbine generator forming part of the authorised scheme must not be less than 680 metres from the nearest wind turbine generator in either direction perpendicular to the approximate prevailing wind direction (crosswind) or be less than 680 metres from the nearest wind turbine generator in either direction which is in line with the approximate prevailing wind direction (downwind)	As per Schedule 1, Part 3, 2(1)(d)
Schedules 9 and 10, Part 4, 1(1)(e)	Subject to paragraph (2), each wind turbine generator forming part of the authorised scheme must not have a draught height of less than 22 metres from MHWS	As per Schedule 1, Part 3, 2(1)(e)
Schedules 9 and 10, Part 4, 2(1)	The dimensions of any accommodation platform forming part of the authorised scheme must not exceed 100 metres in height when measured from HAT, 90 metres in length and 60 metres in width	As per Schedule 1, Part 3, 4(1)
Schedules 9 and 10, Part 4, 2(2)	Each meteorological mast must not exceed a height of 200 metres above HAT.	As per Schedule 1, Part 3, 4(3).
Schedules 9 and 10, Part 4, 2(3)	Each meteorological mast must not have more than one supporting foundation.	As per Schedule 1, Part 3, 4(4)
Schedules 9 and 10, Part 4, 3	The total length of the cables for Work No 1 (e) (array) and the volume of their cable protection must not exceed 600 kilometres and 209,000m ³	The maximum cable length parameters are outlined in Table 5.3 of Chapter 5 Project Description and assessed in the offshore ES Chapters 8 to 18. Cable protection parameters are given in Table 5.23 of Chapter 5 Project Description and assessed as either volumes or areas (depending on which is the most relevant to the receptor) in the offshore ES chapters (Chapters 8 to 18) where relevant.
Schedules 9 and 10, Part 4, 4(1)(a)	In relation to a wind turbine generator, each foundation using piles must not have more than four driven piles	As per Schedule 1, Part 3, 6(1)(a)

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedules 9 and 10, Part 4, 4(1)(b)	In relation to a wind turbine generator, each foundation using piles must not have in the case of single pile structures, a pile diameter which is more than 15 metres	As per Schedule 1, Part 3, 6(1)(b)
Schedules 9 and 10, Part 4, 4(1)(c)	In relation to a wind turbine generator, each foundation using piles must not have in the case of two or more pile structures, have a pile diameter which is more than five metres	As per Schedule 1, Part 3, 6(1)(c)
Schedules 9 and 10, Part 4, 4(2)(a)	In relation to a wind turbine generator, each floating foundation must not have a diameter at the sea surface which is greater than 70 metres	As per Schedule 1, Part 3, 6(2)(a)
Schedules 9 and 10, Part 4, 4(2)(b)	In relation to a wind turbine generator, each floating foundation must not have more than 12 anchor lines	As per Schedule 1, Part 3, 6(2)(b)
Schedules 9 and 10, Part 4, 4(2)(c)	In relation to a wind turbine generator, each floating foundation must not have more than four anchors	As per Schedule 1, Part 3, 6(2)(c)
Schedules 9 and 10, Part 4, 4(2)(d)	In relation to a wind turbine generator, each floating foundation must not have draught clearance of less than four metres	As per Schedule 1, Part 3, 6(2)(d)
Schedules 9 and 10, Part 4, 4(2)(e)	In relation to a wind turbine generator, each floating foundation must not have an angle of mooring lines greater than 30° between the mooring line and the vertical	As per Schedule 1, Part 3, 6(2)(e)
Schedules 9 and 10, Part 4, 4(3)	In relation to a wind turbine generator, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 4,900 m ²	As per Schedule 1, Part 3, 6(3)
Schedules 9 and 10, Part 4, 5(1)(a)	In relation to a meteorological mast, each foundation using piles must not have more than four driven piles	As per Schedule 1, Part 3, 7(1)(a)

