The Great Grid Upgrade

Sea Link

Sea Link

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Contents

1. Description of Other Projects

1.1 Introduction

1.1.1 This appendix provides a description of other projects which have been identified to be taken through to the short list of the inter-project cumulative effects assessment of the Offshore Scheme. It provides a description of the other projects including their location and boundary as well as information on construction timescales.

1.1.2 This appendix should be read in conjunction with:

- **Application Document 6.2.4.11 Part 4 Marine Chapter 11 Inter-Project Cumulative Effects**; and
- **Application Document 6.3.1.5.A Appendix 1.5.A EIA Cumulative Assessment Methodologies**.

1.1.3 This appendix is supported by the following figures:

- **Application Document 6.4.4.11.A Description of Projects**

1.2 Sizewell C Nuclear Power Station

Description

1.2.1 A proposed expansion of the Sizewell nuclear license site north of Sizewell B Nuclear Power Station. This will accommodate two new European pressurised reactors (EPR) with a 3.2GW electricity generation capacity. This will provide electricity for 6 million homes (EDF, 2022a).

1.2.2 The project is currently jointly run between Électricité de France (EDF) and the UK Government after buying out China General Nuclear Power Group (CGN's) 50% stake in Sizewell C (EDF, 2022b). Consequently, the land will be jointly owned by EDF and the UK Government with the new development consisting of nuclear and conventional islands, cooling water pumphouses, ancillary buildings, marine and terrestrial works, and infrastructure (NNB Gerneration Company, 2019). Currently there are three parts of this development that could result in inter-project cumulative effects with the Offshore Scheme, which are the proposed sea defences, a temporary jetty and cooling water system. A description of each is provided in the following sections.

Sea defences

1.2.3 A collection of coastal sea defences 14m above sea level on the coast adjacent to the Sizewell C Nuclear Power Station. These will help protect the development from storm surges and extreme weather events (NNB Gerneration Company, 2019).

Temporary jetty

1.2.4 A temporary jetty will be installed adjacent to the Sizewell complex during the construction phase of the Sizewell C Nuclear Power Station Development (NNB

Gerneration Company, 2019). This will help facilitate the transport of construction materials to the construction site minimising the number of Heavy Goods Vehicle (HGV) on the highway network. The jetty will also potentially assist the movement of excavated peat and alluvium from the construction site to Wallasea Island, Essex (NNB Gerneration Company, 2019).

Cooling water system

1.2.5 The Cooling Water System is required as a heat sink so that Sizewell C Nuclear Power Station condensers do not overheat. This will require three water intakes 3 km offshore from the Sizewell C site and three water outfalls between 0.8- 3 km offshore (NNB Gerneration Company, 2019). These will intake water and release filtered heated water into the marine environment post cooling as a heat sink. This process will occur via sub seabed horizontal tunnels. The Cooling Water System will be accompanied by a filtering debris recovery pit and fish return tunnels (NNB Generation Company, 2021).

Location and Boundary

1.2.6 The Sizewell C site is situated immediately north of the Sizewell B site, approximately 3.5 km north of Thorpeness village and will cover an area of 32 ha (NNB Gerneration Company, 2019). The Sizewell C offsite works are located approximately 5 km northeast of the Suffolk landfall.

Sea defences

1.2.7 Sea Defences will be located immediately adjacent to the development on the coastal, eastern edge of the development (NNB Gerneration Company, 2019).

Temporary jetty

1.2.8 The temporary jetty will be connected to the development immediately adjacent to Sizewell C Nuclear Power Station. The specific grid co-ordinates of the jetty are not currently available (NNB Gerneration Company, 2019).

Cooling system

1.2.9 The input cooling pipelines will be located 3 km offshore east of the development intersecting the Sizewell Bank and Dunwich Bank, 1.5 km offshore. The outfall pipelines are located 0.3 - 8 km offshore (NNB Gerneration Company, 2019). The specific locations for both input and outfall pipelines are shown on **Application Document 6.4.4.11.A.1 The locations of the Sizewell C Nuclear Power Station offshore works.**

1.2.10 The boundary for all offshore developments at Sizewell C is approximately 5 km northeast of the Offshore Scheme.

Developmental and Construction Timeframes

1.2.11 The Development Consent Order (DCO) application for Sizewell C was made by the Secretary of State on the 20 July 2022 (The Planning Inspectorate, 2022). Construction has commenced in 2024 with a duration of 9 -15 years. This DCO is valid for five years.

