

Norfolk Vanguard Offshore Wind Farm

Explanatory

Memorandum

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Norfolk Vanguard Limited

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THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (APPLICATIONS: PRESCRIBED FORMS AND PROCEDURE) REGULATIONS 2009 REGULATION 5(2)(c)

THE PROPOSED NORFOLK VANGUARD OFFSHORE WIND FARM ORDER

EXPLANATORY MEMORANDUM

1 Introduction

- 1.1 This memorandum accompanies an application for development consent (the **Application**) by Norfolk Vanguard Limited (the **Applicant**) to construct and operate the Norfolk Vanguard Offshore Wind Farm (the **Project**). The memorandum explains the purpose and effect of each article of, and Schedule to, the draft Norfolk Vanguard Offshore Wind Farm Order (the **Order**), as required by Regulation 5(2)(c) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.
- 1.2 Notwithstanding its repeal, the wording used in the draft Order has been derived from the Infrastructure Planning (Model Provisions) (England and Wales) Order 2009. In some cases, the draft Order draws from the drafting used in Orders for similar developments made under the Planning Act 2008 (the **2008 Act**), the Transport and Works Act 1992 and other Acts authorising development. A table has been included at Schedule 1 to summarise the basis of the drafting used in the case of each Article of the draft DCO. A comparison of the Articles of the draft Order with the Articles of the Model Provisions is also attached at Schedule 4.
- 1.3 A detailed explanation of the authorised development is set out in the Project Description chapter (chapter 5) of the Environmental Statement (Document 6.1) which accompanies the Application.
- 1.4 As the Order seeks to apply and modify statutory provisions, including concerning the compulsory acquisition of land and the treatment of certain requirements as planning conditions, in accordance with sections 117(4) and 120(5) of the Planning Act 2008 (**2008 Act**), it has been drafted as a statutory instrument.

2 The purpose of the Order

- 2.1 In overview, the purpose of the Order is to grant the Applicant development consent for a Nationally Significant Infrastructure Project (**NSIP**), namely:
 - 2.1.1 An offshore generating station with an electrical export capacity of up to 1,800 MW at the point of connection to the offshore electrical platform(s) to be located more than 47 km from the coast of Norfolk, occupying an offshore array site of approximately 592 km² over two distinct areas, Norfolk Vanguard East and Norfolk Vanguard West;
 - 2.1.2 Up to two accommodation platforms;

- 2.1.3 Up to two meteorological masts;
- 2.1.4 Up to two LIDAR buoys and up to two wave buoys; and
- 2.1.5 A network of subsea cables.
- 2.2 The Order also includes associated development linked to the NSIP, namely:
 - 2.2.1 Up to two offshore electrical platforms;
 - 2.2.2 A subsea electrical connection and associated fibre optic cables between the offshore electrical platforms, and from those electrical platforms to a landfall at Happisburgh South, North Norfolk;
 - 2.2.3 An underground electrical connection comprising up to four cables installed in ducts and four additional cable ducts to accommodate Norfolk Boreas, together with associated fibre optic cables;
 - 2.2.4 A new onshore project substation housing the principal electrical equipment, located adjacent to the existing National Grid substation at Necton, Norfolk;
 - 2.2.5 An underground electrical connection and associated fibre optic cables between the new onshore project substation and the existing National Grid substation;
 - 2.2.6 An extension to the existing National Grid substation to accommodate the Norfolk Vanguard connection points;
 - 2.2.7 Overhead line replacement works; and
 - 2.2.8 Creation of permanent accesses from the A47 to the new onshore project substation and the extended National Grid substation.
- 2.3 The Order also contains four deemed marine licences under section 66(1) of the Marine and Coastal Access Act 2009 (the **2009 Act**). In addition, the Order contains powers to acquire land, or rights over land, compulsorily for the construction and operation of the Project.
- 3 **Nationally Significant Infrastructure Project – offshore generating station**
 - 3.1 Pursuant to sections 14(1)(a) and 15(3) of the 2008 Act, an offshore generating station in England or Wales having a capacity of more than 100 MW is an NSIP.
 - 3.2 Section 31 of the 2008 Act provides that development consent is required under that Act to the extent that a development is or forms part of an NSIP. As the proposed generating station is proposed to have an electrical export capacity of up to 1,800 MW it qualifies as an NSIP in its own right.
 - 3.3 The detailed elements which comprise the generating station, and its associated development, are considered separately below.
- 4 **The need for flexibility in the Order**
 - Phasing
 - 4.1 Flexibility is sought in relation to phasing for the construction of the Project. The Applicant is considering constructing the Project in either one or two phases, with a maximum electrical export capacity of 1,800 MW.
 - 4.2 The Environmental Statement has assessed the worst case parameters from the phasing of construction on a case-by-case basis. The Order has therefore been drafted to reflect this approach, particularly with regard to maximum parameters and, for the offshore works, the structure of the deemed marine licences (**DMLs**). Implications of phasing on the drafting of the Order are considered further below.
 - Structure of deemed marine licences
 - 4.3 As drafted, the Marine and Coastal Access Act 2009 suggests that while a marine licence may be transferred in whole, it may not be transferred in part (or at least the drafting did not

anticipate this). In light of this, the Applicant's proposed approach is to include separate generation and transmission DMLs. This will allow for the separate transfer of the transmission assets within the transmission DMLs to an Offshore Transmission Owner (**OFTO**) under The Electricity (Competitive Tenders for Offshore Transmission Licences) Regulations 2010 (SI 2010/1903). The generation assets within the generation DMLs can then be retained by the undertaker for generation.

- 4.4 This approach has been adopted on a number of offshore wind farms consented under the 2008 Act, and most recently in the East Anglia THREE offshore wind farm. As with East Anglia THREE, the number of generation and transmission DMLs are relevant to the number of phases in which the Project may be constructed. For example, if the Project is constructed in two phases, two separate transmission DMLs can be used to enable the transmission assets for each phase to be transferred separately to an OFTO at different points in time and, if relevant, to different OFTOs.
- 4.5 It is not yet known how the phases will be constructed in terms of export capacity. The drafting approach used allows for flexibility whilst also restricting what can be constructed to what has been assessed in the Environmental Statement. For example, the drafting permits the Applicant to install:
- 4.5.1 A single phase with an export capacity of 1,800 MW. In this case only one generation DML and one transmission DML would be used under the Order; or
- 4.5.2 Two phases with a maximum export capacity of 1,800MW which, for example, may be comprised as two phases with an export capacity of 900MW each or two phases with an export capacity of 1,200 MW and 600MW respectively. In this case both sets of generation and transmission DMLs would be used under the Order. The DMLs are not prescriptive as to the amount of export capacity which must be brought forward under each phase, provided that the total export capacity does not exceed 1,800MW and the maximum parameters across both sets of DMLs (as assessed in the Environmental Statement) are not exceeded.
- 4.6 The DMLs also include a notification procedure to ensure that the Marine Management Organisation (**MMO**) is informed prior to commencement of construction as to whether a single phase or a two phase approach will be followed.
- 4.7 The approach has therefore provided for up to four separate DMLs as follows:
- 4.7.1 Licence 1 – generation assets (Phase 1)
- 4.7.2 Licence 2 – generation assets (Phase 2)
- 4.7.3 Licence 1 – transmission assets (Phase 1)
- 4.7.4 Licence 2 – transmission assets (Phase 2).
- 4.8 Using this approach, it is possible to implement the development in one or two phases and to allow the transfer of the DMLs for each phase and type of asset (i.e. generation or transmission) to separate companies if necessary.
- 4.9 The table provided at Schedule 2 highlights the differences between the conditions in Part 4 of the two sets of generation and transmission DMLs.

Phasing of onshore construction works

- 4.10 Onshore construction works will be undertaken in one continuous construction period but will be phased to allow for the laying of ducts separately to the pull through of cables and the construction of the onshore project substation. A single phase of duct installation works is proposed irrespective of the approach to offshore phasing. However, phasing for the pulling of cables through the ducts and construction of the onshore project substation will be determined by the number of offshore phases taken forward. If one offshore phase is taken forward there will be a single phase of works to pull the cables through the ducts and a single phase of works to construct the onshore project substation. If two offshore phases are

undertaken, the cables will be pulled through the ducts in two separate phases and the onshore project substation will be constructed in two separate phases. The approach to phasing of construction works is set out more fully in the Project Description chapter (Chapter 5) of the Environmental Statement (document 6.1).

Offshore flexibility

- 4.11 The Order defines the generating station in paragraph 1 of Schedule 1, Part 1 (*Authorised development*). It is limited by the 1,800 MW electrical export capacity, which is expressed to be a maximum i.e. "up to 1,800 MW", and will be measured at the point of connection to the offshore electrical platform(s).
- 4.12 The constituent elements of the generating station are specified in Work No. 1, together with offshore associated development in Work Nos. 2 to 4A which are expressly limited to the Order Limits seaward of Mean Low Water Springs (**MLWS**). Work No. 4B covers the intertidal area and Works Nos. 4C to 12 specify the onshore associated development linked to the NSIP within the Order Limits landward of Mean High Water Springs (**MHWS**). Part 2 of Schedule 1 specifies the ancillary works. Work No. 4 has been split into three separate works (Work Nos. 4A, 4B and 4C). This enables the separation of Works within the MMO and North Norfolk District Council's jurisdiction. For instance, Work No. 4A falls solely within the jurisdiction of the MMO and Work No. 4C falls solely within the jurisdiction of North Norfolk District Council. Work No 4B relates to the intertidal area where both the MMO and North Norfolk District Council have jurisdiction.
- 4.13 Within the Order, flexibility has been provided in relation to the generating station and linked associated development, and in the view of the Applicant this flexibility, which has previously been critical to the development of offshore wind farms in the UK, is fundamental to whether the Order is fit for purpose.
- 4.14 The reasons for this principally relate to the need to manage and drive down the cost of offshore wind developments to justify equity investment and access debt funding in a competitive international market. This includes the need to maintain competitive tension in the procurement process driving down costs; the need to take advantage of new technology developments and emerging products in the market for offshore wind turbine generators and other equipment; and the need to drive down the cost of energy for the purposes of tendering for Contracts for Difference.
- 4.15 The final design of a wind farm depends on a number of factors which include the size, height and capacity of the chosen turbine type; electrical design; length of cables; areas where development is constrained; the outcomes of site investigations, and ongoing wind monitoring results. All these are considered post-consent at the stage of detailed design and optimisation when the final number and type of turbines and their location will be decided as a function of site constraints and viable layout. This final design will be approved under the provisions of the deemed marine licences.

Onshore flexibility

- 4.16 Similar flexibility is required for the onshore elements of the development. With regard to the onshore project substation, the optimal design will be determined through the contracting process. Each tenderer will offer different technologies, designs and layouts for the onshore project substation within the parameters of any consent obtained, which enables the optimal design solution to be chosen. Final detailed design of the onshore project substation will be agreed after the appointment of a contractor.
- 4.17 As a result, flexibility within the Order, both onshore and offshore, is needed to optimise the Project in the light of variable costs and supply chain availability; to accommodate technology development in turbines and other equipment; and to allow for optimal detailed design and procurement within the parameters of consents.

Policy support for flexibility

- 4.18 The use of flexibility in project details within an Order is expressly endorsed by National Policy Statements EN-1 (at paragraphs 4.2.7 to 4.2.10) and EN-3 (at paragraphs 2.6.42 to 2.6.45), provided the resulting variables are fully assessed in terms of worst case effects. Paragraph 4.2.9 of EN-1 explains that where flexibility is sought, it will be necessary to include appropriate requirements within the Order to ensure that the Project "envelope" is limited to that which has been assessed in the Environmental Statement.
- 4.19 This approach, known as the "Rochdale Envelope", has been followed numerous times in relation to large scale offshore wind farms consented under section 36 of the Electricity Act 1989 and the 2008 Act, and it is an approach which is well known and adopted by statutory consultees. Relevant statutory consultees have all been made aware of the parameters used in the Environmental Impact Assessment (EIA) and the Order.

Parameters in the Order

- 4.20 The overall result of the wording in Part 1 of Schedule 1 (i.e. paragraph 1 and Work Nos. 1, 2 3 and 4A) and Requirement 2 (*Detailed offshore design parameters*) in Part 3 is to allow similar flexibility in the Order as in previous consents. In particular, the undertaker will have freedom, within the specified parameters, as to the number of wind turbines installed, the size of turbines, the resulting electrical export capacity of the generating station up to 1,800 MW, the extent to which the area within the Order limits is used, the precise layout of turbines, accommodation platforms, meteorological masts, offshore electrical platforms and the arrangement of cabling between the turbines, accommodation platforms, meteorological masts and offshore electrical platforms. The undertaker will also have significant flexibility with regard to the configuration and specification of the HVDC export infrastructure.
- 4.21 The Planning Inspectorate (PINS) has issued an Advice Note (Advice Note 9) which suggests (page 10) that a practical way forward in the use of the Rochdale Envelope would be for the Order application to "set out specified maximum and minimum" parameters, and gives possible examples, for offshore wind farms, of maximum/minimum turbine numbers; hub height and blade tip heights; minimum clearance above mean sea level; and separation distances between turbines. While these examples are not intended to be exhaustive for use by promoters, many of the fundamental parameters which define the majority of likely significant effects are included in the Advice Note, and each is considered further below, with reasoning provided for including, or not including, each parameter within the Order, or including parameters which are not included in the Advice Note.
- 4.22 The parameters included in the Order are set out in the Appendix to this Explanatory Memorandum for ease of reference.