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedules 9 and 10, Part 4, 5(1)(b)	In relation to a meteorological mast, each foundation using piles must not have in the case of single pile structures, a pile diameter which is more than 10 metres	As per Schedule 1, Part 3, 7(1)(b)
Schedules 9 and 10, Part 4, 5(1)(c)	In relation to a meteorological mast, each foundation using piles must not have in the case of two or more pile structures, have a pile diameter which is more than three metres	As per Schedule 1, Part 3, 7(1)(c)
Schedules 9 and 10, Part 4, 5(2)	In relation to a meteorological mast, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 314 m ²	As per Schedule 1, Part 3, 7(2)
Schedules 9 and 10, Part 4, 6(1)(a)	In relation to an accommodation platform, each foundation using piles must not have more than six driven piles	As per Schedule 1, Part 3, 9(1)(a)
Schedules 9 and 10, Part 4, 6(1)(b)	In relation to an accommodation platform, each foundation using piles must not have a pile diameter which is more than three metres	As per Schedule 1, Part 3, 9(1)(b)
Schedules 9 and 10, Part 4, 6(2)	In relation to an accommodation platform, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 7,500 m ² .	As per Schedule 1, Part 3, 9(2)
Schedules 9 and 10, Part 4, 7(1)	In relation to any LIDAR measurement buoys, each foundation using piles must not have a pile diameter of greater than 10 metres	As per Schedule 1, Part 3, 10(1)
Schedules 9 and 10, Part 4, 7(2)	In relation to any LIDAR measurement buoys, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 157 m ²	As per Schedule 1, Part 3, 10(2)

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedules 9 and 10, Part 4, 7(3)	In relation to any wave measurement buoys, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 300 m ² .	As per Schedule 1, Part 3, 10(3)
Schedules 9 and 10, Part 4, 8(1)(b)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total number of wind turbine generators forming part of the authorised scheme must not exceed 200	As per Schedule 1, Part 3, 3(1)
Schedules 9 and 10, Part 4, 8(1)(c)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total number of accommodation platforms forming part of the authorised scheme must not exceed two	As per Schedule 1, Part 3, 3(3)
Schedules 9 and 10, Part 4, 8(1)(d)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total number of meteorological masts forming part of the authorised scheme must not exceed two	As per Schedule 1, Part 3, 3(4)
Schedules 9 and 10, Part 4, 8(1)(e)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total number of LIDAR measurement buoys forming part of the authorised scheme must not exceed two	As per Schedule 1, Part 3, 3(5)
Schedules 9 and 10, Part 4, 8(1)(f)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total number of wave measurement buoys forming part of the authorised scheme must not exceed two	As per Schedule 1, Part 3, 3(5)
Schedules 9 and 10, Part 4, 8(1)(g)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total amount of scour protection for the wind turbine generators, accommodation platform, meteorological masts and measurement buoys forming part of the authorised scheme must not exceed 53,195,398m ³	<p>The ES considers scour protection and foundation structures combined in order to provide a conservative and meaningful assessment (i.e. scour protection would never be installed in the absence of the foundation structure).</p> <p>The volume of scour protection included within the DCO represents the total area of foundations with scour protection</p>

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		<p>minus the area of foundations excluding scour. The volume is based on a conservative assumption of 5m height of scour protection.</p> <p>The maximum volume of scour protection should be 53,095,398m³ for the generation assets. The draft DCO will be updated and submitted at Deadline 2.</p>
Schedules 9 and 10, Part 4, 8(1)(h)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (generation) the total amount of inert material of natural origin disposed within the offshore Order limits as part of the authorised scheme must not exceed 39,732,566.37m ³	The total volume of sediment disposal has been assessed in the ES (e.g. ES Chapter 10 Benthic Ecology, Table 10.12). This includes 50,607,566m ³ disposal in the offshore wind farm sites and 600,000m ³ disposal in the offshore cable corridor, totalling 51,207,566m ³ . 39,732,566m ³ reflects the disposal volumes associated with the generation assets.
Schedules 11 and 12 (Transmission DMLs), Part 4: Conditions		
Schedules 11 and 12, Part 4, 1(1)	The dimensions of any offshore electrical platform forming part of the authorised scheme (excluding towers, helipads, masts and cranes) must not exceed 100 metres in height when measured from HAT, 120 metres in length and 80 metres in width	As per Schedule 1, Part 3, 4(1)
Schedules 11 and 12, Part 4, 1(2)(a)	In relation to an offshore electrical platform, each foundation using piles must not have more than six driven piles	<p>As per Schedule 1, Part 3, 8(1)(a)</p> <p>A Change Report (document reference "Pre-ExA_Change Report_9.3") was submitted to the Planning Inspectorate on the 12th December 2018 which proposes an increase from six to 18 driven piles per offshore electrical platform and confirms that this change would have no implications on the conclusion of the ES. If the Change Report is accepted, this parameter will be updated in the draft DCO.</p>