1.3 NeuConnect Interconnector

Description

1.3.1 A proposed 1.4GW capacity offshore multipurpose interconnector (MPI) project (NeuConnect Britain Limited, 2023) from Wilhemshaven, Germany to the Isle of Grain, Kent developed by Meridam, Allianz Capital and Kansai Electric Power (NeuConnect, 2023a). This project aims to be the first energy connection between the UK and Germany in order to transfer electricity between the two countries and increase grid capacity for increased electricity demand and supply from offshore wind assets (NeuConnect, 2023a). The offshore aspects of this development that have the potential to result in inter-project cumulative effects with the Offshore Scheme and the High Voltage Direct Current (HVDC) subsea cable and cable landfall location (NeuConnect, 2021).

HVDC subsea cable

1.3.2 A 720 km HVDC subsea cable through British, German and Dutch Exclusive Economic Zones (EEZs) within a 500 m cable corridor. The cable bundle with a capacity of 1.4GW will consist of two cables and a “piggybacked” fibre optic cable for cable monitoring and communication purposes. The cable will be trenched at a depth of 1.5m to 2m beneath the seabed to minimise cable damage. This will be undertaken using jet trenching or cable ploughs (NeuConnect, 2021). Additional cable protection may be used if necessary.

Landfall location

1.3.3 The HVDC subsea cable will make landfall with the UK coastline at the Isle of Grain, Kent. Horizontal Directional Drilling (HDD) works in the UK commenced summer 2023, involving the installation of three underground ducts totaling over 1.2 km in length. The completion of this stage will allow the subsea cables to be brought onto land (NeuConnect, 2023b).

Location and Boundary

1.3.4 The location of the Proposed Project is shown on **Application Document 6.4.4.11.A.2 The offshore cable route of the Neuconnect interconnector**. The NeuConnect HVDC subsea cable crosses the Offshore Scheme at Kilometer Point (KP) 50.672.

Developmental and Construction Timeframes

1.3.5 The offshore licence for the British EEZ was issued by the Marine Management Organisation (MMO). Construction commenced in 2023 with full operation in 2028 (NeuConnect Britain Limited, 2023). This construction timeline is currently on schedule with the offshore cabling due to commence in 2024.

1.4 Gridlink Interconnector

Description

1.4.1 A proposed 1.4 GW capacity offshore MPI project from Dunkerque, France to Kingsnorth, Kent developed by iCON Infrastructure LLP. It aims to transfer energy

between UK and France providing electricity to 2.2 million homes. Additionally, it aims to improve grid capacity for increases in offshore wind electricity generation (GridLink Interconnector, 2021). The offshore, coastal, and intertidal components of the project will consist of a HVDC cable and landfall location.

HVDC subsea cable

1.4.2 The 140 km HVDC subsea cable will connect the British and French landfall locations. Approximately 108 km of the HVDC cable will pass through the British EEZ (Intertek, 2018). The subsea cables will be laid within a 30 m installation corridor within a wider 500 m cable corridor and is subject to Crown Estate licensing.

1.4.3 The subsea cables will be 150 mm in diameter utilising steel wire armouring for protection. The cable bundle will consist of two cables and a fibre optic cable for monitoring of the cable. This bundle will aim to be buried in a trench to a minimum depth of 2 m (Intertek, 2018). The cable will be laid using a combination of mechanical trenchers and jetting trenchers for finer benthic substrates. Additional cable protection may be used if necessary.

Landfall location

1.4.4 A landfall point will be located at Kingsnorth on the Medway Estuary. HDD will be utilised at the landfall for 700 m beneath the intertidal and coastal zone. This will aim to preserve intertidal mudflats and sea defences on the cable route. A TJP will be installed to connect the subsurface onshore HVDC cable and subsea offshore HVDC cables (Intertek, 2018).

Location and Boundary

HVDC Subsea Cable

1.4.5 The proposed 140 km Gridlink MPI project is illustrated on **Application Document 6.4.4.11.A.3 The offshore cable route of the Gridlink interconnector**. The Gridlink HVDC subsea cable crosses the Offshore Scheme at KP 101.27.