Maximum capacity and maximum number of turbines

- 4.23 The total capacity of an offshore wind project, together with its project boundary, is an important defining characteristic. The maximum electrical export capacity of the Project is 1,800 MW measured at the point of connection to the offshore electrical platform(s). Export capacity at the point of connection, rather than capacity of the wind turbine generators, has been used in the description of the authorised development in the Order to allow for internal cable losses and potential turbine non-availability at the wind farm array. The total export capacity comprises the over-arching project description, and all other parameters are in effect subordinate to that description. It controls the maximum number of turbines that can be installed at any given turbine capacity, with an absolute maximum number of turbines for the Project set at 180.

Minimum number of turbines

- 4.24 Advice Note 9 suggests a minimum number of turbines should be specified. It is not considered that this would be a workable or appropriate parameter for the Applicant.
- 4.25 It is not necessary to impose a minimum to ensure that the project exceeds the NSIP threshold of 100 MW as that threshold turns on what the capacity of the scheme is expected to be at the point of application and consent. This is not in doubt – the expected electrical export capacity is 1,800 MW. While a lower figure may in fact be constructed once the turbine

size/capacity has been decided and the scheme design optimised after the grant of consent, there is no reasonable basis to expect that the capacity constructed would be less than 100 MW.

- 4.26 Whether setting a minimum number of turbines as a parameter would either be reasonable or enforceable must be open to doubt. An offshore wind farm consent is a valuable asset, and if a developer chooses only to utilise part of it, there will invariably be very good commercial and technical reasons for this. The flexibility sought in a modern large scale development consent for a large offshore wind farm is fundamental to whether or not the project will be constructed at all, and goes to the heart of whether the consent is fit for purpose to permit a buildable, economically viable project. This may not be the case for other types of, particularly onshore, development, but it is the case for offshore wind farms.
- 4.27 There can be no EIA justification for seeking to impose a minimum turbine requirement, since the fewer the number of turbines, the lesser the impact.
- 4.28 To seek to impose a minimum number of turbines would also cut across a long standing principle of consents for development, namely that it is lawful for less than the full extent of the consent to be constructed, as long as what is constructed is in accordance with the requirements of the consent.
- 4.29 The other issue which arises is whether a minimum number of turbines is needed to address the point in the Advice Note that the project parameters should not be "*so wide ranging as to represent effectively different schemes*". The project is fundamentally defined by the Order Limits, the nature of the development (an offshore wind farm) and the maximum 1,800 MW export capacity. It is inherent in this type of project that there will be variations in turbine numbers and scheme layout, as already explained, and it cannot properly be regarded as giving rise to "*effectively different schemes*" to the extent that an Order in these terms cannot lawfully be granted. Numerous large scale consents on an equivalent basis have already been granted under the Electricity Act 1989, and more recently under the 2008 Act, for offshore wind farms without a minimum number of turbines being specified.

Maximum and minimum hub height

- 4.30 It is accepted by the Applicant that maximum hub height is a parameter which is appropriate for inclusion in the Order. The maximum height (of 198.5 metres from HAT) serves to fix the Environmental Statement assessments and confirms the maximum height at which static (rather than rotating) elements of each turbine would be seen. However a minimum hub height is not necessary as this is inherently defined by the minimum blade clearance.

Maximum and minimum blade tip height and clearance to mean sea level

- 4.31 The maximum blade tip height is a fundamental parameter and has been fixed at 350 metres (above HAT). The minimum blade clearance to MHWS is set at 22 metres to reflect the long standing position of the Royal Yachting Association and the inclusion of this parameter in previous offshore wind farm consents.
- 4.32 A minimum blade tip height (i.e. the lowest level at which the highest blade could pass) is not referred to in any of the assessments and is inherently fixed by the minimum blade clearance. It is not therefore included as a proposed parameter.

Minimum separation distances between turbines

- 4.33 A minimum separation distance of ~~720~~760m between turbines has been adopted. The separation is to allow time for the energy in the wind to recover. This approach of applying minimum separation distances has been commonly used for Electricity Act 1989 and 2008 Act consents.
- 4.34 The number of variables affecting the final optimised layout, including the extent to which the area within the Order Limits is used or not used, mean that a condition governing scheme layout which goes beyond the specified minimum separation distances is not appropriate. Whilst in practice most offshore wind farms have been built on a broad grid arrangement,

there needs to be flexibility on this issue in the Order, to allow for detailed design and optimisation.

Maximum rotor diameters

- 4.35 Whilst not mentioned as a parameter in the Advice Note, the Applicant considers that a parameter on maximum rotor diameter is necessary to ensure a robust EIA. The total blade swept area of the turbines is a key factor in different assessments. This approach also provides an indirect control over the capacity of turbines although the 1,800 MW maximum export capacity means that an individual limit on turbine capacity is not necessary, as it has no bearing on the assessments in the Environmental Statement.

Foundation parameters

- 4.36 It is fundamental to the Project that there should be flexibility to use different foundation types. Three different foundation types are provided for: monopile (piled or suction caisson), jacket (piled or suction caisson), or gravity base. The choice of foundations will be influenced by a variety of factors, as explained in the project description chapter of the Environmental Statement (chapter 5). In terms of the Order, the Applicant has considered which design parameters for each type of foundation are important to ensure a complete and robust EIA, and these have been included in the Order. Following the submission of the Environmental Statement in June 2018, the design options for this Project have been further refined and the Applicant has advanced its foundations procurement process. Following this process, floating foundations have now been removed from the Project Design Envelope.

Offshore electrical platforms, accommodation platform, meteorological masts and buoys

- 4.37 The number of meteorological masts, accommodation platforms and offshore electrical platforms will not exceed two, two and two respectively. The type of meteorological mast, accommodation platform, and offshore electrical platform will be determined as part of the post consent detailed design and optimisation process, and will depend on the final layout and electrical design considerations. For the reasons given above, the precise design of the meteorological masts, accommodation platforms and offshore electrical platforms cannot be fixed at this time. Accordingly, parameters limiting their dimensions and foundation arrangements (where relevant) are included in the Order. Their final location within the Order limits will depend on post consent detailed design and optimisation.

Array, interconnector link, and export cables

- 4.38 The precise number, layout and total length of the array, interconnector link, and export cables cannot be fixed until post consent design optimisation. The key factor for assessment purposes is the total cable length, based on the maximum number of turbines and a worst case layout for cabling, and the maximum length has been included as a parameter in the Order, whether under a single phase or two phased approach.

Offshore Order Limits and offshore plans

- 4.39 The final parameter is the Order Limits. The nature of the flexibility sought necessarily means that the offshore Works Plan is very simplistic. It is not possible to provide a more detailed plan, for the reasons given above.
- 4.40 It is important to bear in mind that under the deemed marine licences contained in Schedules 9 to 12 of the Order, the undertaker must submit final construction details for approval by the MMO before construction. The MMO must ensure that final construction details conform with the description of Works Nos. 1 to 4B and compliance with the design parameters in Part 4, in conditions 1 to 7 in the deemed marine licences for the generation assets and in Part 4, in conditions 1 to 2 in the deemed marine licences for the transmission assets. Those submitted details will specify the number, dimensions and layout of the Wind Turbine Generators (**WTGs**), accommodation platform, offshore electrical platforms, meteorological masts and the network of cables. Hence, there will be a further stage of regulatory control of the final form of the development prior to construction.

5 Associated development

DCLG Guidance on associated development

- 5.1 Pursuant to section 115 of the 2008 Act, development consent can be granted for the NSIP and associated development. The Secretary of State for Communities and Local Government has issued guidance on associated development¹ (the **Guidance**) which sets out its defining characteristics and illustrates the types of development that may qualify. Associated development must not be an aim in itself. In most cases, it is of a type normally brought forward with the primary development² and must be subordinate to and necessary for the effective operation of the NSIP, and may include measures necessary to mitigate the effects of the primary development. It should be of a proportionate scale to the primary development. Examples given in the Guidance include grid connections (underground or overhead lines)³.
- 5.2 Work Nos. 2 to 12 in Part 1 of Schedule 1 of the Order include associated development for which consent is sought as part of the generating station NSIP. These works comprise:
- 5.2.1 the offshore electrical platforms (Work No. 2),
 - 5.2.2 subsea cables (Work Nos. 3, 4A and 4B),
 - 5.2.3 transition jointing pits (where the offshore cables connect to the onshore cables), onshore underground cables to the onshore project substation, via jointing pits and associated accesses (Work Nos. 4C to 7),
 - 5.2.4 the onshore project substation and associated landscaping and grid connection (Work Nos. 8A to 10C),
 - 5.2.5 the overhead line pylon works and replacement works (Work No. 11 and Work No. 11A), and
 - 5.2.6 the permanent accesses from the A47 (Work No. 12) together with various miscellaneous matters.
- 5.3 All these elements clearly fit within the definition of associated development in that they are not an aim in themselves but are required to receive and export the electricity generated by the generating station, with suitable electrical transformation at both the offshore electrical platforms and the onshore project substation. This is reinforced by the fact that these elements will, after construction, be transferred to potentially two or more (depending on whether the phased approach is adopted) new OFTOs. After such transfer, the works will be owned and operated completely separately from the generating station under a transmission licence issued under section 6 of the Electricity Act 1989.
- 5.4 The works are required to be within the Order limits but the detailed design of the associated development will be a matter for the Applicant. As with the WTGs, the precise number of offshore electrical platforms is not fixed at this stage, but is limited to a maximum of two by the wording of Work No. 2 and by Requirement 2 (*Detailed offshore design parameters*).
- 5.5 Similarly, in terms of the onshore associated development, Work Nos. 8A, 10A and 11 and Requirement 16 (Detailed design parameters onshore) control the parameters for the onshore infrastructure. Work No. 8A dictates the site of the onshore project substation. The precise nature and layout of the equipment in the compound will depend on the turbine(s) selected, the electrical design and other matters. Requirement 16 requires detailed approval of the layout, scale and external appearance of the onshore project substation, which are to be in accordance with the principles of the design and access statement, and limits the maximum height and footprint of the onshore project substation. It also limits the extent of the fenced compound area for the onshore project substation. Detailed approval for landscaping of the connection works, including the onshore project substation, must be sought under Requirement 18 (*Provision of landscaping*).

¹ Planning Act 2008: associated development applications for major infrastructure projects (Published by Department for Communities and Local Government, April 2013)

² Guidance para. 5

³ Guidance Annex B¹

- 5.6 Work No. 10A dictates the site of the extension to the existing National Grid substation at Necton. Requirement 16 specifies the maximum height of the external electrical equipment comprised in the extension, and restricts the size of the fenced compound area for the extension.
- 5.7 Work No. 11 dictates the location of the permanent replacement towers and Work No. 11A is the replacement overhead line corridor. Requirement 16 requires details of the overhead line replacement works to be approved by the local planning authority and restricts the maximum height and footprint of the permanent replacement towers. Article 4 (Limits of deviation) restricts the maximum height of the replacement overhead line to no higher than 4m above the existing overhead line, and also allows a lateral limit of deviation of 25 metres either side of the existing overhead line.
- 5.8 In accordance with *The Planning Act (Nationally Significant Infrastructure Projects) (Electric Lines) Order 2013*⁴, these replacement works do not meet the threshold for an NSIP under section 16 of the 2008 Act and are therefore included in the Application as associated development.
- 5.9 The proposed overhead line works are to replace existing overhead lines and pylons which are to be slightly realigned.
- 5.10 The replacement overhead line works fall within the exempt installations under Section 16, paragraph 3(c) of the 2008 Act as section 37(1) of the Electricity Act 1989 does not apply to it as a result of the *Overhead Lines (Exemption) (England and Wales) Regulations 2009*⁵ (the **2009 Regulations**).
- 5.11 The 2009 Regulations state under Regulation 3 that Section 37(1) of the Electricity Act 1989 shall not apply in relation to the installation of an electric line which replaces an existing line whether or not it is installed in the same position as the existing line in question. This is subject to the following limitations as set out in Regulations 4 and 5:
- 5.11.1 the electric line does not have a nominal voltage greater than the nominal voltage of the existing line;
 - 5.11.2 any conditions contained in the section 37 consent applicable to the existing line are to be complied with in respect of the replacement line;
 - 5.11.3 the height above the surface of the ground of any support for the line will not exceed the height of the highest existing or replacement support by more than 10 per cent;
 - 5.11.4 the distance between any new small support (being a support not exceeding 10 metres in height) and the existing line will not exceed 30 metres and the distance between any other support and the existing line does not exceed 60 metres; and
 - 5.11.5 where the electric line is to be installed in a different position from the existing line, the existing line will be removed within 12 months of completion of the new line.
- 5.12 The above conditions are met.
- 5.13 In addition, where the electric line is to be installed in a different position from the existing line or where the height of the supports for the electric line is to be greater than the existing or where the installation is to be in a National Park or area of outstanding natural beauty, the exemption does not apply if there is likely to be a significant effect on the environment as determined by the local planning authority.
- 5.14 The only relevant exemption here is that whilst the electric line may be installed in a different position from the existing line, there is not likely to be a significant effect on the environment.

