



| <b>Transboundary screening undertaken by the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) for the purposes of Regulation 32 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 2017 EIA Regulations)</b> |  |
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| <b>Project name:</b>   | Sizewell C New Nuclear Power Station   |
| <b>Address/Location:</b>   | Sizewell B power station, Leiston, Suffolk. IP16 4UR   |
| <b>Planning Inspectorate Ref:</b>  | EN010012   |
| <b>Date(s) screening undertaken:</b>   | <p>First screening - 31 October 2019 (following the Applicant's request for a scoping opinion).</p> <p>Second screening – 29 June 2020 (following the submission of the application for a development consent order)</p> <p>Third screening – 13 October 2021 (in light of changes to the original application, accompanied by additional information)</p> |
| <b>EEA States identified for notification:</b>   | <p>First screening:</p> <ul style="list-style-type: none"> <li>• Netherlands</li> </ul> <p>Second and third screenings:</p> <ul style="list-style-type: none"> <li>• None identified</li> </ul>  |

| <b>FIRST TRANSBOUNDARY SCREENING</b>                 |   |
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| <b>Document(s) used for transboundary Screening:</b> | <p>Sizewell C EIA Scoping Report dated May 2019 ('the Scoping Report') available on the Planning Inspectorate website</p> <p>Planning Inspectorate Scoping Opinion: Proposed Sizewell C Nuclear Development, Case Reference: EN010012 dated July 2019 ('the Scoping Opinion') available on the Planning Inspectorate website</p>  |
| <b>Screening Criteria:</b>                           | <b>The Inspectorate's Comments:</b>   |
| <b>Characteristics of the Development</b>            | <p>The Proposed Development is to construct a new nuclear power station comprising two United Kingdom European Pressure Reactors (EPR) with a total expected generating capacity of approximately 3,240 MW. In addition to the new nuclear power station site, the Proposed Development includes both temporary and permanent off-site development associated with the construction and operation of the power station.</p> <p>The 'main development site' is defined as the new nuclear power station and on-site associated facilities, which include a worker accommodation campus and caravan site,</p> |

administration offices, waste recycling facilities, perimeter and internal roads, and utilities provision including a foul water pumping station.

Connection to the National Grid via a new 400kV substation and overhead lines is also proposed as part of the main development site.

In addition, the main development site includes the following coastal and off-shore elements:

- cooling water infrastructure (including cooling water tunnels extending out to sea, intake and outfall headworks on the sea bed (North Sea), and the outfall associated with a fish recovery and return system);
- a Beach Landing Facility (BLF) to receive deliveries of Abnormal Indivisible Loads (AILs) by sea throughout the power station's operational life, and
- flood defence and coastal protection measures.

The 'off-site elements' of the Proposed Development are defined as associated development and are associated with the road and rail network.

The project description in the Scoping Report does not include precise details of the anticipated area or the proposed dimensions (maximum and minimum heights, footprints etc) of any of the project elements at this stage.

The Scoping Report describes various phases of earthworks including those required to establish the 'main development site platform' at 7.3m Above Ordnance Datum (AoD), the flood defences, the BLF, and excavations including borrow pits.

### **Pollution and nuisance during operations**

The Scoping Report lists liquid discharges associated with the operation of Sizewell C through the main cooling water return which includes:

- seawater volumes associated with the Fish Recovery and Return system;
- Return of abstracted cooling water, which will be characterised by thermal content and will be dosed with biocides to prevent biofouling of the cooling water infrastructure;
- Effluent, associated with operations within the nuclear island discharged on a batch basis after processing and monitoring to remove contaminants;
- Demineralised water (known as 'blowdown') from the secondary cooling system;
- Storm water run-off from site drainage network which will pass through an oil interceptor prior to discharge;

- Oily water from areas where oils or hydrocarbon fuels are stored or used, that is to be segregated to prevent contamination and disposed of off-site at an appropriately licensed waste management facility; and
- Sanitary effluent generated by on-site workforce to be treated in a Sewage Treatment Plant before being discharged to sea via the main cooling water system.

The potential operational emissions to air arising from the operation of Sizewell C would primarily include:

- Formaldehyde (H<sub>2</sub>CO), that may in turn produce carbon monoxide (CO), emitted by the thermal decomposition of insulation material during reactor return to operation following maintenance outages;
- Ammonia (NH<sub>3</sub>) discharged as the temperature rises in the steam generators during start-up following a maintenance outage;
- Sulphur dioxide (SO<sub>2</sub>) nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) in the exhaust gases from engines of back-up diesel generators during periodic testing [TBC];
- SO<sub>2</sub>, NO<sub>x</sub>, CO, PM<sub>10</sub> and PM<sub>2.5</sub> from plant including; firefighting and hydrant diesel pumps, and domestic heating boilers; and
- Discharge of radioactive gaseous effluents arising from the degassing of primary coolant and maintenance and operations in building areas containing radioactivity.