Developmental and Construction Timeframes

1.4.6 The offshore licence for the British EEZ was issued by the Marine Management Organisation (MMO) in May 2022. Construction is currently planned to commence in 2026 and commercial operations to commence in 2030 (GridLink Interconnector, 2021).

1.5 North Falls Offshore Windfarm

Description

North Falls Offshore Wind Array

1.5.1 The main Offshore Wind Array will be located off the Essex and Suffolk coastline developed by Scottish and Southern Electricity Networks (SSE) and Rheinisch-Westfälische Elektrizitätswerk (RWE) (North Falls Offshore Windfarm, 2023). Following consultation in summer 2023 the northern offshore array area has been removed, reducing the array area from 150 km^2 to 95 km^2 and likewise the number of turbines

from 72 to 57. The closest point to shore will now be 42 km as opposed to a previous 22 km (North Falls Offshore Wind Farm, 2023).

1.5.2 The maximum wind turbine height has been reduced from 397 m to 377m above Mean High Water Spring (MHWS) and will be supported by either monopile, pin pile, suction caisson, or Gravity Base Structure foundations (North Falls Offshore Windfarm, 2021).

HVAC export cables

1.5.3 Two 57 km subsea High Voltage Alternating Current (HVAC) export cables from the array area to the Essex coast between Frinton- on- Sea and Clacton- on- Sea. The cables will be buried at a minimum depth of 0.5 m to 3 m beneath sand or gravel benthic substrate. Cable burial will be undertaken at water depths between 5 m and 59 m (North Falls Offshore Windfarm, 2021). Additional cable protection may be used if necessary.

1.5.4 Each export cable bundle will be comprised of three, 310 mm diameter, 400 kV HVAC cables and a fibre optic cable for monitoring purposes (North Falls Offshore Windfarm, 2021).

Array cables

1.5.5 The array will use 190km of HVAC array cables connecting the wind turbines to the Offshore Substation Platforms (OSPs). These cables will be comprised of three, 220 mm diameter HVAC cables. The voltage of these cables will vary between 33 to 132 kV based on specific function (North Falls Offshore Windfarm, 2021). The specific routing of these cables is yet to be determined.

Offshore substation platforms (OSPs)

1.5.6 Up to two OSPs will be constructed to transfer the electricity generation from each wind turbine to the main export cables. The wind turbines and the OSPs will be connected by array cables (North Falls Offshore Windfarm, 2021). The specific location and dimensions of the OSPs are not currently available.

Repair and maintenance platform.

1.5.7 A repair and maintenance platform will be constructed to help with the continued operation of the platform (North Falls Offshore Windfarm, 2021). The specific location and dimensions of the platform are not currently available.

Location and Boundary

1.5.8 The North Falls Offshore Windfarm is in the Outer Thames Estuary and is an extension to the Greater Gabbard Array (North Falls Offshore Windfarm, 2023):

- Array: 95 km^2 and 40 km from the coastline.

1.5.9 The subsea export cable will make landfall between Clacton-on-Sea and Frinton-on-Sea, Essex to the north of the Margate and Long Sands Special Area of Conservation (SAC) and Kentish Knock East Marine Conservation Zone (MCZ) (North Falls Offshore Windfarm, 2021).

1.5.10 The location of the project is shown on **Application Document 6.4.4.11.A.4 The offshore export cable route of the North Falls Offshore Windfarm**. The northern

subsea export cable corridor crosses the Offshore Scheme approximately KP 52.012 and the southern corridor at KP 53.032.

Developmental and Construction Timeframes

1.5.11 The Scoping Report was submitted to the Planning Inspectorate in July 2021 (North Falls Offshore Wind Farm, 2021) with non-statutory consultation closed on the 9 December 2022 (North Falls Consultation, 2022). Statutory consultation closed on 14 July 2023 with further targeted consultation closing on the 22 April 2024.

1.5.12 The DCO application was submitted to Planning Inspectorate in July 2024 with construction commencing in 2025/2026 under the current programme. Commercial operation of the array and associated infrastructure is scheduled by 2030 (North Falls Offshore Wind Farm, 2023).