Onshore transmission works

⁴ 2013/1479

⁵ 2009/640

- 5.15 The offshore array is located in the northern half of the former Zone 5 (East Anglia Zone) in the North Sea, which is being developed as two individual wind farms, both of which will require the appropriate statutory consents and approvals. The Project is the first to be proposed. Norfolk Boreas offshore wind farm (also owned and promoted by Vattenfall) comprises the next stage of development of this area. As with the Project, Norfolk Boreas will also connect to the National Grid onshore transmission network at Necton in Norfolk and accordingly will follow the same route and cable corridor as the Project.
- 5.16 It is anticipated that a development consent application for Norfolk Boreas will be submitted to the Secretary of State, including its respective export cables and onshore project substation, in 2019.
- 5.17 Therefore as well as the onshore cables (which will be laid in ducts) for the Project, onshore cable ducts to accommodate a future project within the northern half of the former Zone have also been included as associated development in the Order, following engagement and consultation with stakeholders, landowners and local authorities. If the ducting is so installed this would allow the onshore cables for Norfolk Boreas to be pulled through the ducting at a future date. This should reduce the duration of overall onshore cable laying activities, reduce overall land take and enables earlier restoration of the corridor to agricultural use (or other uses).
- 5.18 By laying the onshore ducting for the Project with onshore ducts for Norfolk Boreas in a single installation phase, the working width required for standard installation is up to 45 metres. A wider overall working width would be required if the cables were to be laid in two separate installation phases.
- 5.19 Accordingly it is considered that the Applicant's approach to defining a working width for the onshore cable corridor in the Order and the proposed width of acquisition powers is entirely proportionate to the nature and scale of the development to be authorised by the Order. As per the Guidance, it offers scope to reduce the onshore impacts of future projects (Norfolk Boreas) within the former Zone which the Secretary of State may reasonably expect to be the subject of development consent applications within less than two years of this development consent application for the Project.
- 5.20 The requirement to include the onshore cable ducts for future projects was included in the East Anglia ONE Offshore Wind Farm Order 2014 as associated development. This permits the onshore cable ducts for East Anglia THREE offshore wind farm to be laid at the same time (if practicable) as the laying of the onshore cables for East Anglia ONE. Therefore there is precedent for this approach. The principle of a degree of overcapacity to be provided in respect of associated transmission infrastructure is also supported by the Guidance on associated development.

Shared infrastructure

- 5.21 The Order also includes the option for shared infrastructure between the Project and Norfolk Boreas including through the sharing of an offshore electrical platform and onshore converter station (within the onshore project substation). Given the intention to construct two projects with a combined export capacity of 3.6GW, it is possible that a transmission solution comprising three High Voltage Direct Current (**HVDC**) links each rated at 1,200MW will be more cost-effective than alternative solutions involving either 4 x 900MW links or 2 x 1,800MW links (i.e. where each project has either one or two dedicated HVDC links). To allow for this possibility, the options for the Project include two 'classes' of offshore transmission infrastructure. The first class comprises transmission infrastructure which is required solely for export of electricity generated by the current Project; the second comprises transmission infrastructure the capacity of which will be used jointly by the Project and the future Norfolk Boreas project. A phasing option which allows for shared transmission infrastructure between the Project and Norfolk Boreas also, as per the Guidance, offers scope to reduce the offshore impacts of future projects within the former Zone which, as set out above, the Secretary of State may reasonably expect to be the subject of development consent applications within less than two years of this development consent application for the Project. Subject to the

maximum parameters (see Schedule 3 below), the number of offshore electrical platforms and onshore converter stations, and (if relevant) whether certain elements of that infrastructure may be shared between Norfolk Vanguard and Norfolk Boreas, will depend on the final design of the Project.

6 Preliminary Provisions

Articles 1 and 2 of the Order contain preliminary provisions.

Article 1 (*Citation and commencement*) provides for the commencement and citation of the Order. It includes the date on which the Order comes into force, which may or may not be the date on which the Order is made.

Article 2 (*Interpretation*) provides for the interpretation of the Order. Amongst other things, the definition of Order limits includes cross reference to the works plan and to the grid coordinates for the offshore Order limits contained in Schedule 1 of the Order. The Article also defines the offshore electrical platforms and foundations and other structures such as wind turbine generators and the meteorological masts.

In the Order 'commence' is defined as follows:

(a) in relation to works seaward of MHWS, the first carrying out of any licensed marine activities authorised by the deemed marine licences, save for pre-construction surveys and monitoring approved under the deemed marine licences or

(b) in respect of any other works comprised in the authorised project, the first carrying out of any material operation (as defined in section 155 of the 2008 Act) forming part of the authorised project other than operations consisting of site clearance, demolition work, archaeological investigations, environmental surveys, investigations for the purpose of assessing ground conditions, remedial work in respect of any contamination or other adverse ground conditions, diversion and laying of services, erection of any temporary means of enclosure, temporary hard standing, and the temporary display of site notices or advertisements.

However, requirements are specifically included in Schedule 1, Part 3 of the Order to ensure that certain pre-commencement works are carried out in accordance with relevant details contained in the certified outline plans..

In the Order 'maintain' is defined to cover both the onshore works and the offshore works, but the definition used in the deemed marine licences is restricted to the offshore works only. However, the definitions have been aligned to maintain consistency.

In the Order, maintain is defined to include inspect, upkeep, repair, adjust, and alter, and this applies to all works. It is also defined to include remove, reconstruct and replace, but (1) only to the extent that this has been assessed in the environmental statement, and (2) only in

connection with the following works:

- (a) for ancillary works in Part 2 of Schedule 1;
- (b) in respect of any cable; and
- (c) for any component part of any wind turbine generator, offshore electrical substation, accommodation platform, meteorological mast, or the onshore transmission works.

In addition, maintenance consisting of removal, reconstruction, and/or replacement is expressly excluded from the definition for foundations and buildings associated with the onshore project substation.

The deemed marine licences have a separate definition of 'maintain'. This definition does, however, mirror that of the Order definition save that the definition refers only to the offshore works. In this context, maintenance consisting of alteration, removal, or replacement is excluded in relation to the offshore foundations.

7

Operative Provisions

Articles 3 to 43 of the Order contain provisions for and relating to the authorised project, and miscellaneous and general provisions.

Article 3 (*Development consent etc. granted by the Order*) would grant development consent for the authorised development within the Order limits, thereby authorising the construction of the main development, associated development and ancillary works. The authorised development means the development described in Part 1 of Schedule 1 (*Authorised development*). This includes further works as may be necessary or expedient for the purposes of or in connection with the relevant part of the authorised project and which fall within the scope of the work assessed by the environmental statement. Part 2 describes the ancillary works. These are defined together as the authorised project. In identifying the development authorised by this Order, Article 3 also makes provision for the offshore and onshore works authorised by the Order to be constructed within the Order limits. All the authorised development must be carried out in accordance with the requirements set out in Part 3 of Schedule 1 (*Requirements*). Article 3 is based on the Model Provisions and follows the approach taken for The East Anglia THREE Offshore Wind Farm Order 2017.

Article 4 (*Limits of deviation*) would allow for the vertical and lateral deviation of the overhead line replacement works as part of Work No. 11A, not exceeding 4 metres upwards or to any extent downwards and not exceeding 25 metres either side of the existing overhead line (as shown by the dotted line on the Works Plans).

An element of flexibility in deviation is required so that any construction

can respond to ground conditions when the works are carried out. It is sought to provide the necessary (but proportionate degree of) flexibility when constructing that part of the authorised development, reducing the risk that the project as approved cannot later be implemented for unforeseen engineering or geological reasons.

A similar approach has been adopted on The National Grid (Hinkley Point C Connection Project) Order 2016 and The National Grid (Richborough Connection Project) Development Consent Order 2017. The Article is also based on the Model Provisions.

Article 5 (*Power to construct and maintain authorised project*) makes provision for the construction and maintenance of the authorised project and follows the Model Provisions. It has been included in a number of offshore wind farm development consent orders including the recent East Anglia THREE Offshore Wind Farm Order 2017.

Article 6 (*Benefit of the Order*) provides for the transfer of the whole or part of the benefit of the Order with the consent of the Secretary of State (the **SoS**), subject to certain exceptions. It also provides for the transfer of any of the deemed marine licences with the consent of the SoS. The requirement to obtain the SoS's consent is unnecessary in the circumstances referred to in sub paragraph (11) of the Article. These circumstances include where the transferee or lessee is a holder of a transmission licence under the Electricity Act 1989 and where the time limits for claims of compensation in respect of the acquisition of land or effects upon land as a consequence of the Order has elapsed.

It is anticipated that National Grid will undertake Work Nos. 10A to 11A in reliance on this sub-paragraph. National Grid is the holder of a transmission licence under the Electricity Act 1989 and therefore the Secretary of State's consent would not be required to transfer the benefit of the Order for these works to National Grid in order to allow National Grid to carry out these works. National Grid have, however, requested that the Secretary of State does not agree to the transfer of the Order (subject to the relevant exceptions) without National Grid's consent.

Article 6 includes a procedure to be adopted when making an application to the SoS for consent. The essential elements of this procedure are as follows:

- a) before any application is made to the SoS the Undertaker shall consult with the SoS and the SoS will provide a response within four weeks of receipt of the notice;
- b) the SoS may not provide consent before consulting the MMO and National Grid respectively;
- c) the SoS must determine an application for consent under this article within 8 weeks commencing on the date the application is received. This period can be extended where agreed in writing with the Undertaker;
- d) prior to any transfer or grant taking effect the Undertaker is

required to notify in writing the SoS and so far as relevant the MMO and the relevant planning authorities. Sub paragraphs 14 to 16 of the Article stipulate the notification requirements that apply. In particular the notice must be received by the recipient a minimum of five days prior to the transfer taking effect.

The wording of Article 6 is based on a number of offshore wind development consent orders including the most recent East Anglia THREE Offshore Wind Farm Order 2017.

Article 7

(Application and modification of legislative provisions) dis-applies legislative provisions as they would apply but for this article. Article 7(1) provides for the modification of Regulation 6(1)(j) of the Hedgerows Regulations 1997 to provide that removal of any hedgerow to which the Regulations apply is permitted for carrying out or maintenance of development which has been authorised by a development consent order made pursuant to the 2008 Act. This approach was taken on The East Anglia THREE Offshore Wind Farm Order 2017 in relation to the carrying out of development. However, Article 7(1) has been further amended to clarify that removal of hedgerows is also permitted for maintenance activities.

Article 7(2) dis-applies provisions of the Neighbourhood Planning Act 2017 (NPA 2017). This disapplication would provide that the temporary possession provisions in that enactment would not take effect at the expense of the temporary possession provisions contained in the Order. The provisions relating to temporary possession in the NPA 2017 have not yet come into force and regulations required to provide more detail on the operation of the regime have not yet been made.

Because of the uncertainty in relation to the detail around that regime, the Applicant has consulted on the long-standing process available under the Planning Act 2008. The Applicant additionally considers that if Parliament wished to apply NPA 2017 temporary possession regime to DCO projects it could have done so by effecting amendments to Part VII of the Planning Act 2008. It has not done so, and in the absence of the clarity this would provide, the Applicant proposes to proceed under the existing Planning Act 2008 procedure.

Paragraph 3 provides for the disapplication of various additional consents which would otherwise be required from the Environment Agency, internal drainage boards or lead local flood authorities under the Water Resources Act 1991 and the Land Drainage Act 1991. These are the requirements for consents to place structures on or over rivers under the Water Resources Act, the requirement for approval under flood defence and land drainage byelaws made or deemed to be made under the Water Resources Act, the prohibition on placing obstructions in waterways which are not main rivers under the Land Drainage Act and byelaws made under the Land Drainage Act regulating the use and obstruction of watercourses. The Order dis-applies this requirement for in-principle consent in order to ensure that the project can proceed and instead provides for approval of detailed plans in the protective

provisions for the Environment Agency and the relevant drainage authorities in Schedule 16. This follows the approach taken in The Triton Knoll Electrical System Order 2016.

Article 8 (*Defence to proceedings in respect of statutory nuisance*) provides that no-one shall be able to bring statutory nuisance proceedings under the Environmental Protection Act 1990 in respect of noise, if the noise is created in the course of carrying out or maintenance of the authorised project and for which notice has been given under section 60 or consent obtained under section 61 or 65 of the Control of Pollution Act 1974 or if the noise is unavoidable. As stated in the Statement of Engagement submitted with the Application (Document 5.2), it is not considered that any properties will be affected beyond statutory nuisance thresholds, as mitigation measures will be used to control noise emissions. However, the Applicant considers that this Article should be included in the event that proceedings are brought under Section 82 of the Environmental Protection Act 1990. This approach follows the Model Provisions and has been accepted in a number of offshore wind farm development consent orders including, most recently, The East Anglia THREE Offshore Wind Farm Order 2017. The Project comprises nationally significant infrastructure and as a result it is appropriate that the Project is protected.

Article 9 (*Street works*) confers authority on the undertaker to break up or open, tunnel or bore under, remove or use earth and materials in or under and place and maintain works under the streets specified in Schedule 2 (*Streets subject to street works*) within the Order limits and for the purposes of the authorised project. The authority given by this right is a statutory right for the purposes of sections 48(3) (streets, streets works and undertakers) and 51(1) (prohibition of unauthorised street works) of the New Roads and Street Works Act 1991. The undertaker needs the power to remove or use earth and materials in or under the streets in order to lay the cables for authorised project under the streets. This approach follows the Model Provisions and a similar approach has been taken on a number of offshore wind farm development consent orders, including The East Anglia ONE Offshore Wind Farm Order 2014. The Article closely follows the drafting of the more recent National Grid (Richborough Connection Project) Development Consent Order 2017.