#### **Pollution and nuisance during construction**

It is anticipated that construction, in particular, the offshore elements of the Proposed Development is likely to generate:

- Air emissions;
- Vibration and noise;
- Effect to water quality;
- Changes in suspended sedimentation concentration and sea bed scouring, and
- Loss of habitats.

#### **Spent fuel and radioactive waste management**

The Scoping Report states that spent fuel removed from the reactor would initially be stored underwater in a reactor fuel pool. Following this initial storage period, the spent fuel assemblies would be transferred to the separate on-site Interim Spent Fuel Store (ISFS) where they would be safely stored until a UK Geological Disposal Facility is available and the spent fuel is removed for final disposal.

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|  | <p>The ISFS would be designed for a life of at least 100 years, which could be extended if necessary. The ISFS would be designed to be capable of operating independently of other parts of the power station in recognition that its lifetime would, under current assumptions, extend beyond the operational life and decommissioning of the other facilities on-site.</p> <p><b>Lifetime of the project</b></p> <p>It is understood that the Proposed Development will be operational for 60 years while the ISFS is designed for a lifetime of 100 years.</p> <p>Construction is anticipated to be undertaken in five main phases, with construction expected to last 9 to 12 years.</p>   |
| <p><b>Location of Development (including existing use) and Geographical area</b></p> | <p>The main development site is located to the north of the existing Sizewell B power station on the Suffolk coast to the north-east of the town of Leiston. Very little information is provided in the Scoping Report regarding the existing land uses and the features in the surrounding area of the Proposed Development.</p> <p>The Planning Inspectorate understands that the main development site currently comprises existing infrastructure associated with Sizewell A and B power stations, land in agricultural use, woodland, wetland, areas of lowland heath, waterbodies, and a section of vegetated dune coastal habitat, while the cooling water system and combined drainage outfall will be located in the North Sea.</p> <p>The Applicant has not identified within the Scoping Report the nearest EEA state to the Proposed Development.</p> <p>No information is provided in the Scoping Report about any areas which could be affected which are under the jurisdiction of another EEA State.</p> |
| <p><b>Environmental Importance</b></p>   | <p><b>European Sites</b></p> <p>The Scoping Report does not contain information regarding European Protected sites within the UK affected by the Proposed Development neither does it acknowledge the potential for significant transboundary effects outside of the UK. However, Natural England (see Natural England consultation response, Annex II of the Scoping Opinion) states that the various project elements are identified as presenting potential impact pathways to:</p> <ul style="list-style-type: none"> <li>• Outer Thames Estuary Special Protection Area (SPA);</li> <li>• Minsmere to Walberswick Heaths &amp; Marshes Special Area of Conservation (SAC);</li> <li>• Minsmere-Walberswick SPA and Ramsar;</li> <li>• Sandlings SPA;</li> <li>• Alde-Ore &amp; Butley Estuaries SAC;</li> </ul>   |

- Alde-Ore Estuary SPA and Ramsar;
- Orfordness-Shingle Street SAC;
- Benacre to Easton Bavents Lagoons SAC;
- Benacre to Easton Bavents SPA;
- The Humber Estuary SAC;
- Staverton Park and the Thicks, Wantisden SAC;
- Stour and Orwell Estuaries SPA and Ramsar, and
- The Wash and North Norfolk Coast SAC.

### **Marine Mammals**

The Planning Inspectorate also notes that the off-shore elements of the main development sites (the BLF and cooling water infrastructures) are located within the **Southern North Sea SAC**. This SAC has been identified as an area of importance for harbour porpoise (*phocoena phocoena*). This site includes key winter and summer habitat for this species and covers an area over 3 times the size of Yorkshire, making it the largest SAC in UK and European waters at the point of designation in 2019.

### **Shipping and navigation**

The Applicant has identified in the Scoping Report that commercial navigation activity in the study area comprises various vessel movements and activities at varying distances offshore. Commercial shipping transiting the study area includes cargo vessels, passenger vessels (e.g. the Harwich–Hoek of Holland/Rotterdam ferry route) and tankers using ports such as Harwich, Immingham, Southwold and Teesport.

The Applicant also recognised in the Scoping Report that Offshore wind farm development (e.g. Galloper, Greater Gabbard, and East Anglia One, Three and Four) also generate various changes to navigation (such as in shipping routes) and additional movements (for example, plant and supplies associated with offshore wind farm construction, operation and maintenance activities). See paragraph 6.17.12 of the Scoping Report.

### **Fishery**

Paragraph 6.16.13 lists commercial and recreational fisheries as a sensitive receptor. The Scoping Report states at Table 6.25 that data on fishing activity, including updated fisheries statistics up to 2017 from the Marine Management Organisation has been used to inform commercial fisheries baselines. Recreational fishing activity has been updated for the period 2015-2017 based on images from fixed camera mounted on the structure at Sizewell since 2015.