1.6 East Anglia ONE North Offshore Windfarm

Description

East Anglia ONE North Array

1.6.1 A proposed 208 km^2 wind farm developed by Scottish Power Renewables (SPR) consisting of 67 turbines with a combined electricity generation capacity of 800 MW, an extension of the existing East Anglia ONE array. It is part of the East Anglia Hub which includes three arrays off the coast of Suffolk (ScottishPower Renewables, 2024).

1.6.2 Each wind turbine being 300 m above the Lowest Astronomical Tide (LAT) and will use either 3-4 leg jackets on piles or suction caissons, monopiles of Gravity Base structures as foundations and will be placed between 33 m to 67 m deep (ScottishPower Renewables , 2019).

HVAC export cable

1.6.3 A 54.4 km HVAC will make landfall at Thorpeness, in East Suffolk. The cable will be buried at a depth of 0.5 m to 5 m in the seabed by jet trenching or mechanical trenching. Additional cable protection as well as boulder clearance and sandwave levelling may be required along the cable corridor as necessary (ScottishPower Renewables , 2017). Additional cable protection may be used if necessary.

1.6.4 A fibre optic cable will be laid alongside the main export cable for cable monitoring (System Control and Data Acquisition) (ScottishPower Renewables , 2017).

Platform link and array cables

1.6.5 A network of HVAC array cables will link the wind turbines to the electrical platforms for eventual transport to the export cable (ScottishPower Renewables , 2017). The cumulative length of the array cables is yet to be determined.

Offshore electrical platforms

1.6.6 Four electrical platforms will be installed with steel jacket foundations. These will include a variety of facilities and equipment including (ScottishPower Renewables , 2017):

- repair and maintenance platform;

- accommodation platform;
- fuel and generators;
- craneage;
- potential helipad; and
- auxiliary power supply and transformers.

Meteorological mast

1.6.7 A 15 m to 20 m meteorological mast will be erected to monitor weather conditions for optimal operation of the array. The mast will use either jackets on piles, jackets on suction caissons, Gravity Base structures, suction caissons and monopiles for foundations to the seabed (ScottishPower Renewables , 2017).

1.6.8 Along with the array the offshore aspect of the project includes (ScottishPower Renewables , 2017):

- four offshore converter platforms with associated subsea array cables to connect the array to the converter platforms;
- a maintenance and repair platform; and
- a 37.7 km of subsea export cable corridor connecting the array to the landfall near Thorpeness, East Suffolk.

Location and Boundary

1.6.9 The array site is situated 37.7 km from the Suffolk coastline and is situated south of the Ulysses 2 sub-sea cable and north of the existing East Anglia ONE array. It is also demarcated by shipping route constraints to the east and west of the array (ScottishPower Renewables , 2017).

1.6.10 The subsea export cable travels 37.7 km to the landfall between Sizewell and Thorpeness north of the Southwold Oil Transhipment Area and East Anglia TWO array (ScottishPower Renewables , 2017).

1.6.11 The location of the project is shown on **Application Document 6.4.4.11.A.5 The offshore export cable route corridor and array area for the East Anglia One North Offshore Windfarm**. The East Anglia ONE North Order Limit is located approximately 0.36 km north east of the Offshore Scheme.

Developmental and Construction Timeframes

1.6.12 The DCO application was approved by the Secretary of State on the 31 March 2022 (Planning Inspectorate , 2022). Construction is expected to commence in 2025 and aims to be operational in 2027/early 2028 based on engagement with developers. Currently the project's planned operational lifespan is 25 years.

1.7 East Anglia TWO Offshore Windfarm

Description

East Anglia TWO Wind Array

1.7.1 A proposed 218.4 km^2 wind farm developed by Scottish Power Renewables (SPR) consisting of 75 turbines (ScottishPower Renewables, 2024) . Each turbine will have an electricity generation capacity of 19 MW and 22 m high above MHWS. The foundations will either use 3-4 leg jackets on piles or suction caissons, monopiles of Gravity Base structures and be placed between 33 m to 67 m deep (Planning Inspectorate, 2019).

HVAC export cable

1.7.2 Two 80 km HVAC subsea export cable corridors connecting the array to the landfall near Thorpeness, East Suffolk will be installed. The cable will be buried at an average depth of 3 m in the seabed by jet trenching or ploughing. Additional cable protection as well as boulder clearance and sandwave levelling may be required along the cable corridor is necessary (Planning Inspectorate, 2019). Additional cable protection may be used if necessary.