Article 10 (*Public rights of way*) allows the temporary stopping up of public rights of way during the construction of the onshore part of the authorised development. It refers to Schedule 3 (*Public rights of way to be temporarily stopped up*) which lists those rights of way which may be stopped up temporarily. This is not based on the Model Provisions but does follow the approach taken in a number of offshore wind farm development consent orders, most recently in The East Anglia THREE

Offshore Wind Farm Order 2017.

- Article 11* (*Temporary stopping up of streets*) provides for the temporary stopping up, diversion or alteration of streets, subject to the consent of the local highway authority concerned which may attach reasonable conditions to any such consent. It refers to Schedule 4 (*Streets to be temporarily stopped up*) which lists those streets which may be stopped up temporarily. These are the streets which the Applicant anticipates it will need to temporarily stop up, alter or divert. Where the street is specified in Schedule 4, there is a requirement to consult the street authority, but there is no need to obtain its consent. In addition, Article 11 allows for the stopping up, alteration or diversion of any other street for the purposes of carrying out the authorised project, subject to the consent of the street authority which may attach reasonable conditions to any such consent. This Article broadly follows the approach taken in the Model Provisions, but more closely follows the approach taken in The East Anglia THREE Offshore Wind Farm Order 2017 and the Hornsea Two Offshore Wind Farm Order 2016.
- Article 12* (*Access to works*) authorises accesses to and from public highways to be created at locations specified in Schedule 5 (*Access to works*) and for any other access, with the approval of the planning authority after consulting the highway authority. It therefore streamlines matters for the undertaker to require only one approval from the relevant authority. This Article broadly follows the approach taken in the Model Provisions, but more closely follows the approach taken in The East Anglia THREE Offshore Wind Farm Order 2017 and the Hornsea Two Offshore Wind Farm Order 2016.
- Article 13* (*Agreements with street authorities*) authorises street authorities and the undertaker to enter into agreements relating to any temporary stopping up, alteration or diversion of a street authorised by the Order, or the carrying out of works in the streets referred to in Article 9 (*Street works*). This Article broadly follows the approach taken in the Model Provisions, but more closely follows the approach taken in The East Anglia THREE Offshore Wind Farm Order 2017 and the Hornsea Two Offshore Wind Farm Order 2016.
- Article 14* (*Application of the 1991 Act*) provides that some provisions of the New Roads and Street Works Act 1991 apply to the carrying out of street works under Article 9 (*street works*) and the temporary stopping up, diversion or alteration of a street under Article 11 (*temporary stopping up of streets*). The relevant provisions are listed in sub-paragraph 2 of the article. Although this is not a Model Provision, comparable provisions are commonly included in Transport and Works Act Orders and have also been consented in the Hornsea Two Offshore Wind Farm Order 2016 and the Hornsea One Offshore Wind Farm Order 2014.
- Article 15* (*Discharge of water and works to watercourses*) enables the

undertaker to discharge water into any watercourse, public sewer or drain in connection with the construction and maintenance of the authorised project with the approval and superintendence (if provided) of the authority to which the watercourse, public sewer or drain belongs (such approval not to be unreasonably withheld) and subject to other conditions. This element of the Article follows the Model Provisions and The East Anglia THREE Offshore Wind Farm Order 2017.

The Article has been further modified to make it clear that the undertaker will have powers to alter watercourses, with the consent of the Environment Agency or the Internal Drainage Board or Norfolk County Council as appropriate.

Article 16

(Authority to survey and investigate the land onshore) confers upon the undertaker a power to survey and investigate land, including the ability to make trial holes, to use and leave apparatus on the land in question and to enter onto land. The Article also makes provision in relation to the payment of compensation and the notice period that must be given to owners and occupiers of land ahead of any surveys. The Article follows the Model Provisions but with modifications which follow the approach taken in the East Anglia THREE Offshore Wind Farm Order 2017. In addition, the purpose for which a survey or investigation might be carried out also includes purposes required by the assessment carried out in the Environmental Statement for the authorised project.

Article 17

(Removal of human remains) enables the undertaker to remove human remains from the Order limits, and provides a process for notification and identification of the human remains as well as their re-internment or cremation. The undertaker would be required to pay the reasonable expenses associated with this process.

There is a non-designated old Quaker burial ground at North Walsham, where the potential for impacts has been minimised as far as possible. However, whilst it is not anticipated that any human remains will be encountered during construction works, it is possible that human remains could be found within close proximity to the old burial ground or within the wider Order Limits. This Article follows the Model Provisions, save that the Article applies to the entire Order Limits rather than a defined area. In this regard, the Article follows the approach taken on the Knottingley Power Plant Order 2015 where it also applied across the entirety of the Order Limits.

Article 18

(Compulsory acquisition of land) confers on the undertaker powers of compulsory acquisition of so much of the Order land as is required for the authorised project or to facilitate it, or is incidental to it. The article provides broad powers. It is considered necessary to make it clear in this provision that the whole of the Order land is potentially subject to powers of compulsory acquisition. In practice, however, pursuant to the other Articles, the powers of compulsory acquisition are limited, and for the great majority of the Order land, will be restricted to some combination of the acquisition of specified new rights (Article 20), and

specified powers of temporary possession. The Article broadly follows the Model Provisions and follows the approach taken in the more recent East Anglia THREE Offshore Wind Farm Order 2017.

Article 19 (*Time limit for exercise of authority to acquire land compulsorily*) imposes a time limit of five years from the coming into force of the Order for the exercise of powers relating to the compulsory acquisition of land. This follows the Model Provisions.

Article 20 (*Compulsory acquisition of rights*) enables the undertaker to acquire rights over land, including new rights and existing rights if applicable. It also provides for the extinguishment or overriding of existing rights in land subject to the provisions of the Article. The Article is drafted so as to allow the undertaker flexibility to acquire new rights in the Order land if appropriate rather than outright acquisition under Article 18 (*Compulsory acquisition of land*). This flexibility allows the undertaker, if it is possible, to reduce the areas required for freehold acquisition and rely on new, permanent rights instead where appropriate. This flexibility is appropriate to allow for continued negotiations with owners of Order Lands. It broadly follows the Model Provisions and is a provision that is usual in Transport and Works Act Orders and hybrid bills. An example can be found in Article 19 of the Network Rail (Nuneaton North Chord Order) 2010 and Part 3 of Schedule 6 to the Crossrail Act 2008. It was also accepted in the East Anglia THREE Offshore Wind Farm Order 2017.

The Article is subject to Schedule 6, and states that in the case of land scheduled in Column 1 of that Schedule, the new rights that may be acquired are limited to the new rights (and restrictive covenants where relevant) set out in Column 2 of the Schedule. The great majority of the plots in the Order are restricted in this way.

Reference is also made to Schedule 7 (*Modification of compensation and compulsory purchase enactments for creation of new rights*) in the modifications of compulsory purchase legislation to apply appropriate provisions regarding material detriment etc. to the acquisition of new rights.

Further, it is to be noted that the undertaker is seeking to impose new restrictive covenants as scheduled in Schedule 6 (*Land in which only new rights etc. may be acquired*) to the Order for the protection of the onshore cables, jointing bays and any ducts that will be installed as part of the authorised development. Such protection has been given in Transport and Works Orders (notably relating to Docklands Light Railway) to protect the structure of subterranean development such as tunnels. It was also included in the East Anglia THREE Offshore Wind Farm Order 2017. It is considered that the nature of the authorised development is appropriate for such restrictive covenants and the predominantly agricultural nature of the Order lands would not be unduly burdened by the imposition of restrictive covenants, particularly on the basis that where restrictive covenants are being sought, a right

of access for maintenance purposes over the same area is also being sought.

Article 21

(Private rights) applies to all private rights over land subject to compulsory acquisition under Article 18 (*Compulsory acquisition of land*) and Article 20 (*Compulsory acquisition of rights*). It provides that where land is compulsorily acquired, such private rights or restrictive covenants are suspended and unenforceable or (where the beneficiaries are notified by the undertaker), extinguished as far as their continuance would be inconsistent with the acquisition of the land; where new rights or restrictive covenants are acquired over land, private rights cease to have effect in so far as their continuance would be inconsistent with the exercise of the right or compliance with the restrictive covenant; and where temporary possession of land is taken, private rights are suspended and unenforceable, in so far as their continuance would be inconsistent with the purpose for which temporary possession is taken for as long as the undertaker remains in lawful possession of the land.

Reference to section 152 of the 2008 Act is included in paragraph (4) to confirm that compensation payable under this Article is in accordance with the principles for the payment of compensation for injurious affection to land that would ordinarily apply to schemes where statutory authority is relied upon and a claim under section 10 of the Compulsory Purchase Act 1965 arises. Such claims instead arise under section 152 of the 2008 Act rather than section 10 of the Compulsory Purchase Act 1965 as a result of the contents of section 152 of the 2008 Act. Paragraphs 6 and 7 allow the undertaker to provide notice to the contrary to the provisions of the Article, allowing the undertaker to confirm to the relevant owner of a dominant tenement that the rights that would by operation of this Article be suspended and unenforceable are not so suspended or unenforceable. The Article follows the Model Provisions and was included in the East Anglia THREE Offshore Wind Farm Order 2017.

Article 22

(Application of the Compulsory Purchase (Vesting Declarations) Act 1981) provides for the Order to apply as if it were a compulsory purchase order for the purposes of the Compulsory Purchase (Vesting Declarations) Act 1981 and provides for that Act to have effect subject to certain modifications. It gives the undertaker the option to acquire land by this method rather than through the notice to treat procedure. This Article is based on the Model Provisions and has been updated to reflect the changes brought about by the Housing and Planning Act 2016. It follows the approach taken on the East Anglia THREE Offshore Wind Farm Order 2017. In addition the Article also reflects recent amendments to the Compulsory Purchase (Vesting Declarations) Act 1981, and provides that where the making of the Order is subject to a statutory challenge, the deadline for the exercise of compulsory acquisition powers under the Compulsory Purchase (Vesting Declarations) Act 1981 is increased by a period equivalent to

the period beginning with the day the application is made, and ending on the day it is withdrawn or finally determined (or if shorter, one year).

Article 23

(Application of Part 1 of the Compulsory Purchase Act 1965) applies Part 1 of the Compulsory Purchase Act 1965 to the Order with certain modifications in relation to section 125 of the 2008 Act. This provision reflects recent changes introduced by the Housing and Planning Act 2016. Paragraphs (1) to (3) amend the provisions of the Compulsory Purchase Act 1965 so that they are consistent with the terms of the Order and paragraph (4) makes it clear that the notice periods introduced by the Housing and Planning Act 2016 do not apply to the temporary possession or use of land under articles 26 or 27 of the Order. Whilst this is not a Model Provision, there are precedents for this in, for example, the High Speed Rail (London – West Midlands) Act 2017. This approach is also followed in The Wrexham Gas Fired Generating Station Order 2017.

In addition, the Article also reflects recent amendments to the Compulsory Purchase Act 1965 providing that where the making of the Order is subject to a statutory challenge, the deadline for the exercise of compulsory acquisition powers under the Compulsory Purchase Act 1965 is increased by a period equivalent to the period beginning with the day the application is made, and ending on the day it is withdrawn or finally determined (or if shorter, one year).

This Article also clarifies, by applying an amendment for the purposes of the Order to Schedule 2A of the Compulsory Purchase Act 1965, that the counter-notice provisions in that schedule that are available to landowners where part only of land is acquired compulsorily do not apply where the land has only been taken possession of under the temporary possession powers set out in Article 26 or Article 27.

Article 24

(Acquisition of subsoil or airspace only) authorises the undertaker to acquire the subsoil in any Order land without acquiring the whole of that land. In certain cases it may be necessary only to acquire a stratum of land below the surface and in the absence of this article the undertaker would be obliged to acquire the whole interest in the land. This is a Model Provision and there are precedents for this in, for example, the Glasgow Airport Rail Link Act 2007.

This article also authorises the undertaker to acquire interests in or rights over airspace a certain height above ground. This is particularly relevant in the context of overhead electricity lines. An example can be found at Article 28 of the National Grid (North London Reinforcement Project) Order 2014.

Article 25

(Rights under or over streets) provides that the undertaker may use a street within the Order limits for the authorised project without being required to acquire any part of the street or any easement or right in the street. Provision is made for the payment of compensation to an owner or occupier of land where their interest in land is not acquired and who

suffers loss as a result. The Article follows the Model Provisions and the approach taken in the East Anglia THREE Offshore Wind Farm Order 2017.

Article 26

(Temporary use of land for carrying out the authorised project) will allow the undertaker to take temporary possession of the land included in Schedule 8 (*Land of which temporary possession may be taken*).

The Article also provides for other Order land in respect of which notice of entry has not yet been served under Section 11 of the Compulsory Purchase Act 1965 and no vesting declaration has been made under the Compulsory Purchase (Vesting Declarations) Act 1981 to be taken possession of and used, temporarily, for certain specified purposes. It also allows for new rights in land to be acquired compulsorily after temporary possession has been taken; and for permanent works to be constructed whilst temporary possession notices are in place but before permanent rights have been acquired. This broadly follows the Model Provisions but has been modified in line with The East Anglia THREE Offshore Wind Farm Order 2017, and allows greater flexibility in the event that, following further design work, it is either decided by the undertaker or agreed with the relevant landowner that temporary occupation rather than permanent acquisition is appropriate. A benefit of structuring the Order powers in this way is also to limit the amount of land that need be ultimately acquired, or over which new rights are acquired, from landowners. As works may be constructed prior to permanent acquisition of land, permanent land interests for can be acquired for the scheme "as built", with no need to account for uncertainties in as-built construction in terms of land acquired.