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
Schedules 11 and 12, Part 4, 1(2)(b)	In relation to an offshore electrical platform, each foundation using piles must not have a pile diameter which is more than three metres	As per Schedule 1, Part 3, 8(1)(b) A Change Report (document reference "Pre-ExA_Change Report_9.3") was submitted to the Planning Inspectorate on the 12 th December 2018 which proposes an increase from 3m to 5m piles for the offshore electrical platform and confirms that this change would have no implications on the conclusion of the ES. If the Change Report is accepted, this parameter will be updated in the draft DCO.
Schedules 11 and 12, Part 4, 1(2)(c)	In relation to an offshore electrical platform, each foundation must not have a seabed footprint area (excluding scour protection) of greater than 7,500 m ² .	As per Schedule 1, Part 3, 9(2)
Schedules 11 and 12, Part 4, 2	The total length of the Work No.3 (interconnector link) cables and the volume of their cable protection must not exceed 150 kilometres and 38,000m ³ The total length of the Work No.4A and 4B (export cable) cables and the volume of their cable protection must not exceed 400 kilometres and 119,836m ³	The maximum cable length parameters are outlined in Table 5.3 of Chapter 5 Project Description and used in the calculations of the worst case scenario in the relevant offshore ES Chapters. It should be noted that the Applicant has committed to the use of HVDC export cables which would be laid in pairs, therefore it is the total length of export cable trenches (i.e. 200km) rather than the total cable length (400km) that has been included in the relevant impact assessments. This is based on 4 cables laid in 2 trenches with an average length of 100km each. Cable protection parameters are given in Table 5.23 of Chapter 5 Project Description and assessed as either volumes or areas (depending on which is the most relevant to the receptor) in the relevant offshore ES chapters where relevant. It is acknowledged that there is a typing error in ES Chapter 5 paragraph 225 which includes an incorrect length of unburied export cable as identified in response to Q6.11. The correct

Reference Draft DCO or Deemed Marine Licence (as submitted)	Description of parameter in draft DCO or Deemed Marine Licence (as submitted)	Reference to the Environmental Statement
		parameters are provided in Table 5.23 of Chapter 5 Project Description and assessed in the relevant ES Chapters.
Schedules 11 and 12, Part 4, 3(1)(a)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (transmission) the total number of offshore electrical platforms forming part of the authorised scheme must not exceed two	As per Schedule 1, Part 3, 3(2)
Schedules 11 and 12, Part 4, 3(1)(b)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (transmission) the total amount of scour protection for the offshore electrical platforms forming part of the authorised scheme must not exceed 100,000 m ³	<p>This has been calculated using the following:</p> <ul style="list-style-type: none"> • Maximum number of offshore electrical platforms (2): Table 5.3 of Chapter 5 Project Description; • Maximum depth of scour protection of 5m; and • Area of scour protection per platform using maximum area of scour protection (including foundation footprint) (17,500m²) minus foundation footprint (7,500m²): Table 5.15 of Chapter 5 Project Description. <p>The maximum total infrastructure numbers are used in the calculations of worst case scenarios in ES Chapters 8 to 18 where relevant.</p>
Schedules 11 and 12, Part 4, 3(1)(c)	Taken together with works authorised and proposed to be constructed pursuant to licence 2 (transmission) the total amount of inert material of natural origin disposed within the offshore Order limits as part of the authorised scheme must not exceed 11,475,000 m ³ .	The total volume of sediment disposal has been assessed in the ES (e.g. ES Chapter 10 Benthic Ecology, Table 10.12). This includes 50,607,566m ³ disposal in the offshore wind farm sites and 600,000m ³ disposal in the offshore cable corridor, totalling 51,207,566m ³ . 11,475,000m ³ reflects the disposal volumes associated with the transmission assets.