1.7.3 Fibre optic cables will be either be laid within the export cables themselves or attached to the outside of the export cable for cable monitoring (System Control and Data Acquisition) (Planning Inspectorate, 2019).

Platform link and array cables

1.7.4 A network of HVAC array cables will link the wind turbines to the electrical platforms for eventual transport to the export cable. The cumulative length of the array cables is around 200 km (Planning Inspectorate, 2019).

Offshore electrical platforms

1.7.5 Four electrical platforms will be installed with steel jacket foundations. These will include a variety of facilities and equipment including (Planning Inspectorate, 2019):

- repair and maintenance platform;
- accommodation platform;
- meteorological station;
- fuel and generators;
- cranes;
- potential helipad; and
- auxiliary power supply and transformers.

Location and Boundary

1.7.6 The array site is situated 32.6 km from Southwold along the Suffolk coastline, situated south of the Outer Thames Estuary Special Protection Area (SPA) and approximately 10 km west of the existing East Anglia ONE array. It is also demarcated by shipping

route constraints and the existing Galloper Wind Farm to the south of the array (Planning Inspectorate , 2017).

1.7.7 The subsea export cable travels 32 km to the landfall between Sizewell and Thorpeness. There are two existing cable corridors: the northern corridor travels north of the Southwold Oil Transhipment Area, whereas the southern cable corridor travels south of this transhipment area, with potential to share the export cable corridor for East Anglia ONE North (Planning Inspectorate, 2019).

1.7.8 The location of the project is illustrated on **Application Document 6.4.4.11.A.6 The offshore export cable route corridor and array area for the East Anglia Two Offshore Windfarm**. The East Anglia TWO Order Limit is located approximately 0.36 km north of the Offshore Scheme.

Developmental and Construction Timeframes

1.7.9 The DCO application was approved by the Secretary of State on the 31 March 2022 along with the East Anglia ONE North array. Construction is expected to commence in 2025 and aims to be operational in 2027/early 2028 based on engagement with developers. Once completed the development will be in operation for 25 years (ScottishPower Renewables, 2024).

1.8 East Anglia THREE Offshore Windfarm

Description

East Anglia THREE Wind Array

1.8.1 A proposed 305 km^2 wind farm developed by Scottish Power Renewables (SPR) and Vattenfall consisting of between 100 and 172 offshore wind turbines with a combined electricity generation capacity of up to 1200MW. It is part of the East Anglia Hub which includes three arrays off the coast of Suffolk, with the East Anglia THREE array being 69 km from Lowestoft, Suffolk. All wind turbines are located in a water depth of 35 m to 45 m with the maximum tip of the turbine blade 247 m above LAT. Each turbine will be secured with weather jacket on piles, Gravity Base structures, suction caissons or monopiles foundations (ScottishPower Renewables, 2014). Specific foundation designs will be decided later as the development progresses.

HVDC export cables

1.8.2 Four offshore, HVDC export cables will make landfall at Bawdsey, Suffolk. Cumulatively the four offshore export cables will travel up to 155 km in length with the cable corridor's footprint covering up to 838 km^2 (ScottishPower Renewables, 2014).

1.8.3 The four export cables will run as two pairs of cables with each cable being 120 – 200 mm in diameter. Each cable will be three cable cores, cross- linked polyethylene (XLPE) design with a capacity of 300- 600 kV along with a fibre optic cable for able monitoring. Additional cable protection as well as boulder clearance and sandwave levelling may be required along the cable corridor is necessary (ScottishPower Renewables, 2014).

Offshore collector and converter platforms

1.8.4 Three Offshore Collector platforms will bring together electricity generated by the wind turbines for transport to the Converter Stations. The Collector Stations will accommodate power transformers, switchgear, control systems and neutral earthing resistors (ScottishPower Renewables, 2014).

1.8.5 Electricity will be transported to two converter stations where the HVAC electricity in the array cable is converted to HVDC for the export cables. All platforms will use either jacket on piles, tripods on piles, Gravity Base structures, suction caissons or monopiles foundations. Depending on capacity, the Converter Station will cover an area of between 1,066 and 9,600 m^2, 70 m above LAT. The Converter Station will accommodate power transformers, switching devices, switchgear, cooling systems, DC equipment and AC/DC converters (ScottishPower Renewables, 2014).