Article 26 provides that powers to take possession of land temporarily, if land is specified in Schedule 8 (*Land of which temporary possession may be taken*), may be used only for the purposes set out in column 3 of Schedule 8.

These temporary powers are "overlaid" onto many of the plots that are also scheduled for the acquisition of permanent new rights.

For plots that are scheduled for temporary possession in Schedule 8, paragraph 26(8)(a) excludes freehold compulsory acquisition, but still permits the acquisition of permanent rights under Article 20 (as set out in Schedule 6). In this way, the power in Article 18 is further limited.

Paragraph 26(8)(b) permits the acquisition of subsoil or airspace rights in any of the land subject to Article 18 or Article 20. This provision could potentially allow the undertaker to acquire additional rights to those set out in Schedule 6, in case a need for a subsoil or airspace right becomes apparent that is currently unforeseen. As the great majority of the land to be acquired under the Order comprises new rights for an underground cable and related works, the Applicant anticipates that this provision is unlikely to be used, but could be relied on in rare circumstances to assist the delivery of the nationally significant infrastructure project. The Article is based on the Model

Provisions but has been modified. It follows the approach accepted in the East Anglia THREE Offshore Wind Farm Order 2017, and which is commonly used on Transport and Works Orders. A similar provision was included in the Network Rail (Ordsall Chord) Order 2015.

The power to temporarily possess "any other Order land" (in respect of which notice of entry has not yet been served under Section 11 of the Compulsory Purchase Act 1965 and no vesting declaration has been made under the Compulsory Purchase (Vesting Declarations) Act 1981), in addition to the land specified in Schedule 8, is unlikely to be exercised for the Project, as all of the Order land, save for the freehold plots (Plots 40/13, 40/15, 40/17, 40/18, 40/19, 40/21, 40/22, 40/24, 40/25, 40/29, 40/30, 41/02, 41/04, 41/06, 41/19, 41/20, 41/21, 41/26, 41/29, 41/31, 41/34, 41/35, 41/36, 41/37, 41/38 and 42/01) is included in Schedule 8 for some purpose (either for access, use for temporary construction compounds, or for purposes of construction of the authorised project). The Article clarifies that unless permanent interests have been acquired in any land that the undertaker has taken temporary possession of, the undertaker must remove any temporary works and restore the land to the reasonable satisfaction of the owners of the land, but is not required to remove certain works such as drainage works or road surfacing.

In all cases where powers of temporary possession are exercised, validly evidenced compensation must be paid to the landowner and any occupiers for loss or damage arising from their exercise where claimed.

Article 27

(Temporary use of land for maintaining authorised project) provides that the undertaker may take temporary possession of land within the Order limits required for the purpose of maintaining the authorised project, and to construct such temporary works as may be reasonably necessary for that purpose for a period of five years from the date on which that part of the authorised development is first used. Provision is made for notice and compensation. This power does not apply with respect to houses, gardens or any other buildings for the time being occupied. Provision is also made for taking temporary possession without notice, or at a shorter notice than is usually permitted in an emergency. This is based on, but modifies, the Model Provisions but does follow the approach taken on The East Anglia THREE Offshore Wind Farm Order 2017.

Article 28

(Extinguishment of private rights and restrictive covenants relating to apparatus removed from land subject to temporary possession) is included in relation to the works to overhead lines, on land in which National Grid owns apparatus. It provides that where National Grid apparatus is removed from land that the undertaker has only taken temporary possession of (and not, necessarily, compulsorily acquired a permanent interest in land), any private rights and restrictive covenants in relation to that apparatus can be permanently extinguished if the undertaker agrees with National Grid and serves notices to that effect. In addition, the Article sets out that there is no liability or requirement to

remove any foundations in connection with any such apparatus that have been removed.

This is intended to allow the Applicant, if appropriate, to remove redundant apparatus owned by National Grid where that or other apparatus is altered or relocated, and to facilitate the relevant land being burdened only with interests that are appropriate to the new or altered apparatus. This is not a Model Provision but follows the approach taken on other connection projects including The National Grid (Richborough Connection Project) Development Consent Order 2017.

Article 29 *(Statutory undertakers)* authorises the undertaker to acquire land and new rights in land belonging to statutory undertakers as shown on the land plans within the limits of the land to be acquired or used and described in the book of reference. This is a Model Provision which has been modified in accordance with the approach taken on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 30 *(Recovery of costs of new connections)* provides for compensation to owners or occupiers of property to which the apparatus of a public utility undertaker was connected, where that apparatus is removed in accordance with Article 29 *(Statutory undertakers)*. This is a Model Provision and has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 31 *(Operation of generating station)* authorises specifically the undertaker to operate the authorised project in accordance with the provisions of this Order or an agreement made under this Order. This aspect is included pursuant to section 140 of the 2008 Act. Although not a Model Provision, this Article has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 32 *(Deemed licences under the Marine and Coastal Access Act 2009)* provides for four deemed marine licences, the terms of which are set out in Part 1 of Schedules 9 to 12, required for the deposit at sea within the Order limits of the specified substances and articles and the construction of works in or over the sea and/or on or under the seabed. As explained above, the approach of splitting the deemed marine licences into four separate licences is to provide for a situation where generation or transmission assets will be held by different companies (including OFTOs) post-construction. Although not a Model Provision, this Article has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 33 *(Application of landlord and tenant law)* overrides the application of landlord and tenant law in so far as it may prejudice the operation of

any agreement for leasing the whole or part of the authorised project or the right to operate the same and any agreement for the construction, maintenance, use or operation of the authorised project or any part of it entered into by the undertaker. This is a Model Provision and has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 34 (*Operational land for the purposes of the 1990 Act*) provides that for the purposes of section 264(3) of the Town and Country Planning Act 1990 the development consent granted by the Order shall be treated as a specific planning permission. This is a Model Provision and has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 35 (*Felling or lopping of trees and removal of hedgerows*) enables the undertaker to fell or lop trees and shrubs for the purposes of preventing obstruction or interference with the authorised project and danger to the authorised project. Provision is included for the payment of compensation for loss and damage. It also enables the undertaker to remove the hedgerows and important hedgerows that are within the Order limits and specified in Schedule 13 (*Hedgerows*). The Article broadly follows the Model Provisions but more closely follows the approach in The East Anglia THREE Offshore Wind Farm Order 2017.

Article 36 (*Trees subject to tree preservation orders*) enables the undertaker to fell or lop the roots of any tree which is subject to a tree preservation order to prevent it obstructing or interfering with the construction, maintenance or operation of the authorised project. Compensation is payable if loss or damage is caused.

The Article is a Model Provision save that it applies generally to any tree subject to a tree preservation order made before and after the date of the Order coming into effect and either within or overhanging the Order limits. The approach follows that taken on the Hornsea Two Offshore Wind Farm Order 2016.

Article 37 (*Certification of plans etc*) requires the undertaker to submit copies of the documents, plans and sections referred to in the Order to the decision maker, for certification as true copies following the making of the Order. This is a Model Provision and has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 38 (*Arbitration*) makes provision for any dispute arising under the provisions of the Order and, unless otherwise provided for, to be settled by arbitration. A saving provision has been included for Trinity House, and it will not apply for the Secretary of State, or the Marine Management Organisation. The concept derives from the Model Provisions but changes, including the addition of a new schedule, have

been made to provide a more bespoke and relevant arbitration process.

Article 39 (*Procedure in relation to certain approvals etc.*) provides a mechanism for securing any consent or approval from a consenting body required by the provisions of the Order. It applies Schedule 15 (*Procedure for discharge of Requirements*), which sets out the procedure for the discharge of requirements contained in Part 2 of Schedule 1. This is not a Model Provision but a similar approach was followed on the Hinkley Point C (Nuclear Generating Station) Order 2013.

Article 40 (*Abatement of works abandoned or decayed*) authorises the Secretary of State to issue a written notice to the undertaker requiring the repair, restoration or removal of Works No. 1(a) to 1(d) or Work No. 2 where they have been abandoned or allowed to fall into decay. This power is stated to be without prejudice to any notice served under section 105(2) of the Energy Act 2004 requiring the submission of a decommissioning scheme. Although not a Model Provision it has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 41 (*Saving provisions for Trinity House*) is a standard provision included in Transport and Works Orders for offshore wind farms, including that for Scarweather Sands. It is in the Model Provisions for Harbours and has been included on a number of offshore wind farm development consent orders including The East Anglia THREE Offshore Wind Farm Order 2017.

Article 42 (*Crown rights*) protects the Crown's position in relation to its own estates, rights, powers, privileges, authorities and exemptions. The Crown's written consent is required where any land, hereditaments or rights of the Crown are to be taken, used, entered or interfered with as a result of granting of the Order, although there is no conditionality in respect of third party interests in Crown land. Although not a Model Provision, the approach taken follows the approach for The East Anglia THREE Offshore Wind Farm Order 2017.

Article 43 (*Protective provisions*) gives effect to the protective provisions in Schedule 16 (*Protective provisions*).

8 Schedules

Schedule 1 (*Authorised Project*) Part 1 of Schedule 1 specifies the authorised development comprising the scheduled works. The ancillary works are set out in Part 2.

Part 3 sets out certain requirements that the undertaker must meet in relation to the construction and operation of the authorised project. These requirements take a similar form to planning conditions.

With regard to the structure of the onshore requirements, it should be

noted that the principles informing the proposed onshore mitigation are largely set out in a number of outline documents submitted with the Application.

Requirement 1 (*Time limits*) specifies the time limit for commencing the authorised development as 5 years from the date of the Order, as provided for in Regulation 3 of the Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010.

Requirements 2 to 11 (*Detailed offshore design parameters*) set out the detailed design parameters within which the authorised development must be constructed. Requirements 2 and 3 deal with the dimensions and other characteristics of WTGs. Requirement 4 limits the dimensions of the offshore electrical platforms, accommodation platforms and meteorological masts. Requirement 5 limits the total length of export, array and interconnector cables and specifies the maximum amounts (in area and volume) of cable protection. Requirements 6 to 11 restrict the dimensions of the different foundation types and Requirement 11 limits the amount of scour protection (in area and volume) for the various structures. The purpose of these various restrictions is to ensure that the authorised development is restricted to that which has been assessed in the Environmental Statement.

Requirement 12 (*Aviation safety*) provides that lighting must be used as determined necessary for aviation safety. It also requires notification of certain information to the Defence Infrastructure Organisation at least 14 days prior to commencement of the offshore works, on completion of the offshore works and of any changes to the information supplied.

Requirement 13 (*Ministry of Defence surveillance operations*) has been included to ensure appropriate mitigation to prevent or remove any adverse effects which the operation of the authorised development will have on the air defence radar at Remote Radar Head (RRH) Trimingham and the Ministry of Defence's air surveillance and control operations.

Requirement 14 (*Offshore decommissioning*) requires a decommissioning programme to be agreed with the Secretary of State prior to the commencement of the offshore works and replicates the wording used on consents for offshore wind farms granted under the Electricity Act 1989 (and now the 2008 Act) following the relevant provisions of the Energy Act 2004 coming into force.

Requirement 15 (*Stages of authorised development onshore*) requires confirmation of whether the onshore works will be constructed in a single operation to pull the cables through the ducts and construct the onshore project substation, or whether the onshore works will be constructed in two phases of two separate operations to pull the cables through the ducts and two separate onshore project substation construction operations. This will be dependent upon the number of

offshore phases.

Requirement 15 also requires a written scheme setting out all the stages of the onshore transmission works to be notified to the relevant planning authority before commencement of any onshore works.

Requirement 16 (*Detailed design parameters onshore*) requires approval of details of the proposed works at the onshore project substation, for the extension to the National Grid substation at Necton and the overhead line replacement works by the relevant planning authority. It specifies parameters in terms of the maximum size of the equipment and buildings for the onshore project substation and the extension substation works and the maximum height of the overhead line replacement pylons. In addition, this requirement commits the Applicant to use trenchless installation techniques to install the cables in the locations specified in the Requirement including at certain rivers and wildlife sites. Taken together these restrictions ensure that the impact of the onshore works is minimised in line with the assessment and commitments contained in the Application.

Finally the requirement commits the undertaker to only installing a maximum of two ducts at the landfall.

Requirement 17 (*Landfall method statement*) requires approval of a method statement for the construction of the works at the landfall. It specifies that the method statement must include measures for horizontal directional drilling below the coastal shore platform and cliff base at the landfall. The Requirement also stipulates the need for ongoing inspection of the cables at the landfall and reporting of results to North Norfolk District Council during the operation of the authorised project. In the event of cable exposure throughout the operation of the Project, the Applicant must submit proposals to North Norfolk District Council for remedial measures to protect the cables at the landfall. This commitment ensures that the impact of the landfall works is minimised in line with the assessment and commitments contained in the Application.

Requirement 18 (*Provision of landscaping*) provides that the relevant stage of the transmission works shall not commence until a landscaping management scheme for that stage (which accords with the outline landscape and ecological management strategy) has been submitted and approved by the relevant planning authority. The scheme must be implemented as approved.

Requirement 19 (*Implementation and maintenance of landscaping*) requires the undertaker to implement the approved landscaping management schemes and to replace trees or shrubs which die along the cable route within five years of planting.