Array cables

1.8.6 Twelve HVAC cables will link the collector stations and converter stations offshore for eventual transport via the HVDC export cable. Each cable is rated at 33 to 75kV with three core copper conductors and XLPE insulation. Each cable bundle will have a fibre optic cable for cable monitoring (ScottishPower Renewables, 2014).

Offshore substation platforms

1.8.7 The Offshore Substation Platform will accommodate additional equipment for the continued operation of the array. This will include:

- accommodation facilities for offshore workers;
- generators and fuel supplies;
- craneage;
- meteorological equipment;
- helipad; and
- auxiliary power supply systems and transformers.

1.8.8 All platforms will use steel jacket foundations given the greater size relative to the wind turbines (ScottishPower Renewables, 2014).

Location and Boundary

1.8.9 The array will be located 69 km from the Suffolk coastline across a 305 km^2 area (ScottishPower Renewables , 2024). The location of the Project is shown on **Application Document 6.4.4.11.A.7 The offshore export cable route corridor and array area for the East Anglia Three Offshore Windfarm**. The East Anglia THREE northern export cable corridor crosses the Offshore Scheme at KP 11.354 and southern corridor at KP 14.482.

Developmental and Construction Timeframes

1.8.10 The DCO application was approved by the Secretary of State on the 7 August 2017. Construction on the project commenced in July 2022 and is scheduled to be completed by 2026. Once completed the development will be in operation for 25 years until 2051 (ScottishPower Renewables , 2024).

1.9 Nautilus Offshore Interconnector

Description

1.9.1 A 1.4 GW capacity MPI connecting Belgium with the UK is being developed by National Grid Ventures (National Grid Ventures, 2024). The aim will be to increase transfer in offshore wind electricity generation and improve grid capacity in both countries to achieve this. Details of the offshore aspect of the development published in 2021 included (National Grid Ventures, 2021):

- Subsea HVDC cable connecting the Belgian landfall with the UK landfall in Suffolk; and
- Offshore HVDC converter platform.

1.9.2 However, National Grid Ventures more recently sought to connect into the Grain Substation at the Isle of Grain in Medway, a proposed approach that was agreed by Ofgem as part of its Initial Project Assessment (IPS) published in November 2024.

1.9.3 Although it is understood that the proposed connection agreement for connection to the proposed Friston substation has not yet been cancelled, this is likely to happen in 2025.

Location and Boundary

1.9.4 The proposed location of the project is shown on **Application Document 6.4.4.11.A.8 The proposed landfall locations of the Nautilus offshore interconnector**. The Nautilus potential routing options at the Suffolk landfall currently overlap with the Offshore Scheme. Whilst the landfall could be shared at this landfall, the marine cables are unlikely to cross at this location.

1.9.5 At the point that National Grid Ventures last published information about the Nautilus project as it pertained to the Friston Connection, there was no information provided about the possible location of the offshore cable corridor.

1.9.6 Whether the Nautilus project pursues the proposed connection to the Isle of Grain, or reverts to the Friston connection site (though this is considered to be highly unlikely), it will need to cross the Offshore Scheme in the offshore environment. The absence of routeing proposals means that the likely location cannot be determined. As such only general assumptions about the likely construction method can be made..

Developmental and Construction Timeframes

1.9.7 Non statutory consultation and community engagement closed in October 2021 (National Grid Ventures, 2024) with assessments and engineering to support the relevant consents currently underway. The application as it pertained to the Friston connection was withdrawn from the Planning Inspectorate website (Planning Inspectorate, 2024). Following engagement with National Grid Ventures the DCO application is now expected to be submitted in 2028.

1.10 Five Estuaries Offshore Windfarm

Description

Five Estuaries Wind Array

1.10.1 A proposed 128 km^2 wind farm jointly developed by RWE 37 km off the Suffolk Coast. The array will consist of either 79 small turbines or 41 large turbines with a combined electricity generation capacity of 4.8 GW. Depending on which turbine size is selected, turbines will be either 324m or 399 m high above LAT with either a 260 m or a 360 m rotor diameter. Turbines will be anchored by either monopile, suction bucket monopile, pin piled or Gravity Base monopile foundations (Planning Inspectorate, 2023).

HVAC export cables

1.10.2 196 km of subsea HVAC export cables will be routed from the array to the Essex coast near Clacton- on- Sea. Each cable will be buried at a minimum depth of 0 m to 3.5 m using mechanical trenching or jet trenching disturbing 18 m of seabed around the cable trench (Planning Inspectorate, 2023). Additional cable protection will be used if necessary.

1.10.3 The cable bundle itself will comprise of three, 400 kV cables along with a fibre optic cable for cable monitoring. It will use XLPE in the cable design (Five Estuaries Offshore Wind Farm, 2021).

Array cables

1.10.4 A cumulative length of 200 km of HVAC array cables will be used to link the wind turbines to OSP for eventual transport to the export cable. These will likewise be buried 0 m to 3.5 m into the seabed disturbing a maximum of 18 m width per cable (Planning Inspectorate, 2023).

1.10.5 The cable bundle will comprise of three, 220 mm diameter cables and a fibre optic cable for cable monitoring purposes (Five Estuaries Offshore Wind Farm, 2021).

Offshore substation platforms (OSPs)

1.10.6 Two OSPs will be installed to transfer the electricity generated from the turbines and transported to the OSP by the array cables to the export cables. The OSP platform will be 195m above the LAT and 12,500 m^2 in area (Planning Inspectorate, 2023).

Repair and maintenance platform.

1.10.7 A repair and maintenance platform will be constructed (Five Estuaries Offshore Wind Farm, 2021). The specific location and dimensions of the platform are not currently available.

Location and Boundary

1.10.8 The Five Estuaries Offshore Windfarm is divided into a northern and southern array. The northern array is immediately east of the Outer Gabbard Bank and the southern array is immediately east of Galloper Bank. The two arrays are separated by the

Lobourg Channel and connected by a subsea array cable (Planning Inspectorate, 2023).

1.10.9 The export cable will be routed 92.5 km to make landfall between Holland-On-Sea and Frinton-On-Sea, Essex (Planning Inspectorate, 2023).

1.10.10 The location of the project is illustrated on **Application Document 6.4.4.11.A.8 The proposed offshore export cable route corridor for Five Estuaries Offshore Windfarm**. The Five Estuaries northern export cable crosses the Offshore Scheme at KP 50.181and southern corridor at KP 52.719.

Developmental and Construction Timeframes

1.10.11 The scoping and non-statutory consultation phase was completed in October 2021. Subsequent statutory consultation was concluded on the 12 May 2023. The DCO application was submitted to Planning Inspectorate in March 2024 and accepted for examination on 22 April 2024. Construction is due to commence in 2027 with full operation in 2030 under the current schedule (Five Estuary Wind Farm Ltd , 2020).

1.11 LionLink Offshore Interconnector

Description

1.11.1 Formally known as Eurolink, a 1.8GW MPI connecting the Netherlands and the UK developed by National Grid Ventures. The aim will be to increase transfer in offshore wind electricity generation and improve grid capacity in both countries to achieve this. This aims to advance key National Grid and UK Government goals including transitioning to Net Zero by 2030, enhancing energy security and affordability (National Grid Ventures, 2024). The offshore aspect of the development includes:

- Subsea HVDC connecting the Belgian landfall with the UK landfall in Suffolk; and
- Offshore HVDC converter platform (LionLink, 2024).

Location and Boundary

1.11.2 The location of the project is illustrated on **Application Document 6.4.4.11.A.9 The proposed landfall locations of the LionLink offshore interconnector**. The marine cables are unlikely to cross due to the direction this cable will be coming from (National Grid , 2022). The current emerging landfall preference for LionLink is at Southwold/Reydon and an alternative location at Walberswick (LionLink, 2024).

Developmental and Construction Timeframes

1.11.3 Non statutory consultation and community engagement closed on the 18 December 2022. National Grid Ventures aims to submit the DCO application to Planning Inspectorate in 2025. A second non-statutory consultation was undertaken (September 2023 – November 2023) with the Supplementary Non-Statutory Consultation report released in March 2024. Construction is due to commence in 2027 with the final connection date being in 2029 under the current schedule based on project engagement with National Grid Ventures.