Requirement 20 (*Code of construction practice*) provides that the relevant stage of the transmission works must not commence until a code of construction practice for that stage (which accords with the outline code of construction practice) has been submitted and

approved by the relevant planning authority in consultation with Norfolk County Council and the Environment Agency. The code must be implemented as approved. The code includes details on matters such as fencing, external lighting and control of artificial light, contaminated land and groundwater, construction noise and vibration and surface water and drainage.

Requirement 21 (Traffic) requires that the relevant stage of the transmission works shall not commence until a traffic management plan (in accordance with the outline traffic management plan), a travel plan (in accordance with the outline travel plan) and an access management plan (in accordance with the outline access management plan) for that stage have been submitted to and approved by the relevant highway authority. The plans must be implemented on commencement of the relevant stage of transmission works.

Requirement 22 (Highway accesses) requires that the access management plan submitted for approval under requirement 21 (traffic) includes details of any permanent or temporary means of access to a highway, or any alteration to an existing means of access, by the relevant planning authority in consultation with the relevant highway authority.

Requirement 23 (Archaeological written scheme of investigation) requires that the relevant stage of the transmission works shall not commence until an archaeological written scheme of investigation for that stage (which accords with the outline written scheme of investigation (onshore)) has been submitted to and approved by the relevant planning authority, following consultation with Historic England and Norfolk County Council. Construction works must be undertaken in accordance with the approved scheme.

Requirement 24 (Ecological management plan) requires that the relevant stage of the transmission works shall not commence until an ecological management plan for that stage (which accords with the outline landscape and ecological management strategy ~~as appropriate for that stage~~ and which must be informed by post-consent ecological surveying of previously un-surveyed areas) has been approved by the relevant planning authority, following consultation with Natural England. Construction works must be undertaken in accordance with the approved scheme.

Requirement 25 (Watercourse crossings) requires that no stage of the transmission works involving crossing or diverting of a main river or watercourse shall commence until a scheme and programme for that crossing, diversion and subsequent reinstatement has been approved by the relevant planning authority, following consultation with Norfolk County Council, the Environment Agency, relevant drainage authorities (as defined), and Natural England. Works to cross, divert and then reinstate the main river or watercourse must then be undertaken in accordance with the approved scheme and programme. During construction, all ditches, watercourses, field drainage systems and

culverts are to be maintained to ensure that the flow of water and drainage are not impaired.

Requirement 26 (*Construction hours*) provides for construction hours for the transmission works on specified days, with none on Sundays or bank holidays. However, the requirement does allow certain continuous operations, such as construction works at the landfall to be undertaken outside of these times, although the duration and timing of the works must first be agreed with the relevant planning authority. Emergency works and non-intrusive works (such as start-up and shut down operations) can be carried out outside of the times specified without further approval.

Requirement 27 (*Control of noise during operational phase*) limits the noise rating levels during operation of the onshore project substation, and requires a scheme for monitoring compliance with the noise rating levels to be submitted to and approved by the relevant planning authority.

Requirement 28 (*European protected species onshore*) provides that no stage of the transmission works shall be commenced until a final pre-construction survey has been carried out for that stage to establish whether there are any European protected species present, or likely to be affected by the works. If so the requirement provides that the relevant stage of the works shall not commence until a scheme for protection and mitigation has been approved, which shall be implemented as approved.

Requirement 29 (*Onshore decommissioning*) provides that within six months of the permanent cessation of commercial operation of the onshore transmission works, an onshore decommissioning plan must be submitted to the relevant planning authority for approval. The plan must then be implemented as approved. The undertaker is also required to notify the relevant planning authority within 28 days of permanent cessation.

Requirement 30 (*Requirement for written approval*) provides that where any requirement requires the approval of the Secretary of State or the relevant planning authority such approval shall be in writing.

Requirement 31 (*Amendments to approved details*) provides that any details approved pursuant to any requirement shall be taken to include any amended details which are subsequently approved, provided that any amendments to or deviations from the approved details are in accordance with the principles set out in the Environmental Statement.

[Requirement 32](#) (*Operational drainage plan*) provides that the works at the onshore project substation and the Necton National Grid substation extension must not commence until a written plan for the drainage during operation has been submitted to and approved by the relevant planning authority after consultation with Norfolk County Council and the Environment Agency.

[Requirement 33](#) (*Skills and employment strategy*) provides that,

prior to commencement of the onshore transmission works, a skills and employment strategy must be submitted to and approved by Norfolk County Council, after consultation with North Norfolk District Council, Broadland District Council, Breckland District Council, Norfolk County Council and the New Anglia Local Enterprise Partnership.

Schedule 2 (*Streets subject to street works*) sets out those streets which are to be the subject of street works.

Schedule 3 (*Public rights of way to be temporarily stopped up*) sets out those public rights of way which are to be temporarily stopped up.

Schedule 4 (*Streets to be stopped up*) sets out those streets which are to be stopped up, altered or diverted.

Schedule 5 (*Access to works*) sets out details of access points to the Works.

Schedule 6 (*Land in which only new rights etc may be acquired*) sets out details of such land over which new rights may be acquired. It sets out the purposes for acquisition of new rights over specified plots. In accordance with the Guidance issued by the Secretary of State, it specifies rights that apply to the relevant plots set out in the Book of Reference, and also details, where relevant, the restrictive covenants that apply to the relevant plots to protect the installed cables.

Schedule 7 (*Modification of compensation and compulsory purchase enactments for creation of new rights*) sets out changes to the operation of the legislation relating to compulsory purchase, principally the material detriment provisions contained in Section A of the Compulsory Purchase Act 1965.

Schedule 8 (*Land of which temporary possession may be taken*) sets out details of such land that may be occupied under temporary powers.

Schedule 9 (*Deemed licence under Marine and Coastal Access Act 2009 – generation assets (licence 1 – phase 1)*) sets out the deemed licence for phase 1 of the generation assets within the authorised project.

Standard provisions and structure for deemed marine licences have been developed and included within Orders granted under the 2008 Act. The draft deemed licences comprise two generation licences and two transmission licences within this Order and have been developed by the Applicant in discussion with the MMO, Maritime and Coastguard Agency and Trinity House.

The licences are deliberately drafted to be standalone documents. This reflects the fact that they will have a wide distribution to contractors and agents, being an audience that may be confused by cross references to the main Order. Also, they are documents which,

based on past experience, are likely to be varied from time to time. Such variations will be much easier to follow if the licences have been prepared on a standalone basis. As a result, there is intentional repetition from the main Order of various definitions and the description of the authorised works. Where definitions from the main Order are not included, this is because such definitions only relate to the onshore transmission works and are therefore not relevant for the licences.

Unless otherwise stated, the provisions below relate to all of the deemed marine licences, although condition numbering varies between the deemed marine licences for the generation assets and transmission assets. A table which compares the numbering across the generation and transmission licences is included at Schedule 2 for ease of reference.

Part 1 – Interpretation

Paragraphs 1-4 (*Interpretation*) provides interpretation of certain words and phrases used in the licence and contact details for key organisations relevant to the content of the licence. Many of the definitions (including the different types of foundations and other structures such as wind turbine generators and the meteorological masts) are identical to those used in the main Order.

Part 2 – Licensed Marine Activities – General

Paragraph 1 confirms that the deemed marine licence shall remain in force until the scheme has been decommissioned.

Paragraph 2 confirms that section 72(7) (*Variation, suspension, revocation and transfer*) of the 2009 Act is dis-applied in relation to transfer of the deemed marine licences. Section 72(7) permits the licensing authority to transfer a marine licence to another person. Section 72(8) provides that "*a licence may not be transferred except in accordance with subsection 7*". Article 6 (*Benefit of the Order*) however provides for the transfer to take place in a different way to section 72(7). Since Article 6 is different from the precise wording of section 72(7) of the 2009 Act it is necessary to dis-apply section 72(7) in those limited circumstances to enable Article 6 to operate. Without such a disapplication, Article 6 might be claimed to be inoperative because of adopting a different wording from section 72(7).

Paragraph 3 confirms that where any condition requires the licensed activities be carried out in accordance with the plans, protocols or statements approved under the licence, the approved details, plan or scheme are taken to include any amendments that may subsequently be approved by the MMO.

Paragraph 4 notes that any amendments to approved details must fall within what has been assessed in the Environmental Statement.

Paragraph 5 sets out the substances or articles authorised for deposit at sea.

Paragraph 6 sets out the grid coordinates for those works within the

deemed marine licence.

Part 3 – Details of Licensed Marine Activities

Paragraphs 1-2 specify the licensable marine activities which are authorised by the licence in connection with the construction and operation of the generating station (generation assets licences) and offshore associated development (transmission assets). The section deliberately repeats in full the description of the relevant works from Part 1 of Schedule 1. Reference is also included to disposal of material as a result of preparation works for construction of the generating station and associated development (as appropriate).

Part 4 – Conditions

Conditions 1 to 7 (*Design parameters*) repeat the design parameters from requirements 2 to 10 of Part 3 of Schedule 1. This has the effect of putting beyond doubt the fact that when considering approvals under the licence, the details of proposed works must comply with these constraints under the deemed marine licence as well as under the Order.

Condition 8 (*Phasing of the authorised scheme*) restates the maximum numbers of wind turbines and other infrastructure for the authorised scheme. The maximum parameters listed must be taken together with the works authorised pursuant to the phase 2 licence (if relevant). For instance, if the scheme is developed in two phases then the maximum parameters will need to be split (albeit not necessarily evenly) across both phases. It also requires the undertaker to notify the MMO regarding whether the authorised scheme will be constructed in one or two offshore phases.

Condition 9 (*Notifications and inspections*) provides for a system of supplying copies of the licence to agents and contractors, restricting the use of contractors and vessels to those notified to the MMO, and publicising commencement and progress of the licensed activities.

Conditions 10-11 (*Aids to navigation and Colouring of Structures*) provide for various matters to aid navigation in the vicinity of the authorised scheme, including the provision of various navigation aids and notices to mariners; the ongoing availability of the aids to navigation; notification of the progress of works to Trinity House and the MMO and the colouring of structures. These are all standard provisions from previous Electricity Act consents for offshore wind farms and have been incorporated into recently granted Orders under the 2008 Act.

Condition 12 (*Chemicals, drilling and debris*) restricts the use of chemicals and other substances and provides for the disposal of certain drilling arisings and the monitoring of construction materials so as to identify those which may accidentally fall into the sea, which shall then be investigated and, where identified, recovered.

Condition 13 (*Force majeure*) provides for the notification of deposits

made in an emergency.

Condition 14 (Pre-construction plans and documentation) provides for the submission for approval, before the commencement of licensed activities, of a plan showing the proposed location, dimensions and choice of foundation of all elements of the authorised scheme to ensure that the licensed activities conform with the description of Work No. 1 and the design parameters in conditions 1 to 7. It also provides for submission for approval of a construction programme and monitoring plan, a construction method statement, a project environmental management plan, a scour protection management and cable protection plan, a marine mammal mitigation protocol (where driven or part driven foundations are proposed), a cable specification, installation and monitoring plan, an archaeological written scheme of investigation, a mitigation scheme for habitats of principal importance, an offshore operations and maintenance plan, an aids to navigation management plan, an ornithological monitoring plan and a site integrity plan. It also stipulates the maximum amount of hammer energy that can be used in the event that driven or part-driven pile foundations are used.

Condition 15 requires any archaeological reports produced in accordance with Condition 14 to be agreed with Historic England. It also requires each of the documents for approval under Condition 14 to be submitted for approval at least 4 months prior to the intended start of construction. A process for discharge of conditions is also set out which requires the MMO to determine an application for approval within 4 months of the date the MMO receives the relevant information to do so. The MMO may request further information but must do so within ~~one~~**two** months of the initial submission of the application. If the MMO fails to determine the application for approval within the time period specified then the programme, statement, plan, protocol or scheme is deemed to be approved by the MMO. However, the condition makes it clear that deemed approval does not apply to any plan which secures mitigation to avoid adversely affecting the integrity of a European site. Finally, it states that no part of the authorised scheme may commence until the MMO has confirmed that the undertaker has taken into account and adequately addressed all MCA recommendations as appropriate contained within MGN543.

Condition 16 (Post-construction plans and documents) requires a swath bathymetric survey to be undertaken in the areas where construction works were carried out and for the data and survey reports to be provided to the MCA and UKHO.

Condition 17 (Reporting of engaged agents, contractors and vessels) requires the undertaker to provide to the MMO details of agents and contractors engaged to carry out the licensed activities, and a weekly update as to which vessels are being used during construction.

Condition 18 (Pre-construction monitoring) specifies the manner in which the undertaker shall discharge its obligation under Condition 14

to put forward proposals for pre-construction surveys/monitoring, and provides an indicative list of the expected pre-construction surveys.

Condition 19 (Construction monitoring) specifies the manner in which the undertaker shall discharge its obligation under Condition 14 to put forward proposals for construction surveys/monitoring, and specifically requires certain noise monitoring. It provides for the MMO to require further noise monitoring depending on the results; the Applicant must cease piling activities if the noise assessments show significantly different impacts to those assessed in the ES until an update to the marine mammal mitigation protocol has been agreed with the MMO (in consultation with Natural England).

Condition 20 (Post construction) specifies the manner in which the undertaker shall discharge its obligation under Condition 14 to put forward proposals for post-construction surveys/monitoring, and provides an indicative list of the expected post-construction surveys. The transmission licences do not require construction monitoring to include marine traffic monitoring or ornithological monitoring.