1.12 Hanson Aggregate Marine Ltd Area 528/2

Description

1.12.1 An application and option area for the exploration and extraction of marine aggregates (The Crown Estate, 2021).

Location and Boundary

1.12.2 The option area is 47.37 km^2 and is located immediately outside the Thames Estuary and next to the 9.66 km fishing limit. Boundaries encompassing the following Degrees and Decimal Minutes (DDM) co-ordinates as published by the Crown Estate (The Crown Estate, 2021).

1.12.3 The location of the project is illustrated on **Application Document 6.4.4.11.A.10 The location of the Hanson aggregate marine Ltd area 528/2**. The option area is located 0.1 km east of the Offshore Scheme.

Development and Construction Timeframes

1.12.4 The application for this site was submitted in 2016, with a commencement date of 01 August 2017, and an end date of 31 July 2024 (The Crown Estate, 2024).

1.13 Nemo Link

Description

1.13.1 Nemo Link is a 1 GW HVDC submarine interconnector connecting Richborough Energy Park in Kent, UK to Zeebrugge, Belgium via two 130 km HVDC subsea cables. The project is a joint venture between National Grid Interconnector Holdings Limited and Elia Group, Belgium's transmission system operator. The 400kV interconnector is the first between the two countries and has been fully operational since 31 January 2019, transporting 29.6 TWh of power over the last 5 years (Nemo Link, 2024).

Location and Boundary

1.13.2 The location of the project is illustrated in **Application Document 6.4.4.11.A.11 The offshore cable route corridor of the NEMO Link Interconnector**. The UK landfall is situated in Richborough, Kent with the subsea cables running through Pegwell Bay and across the English Chanel and North Sea. The cables make landfall on the northwest coast of Belgium in Zeebrugge (Planning Inspectorate, 2019). NEMO Link intersects the Offshore Scheme at KP 113.106.

Developmental and Construction Timeframes

1.13.3 Nemo Link has been fully operational since 31 January 2019. There are planned outages in 2024, 2025, and 2026 for maintenance works over the following dates: 23 September 2024 – 29 September 2024, 22 September 2025 – 28 September 2025 and 21 September 2026 – 27 September 2026 (Nemo Link, 2024).

1.14 Thanet Offshore Windfarm

Description

1.14.1 Thanet Offshore Windfarm is located approximately 7 miles (11 km) off the coast of Thanet district in Kent, England. The wind farm consists of 100 Vestas V90 wind turbines and has a total capacity of 300 MW. The wind farm is positioned in water depths of 20–25 m and covers an area of 35 km^2 (Vattenfall, 2024).

Location and Boundary

1.14.2 The location of the project is illustrated on **Application Document 6.4.4.11.A.12 The location of Thanet Offshore Windfarm**. Two submarine power cables run from an offshore substation within the wind farm connecting to an existing onshore substation in Richborough, Kent. The windfarm array sits 0.6 km^2 from the Offshore Scheme. The Thanet Offshore Transmission Owner (OFTO) export cables intersect the Offshore Scheme on approach to the Kent Landfall at KP 107.594 and KP 107.647.

Developments and Construction Timelines

1.14.3 Planning permission for the project was granted on 18 December 2006 with the windfarm officially opening on 23 September 2010. On 2 June 2020, the DCO for a new cluster of wind turbines off the coast of Thanet was rejected.

1.14.4 It is anticipated that routine maintenance will be undertaken at this windfarm throughout its lifetime which may overlap with the construction of the Proposed Project.

1.15 London Array Offshore Windfarm

Description

1.15.1 London Array features 175 Siemens 3.6MW wind turbines with a combined capacity of 630MW.

Location and Boundary

1.15.2 London Array offshore windfarm, covers an area of 122.5 km^2, lying 1.2 km to the west of the Offshore Scheme boundary The location of the project is illustrated on **Application Document 6.4.4.11.A.13 The location of London Array Offshore Windfarm**. This also includes the Blue Transmission London Array export cable, approximately 8.3 km from the Offshore Scheme boundary. This windfarm export cable does not cross the Offshore Scheme boundary.

Developments and Construction Timelines

1.15.3 Construction of phase 1 of the wind farm began in March 2011 and inaugurated in 2013. It is currently maintained and operated from the Port of Ramsgate.

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