Condition 21 (Reporting of impact pile driving) provides that the undertaker must provide information of the expected location, start and end dates of impact pile driving to the MMO.

Schedule 10 (Deemed licence under Marine and Coastal Access Act 2009 – generation assets (licence 2 – phase 2))

This deemed marine licence relates to phase 2 of the generation assets only and its provisions duplicate the generation assets deemed marine licence at Schedule 9 of the draft Order.

Schedule 11 (Deemed licence under Marine and Coastal Access Act 2009 – transmission assets (licence 1 – phase 1))

This deemed marine licence relates to phase 1 of the transmission assets only and its provisions largely duplicate the generation assets deemed marine licence at Schedule 9 of the draft Order.

Schedule 12 (Deemed licence under Marine and Coastal Access Act 2009 – transmission assets (licence 2 – phase 2))

This deemed marine licence relates to phase 2 of the transmission assets only and its provisions largely duplicate the transmission assets deemed marine licence at Schedule 9 of the Order.

Schedule 13 (Hedgerows) sets out those potentially important hedgerows (Part 1); important hedgerows (Part 2); and hedgerows (Part 3) to be removed.

Schedule 14 (Arbitration rules) sets out further details of the arbitration process. The exact wording in Schedule 14 is not found in any previously made development consent orders, but the applicant considers that it is important to provide a robust process within which substantive differences between the parties can be resolved. The intention is to

achieve a fair, impartial and binding award on substantive differences between the parties; these changes have been made to provide a more bespoke and relevant arbitration process for a project of this nature - for instance, the intention is to receive determination within 4 months from the date the arbitrator is first appointed, which allows disputes to be resolved quickly. With the wider context, as exemplified in the National Policy Statements, surrounding the need for new power projects, it is necessary that disputes are resolved promptly to enable the Authorised Project to be delivered in as timely a manner as possible.

Schedule 14 refers to the person who commenced the arbitration as the Claimant and the other party as the Respondent.

The timetable for the process is as follows:

(a) Within 14 days of the Arbitrator being appointed the Claimant shall serve on the Respondent and the Arbitrator a statement of case and all supporting evidence to support the claim.

(b) Within 14 days of receipt of the Claimant's statement of case and supporting evidence the Respondent will serve a statement of defence and all supporting evidence to support its defence, together with any objections to the Claimant's documentation.

(c) Within 7 days of receipt of the Respondent's documentation the Claimant may make a Statement of Reply.

The costs of the arbitration will be awarded by the arbitrator and the principle that costs will follow the event will be adopted. Costs will include the arbitrator's costs together with the reasonable legal fees and other costs incurred by the other party.

Schedule 15 (*Procedure for discharge of requirements*) sets out the process to be followed in relation to applications made to a discharging authority for any agreement or approval required by a requirement in the Order.

Schedule 16 (*Protective provisions*) sets out protective provisions for statutory undertakers affected by the authorised development. The protective provisions are for the benefit of general gas, electricity, water and sewerage undertakers affected by the authorised development (Part 1), National Grid (Part 2), Cadent Gas (Part 3), Operators of Electronic Communications Code Networks (Part 4), Network Rail (Part 5), and Anglian Water (Part 6). The Environment Agency and drainage authorities also have the benefit of protective provisions at Part 7 as a result of the disapplication of certain legislative provisions (*Article 7 - Application and modification of legislative provisions*) in relation to works within watercourses. Ørsted Hornsea Project Three (UK) Ltd will have the benefit of protective measures at Part 8.

Schedule 1

Table of comparison with the Model Provisions

Article in the draft DCO	Similarity to General Model Provisions (Article number in the Model Provisions)	Precedence in other DCOs
1 Citation and commencement	No	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
2 Interpretation	1 – Yes, but with project specific differences (the Model provision has citation, commencement and interpretation included all under article 1).	Some similarities with The East Anglia THREE Offshore Wind Farm Order 2017, however with necessary project specific definitions
3 Development consent etc. granted by the Order	2 – Yes, but with necessary project specific differences to make clear the distinction between the offshore Order limits and the onshore Order limits and their associated work packages.	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
4 Limits of deviation	6 – Yes (Model Provisions for Railways). This adopts the approach used for limits of deviation in relation to the overhead line replacement works	Yes – The National Grid (Hinkley Point C Connection Project) Order 2016 and The National Grid (Richborough Connection Project) Order 2017
5 Power to construct and maintain authorised project	3 - Yes	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
6 Benefit of the Order	4 and 5 – Yes, but with necessary project specific differences added to address the position in relation to the Deemed Marine Licences and to make clear where the Secretary of State's (SoS) consent may not be necessary or required (for instance, where	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and, in part with regards to the process for the SoS consent, the draft Hornsea Project Three Offshore Wind Farm Order.

Article in the draft DCO	Similarity to General Model Provisions (Article number in the Model Provisions)	Precedence in other DCOs
	the transferee or lessee is a holder of an Electricity Act 1989 licence).	
7 Application and modification of legislative provisions	6 – Yes, but with necessary project specific differences in relation to the Neighbourhood Planning Act 2017 and land and drainage consents.	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 in relation to the Hedgerow Regulations 1997, and The Triton Knoll Electrical System Order 2016 in relation to Land Drainage Consents and consents under the Water Resources Act 1991
8 Defence to proceedings in respect of statutory nuisance	7 – Yes. The article is drafted partially based on the model provision and partially based on the East Anglia THREE Offshore Wind Farm Order 2017.	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
9 Street works	8 - Yes	Yes – in part on The East Anglia ONE Offshore Wind Farm Order 2014, but more recently (and more closely) on The National Grid (Richborough Connection Project) Order 2017
10 Public rights of way	10 – This article is not a model provision, but the concept has precedence from the East Anglia Three Offshore Wind Farm Order 2017.	Yes – The East Anglia THREE Offshore Wind Farm Order 2017.
11 Temporary stopping up of streets	11 – Yes, the model provision has been adapted slightly based on a combination of the East Anglia THREE Order and Hornsea Offshore Wind Farm (Project Two)	Yes - The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
12 Access to works	12 – Yes, the model provision has been adapted slightly based on additions made through the East Anglia THREE Offshore Wind Farm Order	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
13 Agreements with street	13 - Yes	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore

Article in the draft DCO	Similarity to General Model Provisions (Article number in the Model Provisions)	Precedence in other DCOs
authorities		Wind Farm Order 2016
14 Application of the 1991 Act	No, but comparable provisions are commonly included in Transport and Works Act Orders	Yes – The Hornsea One Offshore Wind Farm Order 2014 and The Hornsea Two Offshore Wind Farm Order 2016
15 Discharge of water and works to watercourses	14 – Yes, this is a modified model provision but with necessary amendments in view of the repeal of s.85 of the Water Resources Act 1991, and project specific differences to alter watercourses linked to requirements within the DCO (requirement 16 and 25)	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 (however not in relation to powers to alter watercourses)
16 Authority to survey and investigate the land onshore	16 – Yes but modified for necessary project specific reasons such as restricting trial holes from being made in land forming a railway held by or in right of the Crown without the consent of Network Rail or the Crown respectively	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
17 Removal of human remains	17 – Yes, save that the power applies across the Order Limits rather than to a discrete area within the Order Limits	Yes - The Knottingley Power Plant Order 2015
18 Compulsory acquisition of land	18 – Yes, this article broadly follows the model provisions but with amendments by way of cross-reference to the compulsory acquisition of rights (article 20) and temporary use of land for carrying out the authorised project (article 26)	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
19 Time limit for exercise of authority to acquire land compulsorily	20 - Yes	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
20 Compulsory acquisition of	21 – Yes, however with variations from the model provisions to provide flexibility,	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and similar provisions can be

Article in the draft DCO	Similarity to General Model Provisions (Article number in the Model Provisions)	Precedence in other DCOs
rights	which is necessary to allow the undertaker to potentially reduce the areas required for freehold acquisition and rely on new, permanent rights instead, where appropriate.	found in Article 19 of The Network Rail (Nuneaton North Chord Order) 2010 and Part 3 of Schedule 6 to The Crossrail Act 2008.
21 Private rights	22 – Yes	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
22 Application of the Compulsory Purchase (Vesting Declarations) Act 1981	23 – Yes, this article has been updated to reflect the changes brought about by the Housing and Planning Act 2016.	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
23 Application of Part 1 of the Compulsory Purchase Act 1965	No - this article has been added to reflect the changes brought about by the Housing and Planning Act 2016.	Yes – The Wrexham Gas Fired Generating Station Order 2017.
24 Acquisition of subsoil or airspace only	24 – Yes, similar provisions can be found in Article 24 of the Model Provisions	Yes – The National Grid (North London Reinforcement Project) Order 2014
25 Rights under or over streets	27 - Yes	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
26 Temporary use of land for carrying out the authorised project	28 – Amendments due to project specific differences and additions to introduce greater flexibility for the undertaker and to limit the amount of land to be acquired, or over which new rights are acquired, from landowners.	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
27 Temporary use of land for maintaining authorised project	29 – Yes but with modifications based on recent Orders	Yes – The East Anglia THREE Offshore Wind Farm Order 2017

Article in the draft DCO	Similarity to General Model Provisions (Article number in the Model Provisions)	Precedence in other DCOs
28 Extinguishment of private rights and restrictive covenants relating to apparatus removed from land subject to temporary possession	No – this is project specific in relation to works to overhead lines on land in which National Grid owns apparatus.	Yes - National Grid (Richborough Connection Project) Order 2017
29 Statutory undertakers	31 – Yes, but with some amendments in relation to removal of (c) from the Model Provisions	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
30 Recovery of costs of new connections	33 – Yes	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
31 Operation of generating station	No – added due to project specific reasons and required as per section 140 of the 2008 Act and based on recent Orders	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
32 Deemed marine licences under the 2009 Act	No - added due to project specific reasons and as per section 149A of the 2008 Act and based on recent Orders	Yes – The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
33 Application of landlord and tenant law	35 - Yes	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
34 Operational land for purposes of the 1990 Act	36 - Yes	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
35 Felling or lopping of trees and removal of hedgerows	39 – Yes, the first paragraphs are taken from the model provision; the paragraphs in relation to hedgerows are taken from previous projects including East Anglia THREE Offshore Wind Farm Order 2017	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016

Article in the draft DCO	Similarity to General Model Provisions (Article number in the Model Provisions)	Precedence in other DCOs
36 Trees subject to tree preservation orders	40 – Yes, the article is a model provision save that it will also apply to tree preservation orders made after the last assessment for the Environmental Statement.	Yes – The Hornsea Two Offshore Wind Farm Order 2016.
37 Certification of plans etc	41 – Yes, subject to project specific plans.	Yes – similar plans in The East Anglia THREE Offshore Wind Farm Order 2017
38 Arbitration	42 – Yes, the concept derives from the Model Provisions but the changes, including the addition of a new schedule, have been made to provide a more bespoke and relevant arbitration process	Yes – the draft Hornsea Project Three Offshore Wind Farm Order
39 Procedure in relation to certain approvals etc	No – but this is necessary for project specific approvals and a similar approach was followed on The Hinkley Point C (Nuclear Generating Station) Order 2013.	Yes – The Hinkley Point C (Nuclear Generating Station) Order 2013
40 Abatement of works abandoned or decayed	No – but this is required for project specific purposes and supplement the Energy Act 2004	Yes – The East Anglia THREE Offshore Wind Farm Order 2017
41 Saving provisions for Trinity House	53 – Yes (Model Provisions for Harbours). This provision is commonly used for projects of this nature	Yes – various including The East Anglia THREE Offshore Wind Farm Order 2017 and The Hornsea Two Offshore Wind Farm Order 2016
42 Crown rights	No - but this provision is project specific and generally reflects section 135 of the 2008 Act	Yes – The National Grid (Hinkley Point C Connection Project) Order 2016 and The East Anglia THREE Offshore Wind Farm Order 2017
43 Protective provisions	Yes, the concept of signposting the protection offered for statutory undertakers is taken from the model provisions	Yes – The East Anglia THREE Offshore Wind Farm Order 2017

Schedule 2

Comparison Table of DML Conditions

	Generation Assets DMLs Schedules 9 and 10, Part 4	Transmission Assets DMLs Schedules 11 and 12, Part 4
Design parameters	1(1)(a)-(e)-(2) (wind turbine generator)	1-(2)(a)-(c) (offshore electrical platform)
	2(1) (accommodation platform) 2(2)-(3) (meteorological mast)	-
	3 (cables)	2 (cables)
	4(1)(a)-(c), 4(2)(a)-(e), (3) (wind turbine generator foundations)	-
	5(1)(a)-(c)-(2) (meteorological mast foundations)	-
	6(1)(a)-(b)-(2) (accommodation platform foundations)	-
	7(1)-(3) (measurement buoys)	-

Phasing of the authorised scheme	8(1)(a)-(h)-(2)(a)-(b) (Additional paragraphs cover additional generation assets (wind turbine generators, accommodation platforms, meteorological masts, measurement buoys and scour protection for the same).	3(1)(a)-(c), 2(a)-(b) (Phasing relates only to offshore electrical platforms.)
Notifications and inspections	9(1)-(11) (in respect of Work No. 1)	4(1)-(11) (in respect of Work No.2. A second notice is also required advising of the start date for Work No.s 3, 4A and 4B and route of the sub-sea cables and fibre optic cables)
Aids to navigation	10(1)-(5)	5(1)-(5)
Colouring of structures	11(1)-(2)	6(1)-(2)
Chemicals, drilling and	12(1)-(10)	7(1)-(11)

debris	(Condition 12(1) also includes chemical agents placed within any monopile void)	(Additional condition 7(8) relates to obstructions resulting from Work No.s 4A or 4B)
Force majeure	13(1)-(2)	8(1)-(2)
Pre-construction plans and documents	14(1)(a)-(m) (Condition 14(1)(c)(iii) requires a construction method statement; Condition 14(1)(l) requires an ornithological monitoring plan; Condition 14(1)(m) requires a site integrity plan in the event that driven or part-driven piles are proposed to be used.)	9(1)(a)-(m) (Condition 9(1)(g)(iv) requires the cable specification, installation and monitoring plan to include methods of trawl or drift net for Work No.s 4A and 4B. Condition 14(1)(h) also includes North Norfolk District Council to be consulted, if relevant, for the archaeological written scheme of investigation (offshore). Condition 14(1)(m) requires a site integrity plan to secure the mitigation associated with the Haisborough Hammond and Winterton SAC in a single plan and through a separate condition in the transmission asset DMLs. The wording and principle of this condition is still under discussion with Natural England.)
	14(2)	9(2)
	15(1)-(7)	10(1)-(7)

Post construction plans and documents	16	11
Reporting of engaged agents, contractors and vessels	17(1)-(2)	12(1)-(2)
Pre-construction monitoring and surveys	18(1)-(3) (Condition 18(2)(c) requires pre-construction surveys to have regard to ornithological monitoring required by the ornithological monitoring plan.)	13(1)-(3)
Construction monitoring	19(1)-(5) (Additional condition 19(4) relates to traffic monitoring.)	14(1)-(4)
Post construction	20(1)-(4) (Additional condition 20(2)(c) relates to	15(1)-(4)

	ornithological monitoring and 20(2)(d) relates to traffic monitoring.)	
Reporting of impact pile driving/ detonation of explosives	21(1)-(3)	16(1)-(3)

Schedule 3
Norfolk Vanguard Offshore Wind Farm
List of Order parameters

Component	Specifications	Parameters	DCO Reference
Structures			
Wind Turbine Generators	Total installed export capacity at the point of connection to the offshore electrical platform(s)	1,800MW	Schedule 1, Part 1, Work No. 1 Schedules 9 & 10, Part 3, paragraph 2 Schedule 9 & 10, Part 4, condition 8
	Maximum number	180	Schedule 1, Part 1, Work No. 1 Schedule 1, Part 3, Requirement 3 Schedules 9 & 10, Part 3, paragraph 2 Schedules 9 & 10, Part 4, condition 8
	Maximum tip height from HAT	350m	Schedule 1, , Part 3, Requirement 2 Schedules 9 & 10, Part 4, condition 1
	Maximum hub height from HAT	198.5m	Schedule 1, Part 3, Requirement 2 Schedules 9 & 10, Part 4, condition 1
	Maximum rotor diameter	303m	Schedule 1, part 3, Requirement 2 Schedules 9 & 10,

Component	Specifications	Parameters	DCO Reference
			Part 4, condition 1
	Minimum spacing crosswind	720 760m	Schedule 1, Part 3, Requirement 2 Schedules 9 & 10, Part 4, condition 1
	Minimum spacing downwind	720 760m	Schedule 1, Part 3, Requirement 2 Schedules 9 & 10, Part 4, condition 1
	Minimum air draft from MHWS	22m	Schedule 1, Part 3, Requirement 2 Schedules 9 & 10, Part 4, condition 1
	Foundation types	Monopile (piled or suction caisson) Jacket (piled or suction caisson) Gravity base	Schedule 1, Part 1, Work No. 1 Schedules 9 & 10, Part 3, paragraph 2
Offshore Electrical Platform – export capacity of 1,800MW at the point of connection to the offshore electrical platform(s)	Maximum number	2	Schedule 1, Part 1, Work No. 2 Schedule 1, Part 3, Requirement 3 Schedules 11 & 12, Part 3, Work No. 2 Schedules 11 & 12, Part 4, condition 3
	Maximum height from HAT	100m	Schedule 1, Part 3, Requirement 4 Schedules 11 & 12, Part 4, condition 1
	Maximum length	120m	Schedule 1, Part 3, Requirement 4 Schedules 11 & 12, Part 4, condition 1
	Maximum width	80m	Schedule 1, Part 3, Requirement 4 Schedules 11 & 12,

Component	Specifications	Parameters	DCO Reference
			Part 4, condition 1
	Foundation types	Jacket (piled or suction caisson) Gravity base	Schedule 1, Part 1, Work No. 2 Schedules 11 & 12, Part 3, paragraph 2
Accommodation Platform	Maximum number	2	Schedule 1, Part 1, Work No. 1 Schedule 1, Part 3, Requirement 3 Schedules 9 & 10, Part 3, paragraph 2 Schedules 9 & 10, Part 4, condition 8
	Maximum height from HAT	100m	Schedule 1, Part 3, Requirement 4 Schedules 9 & 10, Part 4, condition 2
	Maximum length	90m	Schedule 1, Part 3, Requirement 4 Schedules 9 & 10, Part 4, condition 2
	Maximum width	60m	Schedule 1, Part 3, Requirement 4 Schedules 9 & 10, Part 4, condition 2
	Foundation types	Jacket (piled or suction caisson) Gravity base	Schedule 1, Part 1, Work No. 1 Schedule 1, Part 1, Work No. 2 Schedules 9 & 10, Part 3, paragraph 2
Meteorological Mast	Maximum number	2	Schedule 1, Part 1, Work No. 1 Schedule 1, Part 3, Requirement 3 Schedules 9 & 10, Part 3, paragraph 2 Schedules 9 & 10, Part 4, condition 8

Component	Specifications	Parameters	DCO Reference
	Maximum height from HAT	200m	Schedule 1, Part 3, Requirement 4
	Foundation types	Monopile (piled or suction caisson) Jacket (piled or suction caisson) Gravity base	Schedule 1, Part 1, Work No. 1 Schedules 9 & 10, Part 3, paragraph 2
Lidar Measurement Buoys	Maximum number	2	Schedule 1, Part 1, Work No. 1 Schedule 1, Part 3, Requirement 3 Schedules 9 & 10, Part 3, paragraph 2 Schedules 9 & 10, Part 4, condition 8
	Foundation types	Monopile (piled) Floating	Schedule 1, Part 1, Work No. 1 Schedules 9 & 10, Part 3, paragraph 2
Wave Measurement Buoys	Maximum number	2	Schedule 1, Part 1, Work No. 1 Schedule 1, Part 3, Requirement 3 Schedules 9 & 10, Part 3, paragraph 2 Schedules 9 & 10, Part 4, condition 8
	Foundation types	Floating	Schedule 1, Part 1, Work No. 1 Schedules 9 & 10, Part 3, paragraph 2
Offshore Cables			
Array Cables	Maximum length	600km	Schedule 1, Part 3, Requirement 5
	Maximum cable protection	410,000 400,000m ² 209,000 204,000m ³	Schedule 1, Part 3, Requirement 5
Interconnector link	Maximum length	150km	Schedule 1, Part 3,

Component	Specifications	Parameters	DCO Reference
Cables			Requirement 5
	Maximum cable protection	76,000m ² 38,000m ³	Schedule 1, Part 3, Requirement 5
Export Cables	Maximum length	400km	Schedule 1, Part 3, Requirement 5
	Maximum cable protection	122,086 102,086m ² 69,836 59,836 m ³	Schedule 1, Part 3, Requirement 5
	Maximum number	4	Schedule 1, Part 1, Work No. 4A Schedule 1, Part 1, Work No. 4B Schedules 11 & 12, Part 3, paragraph 2
Foundations (Wind Turbine Generators)			
Piled Foundation	Maximum number of piles	4	Schedule 1, Part 3, Requirement 6 Schedules 9 & 10, Part 4, condition 4 Schedules 9 & 10, Part 4, condition 19
	Maximum pile diameter (single pile)	15m	Schedule 1, Part 3, Requirement 6 Schedules 9 & 10, Part 4, condition 4
	Maximum pile diameter (multiple piles)	5m	Schedule 1, Part 3, Requirement 6 Schedules 9 & 10, Part 4, condition 4
All Foundations	Maximum seabed footprint area (excluding scour protection)	4,990 1,963m ²	Schedule 1, Part 3, Requirement 6 Schedules 9 & 10, Part 4, condition 4
Foundations (Meteorological Mast)			
Piled Foundation	Maximum number of piles	4	Schedule 1, Part 3,

Component	Specifications	Parameters	DCO Reference
			Requirement 7 Schedules 9 & 10, Part 4, condition 5
	Maximum pile diameter (single pile)	10m	Schedule 1, Part 3, Requirement 7 Schedules 9 & 10, Part 4, condition 5
	Maximum pile diameter (multiple piles)	3m	Schedule 1, Part 3, Requirement 7 Schedules 9 & 10, Part 4, condition 5
All Foundations	Maximum seabed footprint area (excluding scour protection)	314m ²	Schedule 1, Part 3, Requirement 7 Schedules 9 & 10, Part 4, condition 5
Foundations (Offshore Electrical Platform)			
Piled Foundation	Maximum number of piles	18	Schedule 1, Part 3, Requirement 8 Schedules 11 & 12, Part 4, condition 1
	Maximum pile diameter (jacket)	5m	Schedule 1, Part 3, Requirement 8 Schedules 11 & 12, Part 4, condition 1
All Foundations	Maximum seabed footprint area (excluding scour protection)	15,000m ²	Schedule 1, Part 3, Requirement 8 Schedules 11 & 12, Part 4, condition 1
Foundations (Accommodation Platform)			
Piled Foundation	Maximum number of piles	6	Schedule 1, Part 3, Requirement 9 Schedules 9 & 10, Part 4, condition 6
	Maximum pile diameter (jacket)	5m	Schedule 1, Part 3,

Component	Specifications	Parameters	DCO Reference
			Requirement 9 Schedules 9 & 10, Part 4, condition 6
All Foundations	Maximum seabed footprint area (excluding scour protection) per foundation	7,500m ²	Schedule 1, Part 3, Requirement 9 Schedules 9 & 10, Part 4, condition 6
Foundations (Buoys)			
Wave buoy	Maximum seabed footprint area	150m ² per buoy and 300 m ² in total	Schedule 1, Part 3, Requirement 10 Schedules 9 & 10, Part 4, condition 7
Lidar buoy	Maximum pile diameter	10m	Schedule 1, Part 3, Requirement 10 Schedules 9 & 10, Part 4, condition 7
	Maximum seabed footprint area (excluding scour protection)	79m ² per buoy and 157m ² in total	Schedule 1, Part 3, Requirement 10 Schedules 9 & 10, Part 4, condition 7
Total Scour Protection			
Wind turbine generators, Accommodation platform Meteorological masts, offshore electrical platforms and Lidar buoys	Maximum scour protection	10,639,080m² 53,195,398 <u>5,483,752m²</u> <u>27,418,759m³</u>	Schedule 1, Part 3, Requirement 11
Licensed Marine Activities			
Wind turbine generators	Maximum inert material disposed	3,645,000 <u>1,767,146m³</u>	Schedules 9 & 10, Part 3, paragraph 1
Accommodation platform	Maximum inert material disposed	75,000m ³	Schedules 9 & 10, Part 3, paragraph 1
Meteorological masts	Maximum inert material disposed	12,566m ³	Schedules 9 & 10, Part 3, paragraph 1

Component	Specifications	Parameters	DCO Reference
Array cable	Maximum inert material disposed	36,000,000m ³	Schedules 9 & 10, Part 3, paragraph 1
Offshore electrical platforms	Maximum inert material disposed	75,000m ³	Schedules 11 & 12, Part 3, paragraph 1
Inter-substation cables	Maximum inert material disposed	9,000,000m ³	Schedules 11 & 12, Part 3, paragraph 1
Export cables (excluding SAC area)	Maximum inert material disposed	1,900,000m ³	Schedules 11 & 12, Part 3, paragraph 1
Export cables (SAC area)	Maximum inert material disposed	500,000m ³	Schedules 11 & 12, Part 3, paragraph 1
Drill arisings in connection with foundation drilling	Maximum inert material disposed	400,624 m ³	Schedules 9 & 10, Part 3, paragraph 1 and Schedules 11 & 12, Part 3, paragraph 1
Onshore Parameters			
Onshore Project Substation	Maximum number of buildings housing the principal electrical equipment	2	Schedule 1, Part 3, Requirement 16
	Maximum height of buildings	19m	Schedule 1, Part 3, Requirement 16
	Maximum height of external electrical equipment	25m	Schedule 1, Part 3, Requirement 16
	Maximum footprint of each building	110m (length) x 70m (width)	Schedule 1, Part 3, Requirement 16
	Maximum fenced compound area (excluding accesses)	250m (length) by 300m (width)	Schedule 1, Part 3, Requirement 16
Extension to the existing Necton National Grid substation	Maximum height of external electrical equipment	15m	Schedule 1, Part 3, Requirement 16
	Maximum fenced compound area (excluding accesses)	200m (length) by 150m (width)	Schedule 1, Part 3, Requirement 16
Overhead line replacement pylons	Maximum height	55m	Schedule 1, Part 3, Requirement 16
Underground cable	Maximum number of ducts	2	Schedule 1, Part 3,

Component	Specifications	Parameters	DCO Reference
ducts at the landfall			Requirement 16

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