However, the Scoping Report does not provide details of the type and origin of the fishing vessels and potential for

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|   | <p>transboundary effects. The Planning Inspectorate notes that the area directly affected by the construction and operation of the Proposed Development is limited within the territorial waters. However, indirect effects on fisheries could extend beyond the territorial water limits.</p>  |
| <p><b>Potential impacts and Carrier</b></p> | <p>Potential pathways are through air, land and water.</p> <p><b>Marine Mammals</b></p> <p>The Scoping Report identifies at paragraph 6.16.13 marine mammals as a sensitive receptor.</p> <p>The Scoping Report identifies activities which could lead to direct and indirect impacts on the general marine ecology These are:</p> <ul style="list-style-type: none"> <li>• During Construction: <ul style="list-style-type: none"> <li>○ Dredging and drilling activities associated with the BLF navigational channel and sediment extractions for the cooling water infrastructure, fish recovery and return systems and combined drainage outfall resulting in elevated suspended sediment concentrations and sediment deposition rates. Changes in suspended sediment concentrations may have direct consequences for the primary receptor, or indirect effects on food-web that result in behavioural avoidance of prey and/or reductions in foraging efficiency.</li> <li>○ Construction of the BLF and cooling water infrastructure would cause localised habitat loss/change.</li> <li>○ Construction noise arising from dredging activities and piling for the BLF.</li> <li>○ Chemical/organic matter discharges from terrestrial groundworks/sewage treatment may have local impacts on receiving waters and organisms with limited movement control such as benthic species and phytoplankton.</li> </ul> </li> <li>• During Operation: <ul style="list-style-type: none"> <li>○ The cooling water system of the main development site would impinge fish and invertebrates.</li> <li>○ Discharges of heated cooling water effluent has the potential to effect marine ecological receptors in the receiving waters.</li> <li>○ Chemical discharges, including seasonal chlorinated discharges and hydrazine.</li> <li>○ Operations associated with the occasional use of the BLF would cause noise, sediment resuspension and localised habitat loss/change, potentially</li> </ul> </li> </ul> |

leading to smothering and/or behavioural effects in sensitive species.

### **Birds**

As with marine mammals, the Scoping Report provided by the Applicant identifies birds as a sensitive receptor

The activities listed above in connection with marine mammals could also potentially lead to direct and indirect impacts to birds both during construction and operation of the Proposed Development. Additionally, Natural England (See Annex II of the Scoping Opinion) notes that sand eels, which provide a food source to bird species, are a feature of the Outer Thames Estuary SPA and may be affected.

### **Shipping and navigation**

The Applicant states in the Scoping Report that the Proposed Development at the main development site includes marine elements which could impact marine navigation. The following impacts are listed:

- collision risk – passing vessels & vessels actively fishing with installation vessels; and
- collision risk with vessels using beach landing facility;
- risk of vessel involved in AIL deliveries grounding/foundering;
- risk from vessel anchors to subsea infrastructure; and
- third-party vessel foundering onto subsea infrastructure.

### **Fisheries**

The Scoping Report considers the potential for displacement of fishing activity and impacts on fish (resulting from the noise, vibration and visual disturbance during construction; loss of habitat; changes to water quality/temperature; and impingement during water abstraction).

Paragraph 6.16.45 of the Scoping Report states that the installation of offshore infrastructure would require temporary safety zones to be applied surrounding working construction vessels potentially impacting fishing activity.

Paragraph 6.16.51 states that underwater infrastructure presents a potential entanglement hazard to fishing gear, e.g. gill nets or drift nets or the same infrastructure can reduce fishing access to a small area to avoid entanglement risks.

### **Radiological exposure**

The Scoping Report acknowledges the potential for exposure to radiation from discharges of aerial and liquid radioactive emissions and direct radiation from radioactive sources.

### **Spent fuel and radioactive waste management**

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|                         | <p>The Scoping Report does not provide detailed information of the potential impacts generated by the management of spent fuel and radioactive waste. It is noted that the Scoping Report at paragraph 3.12.9 states that final disposal of radioactive waste will be a UK Geological Disposal Facility.</p>   |
| <p><b>Extent</b></p>    | <p><b>Marine Mammals</b></p> <p>The spatial extent within which marine mammals could be affected by the Proposed Development has not been explained within the Scoping Report.</p> <p><b>Birds</b></p> <p>The spatial extent within which birds could be affected by the Proposed Development has not been specified by the Applicant in the Scoping Report.</p> <p><b>Shipping and navigation</b></p> <p>The Applicant has not identified in the Scoping Report the spatial extent of commercial navigation activity affected by the Proposed Development. However, the Scoping Report states that the study area comprises various vessel movements and activities transiting the Harwich–Hoek of Holland/Rotterdam ferry route). Therefore, <b>the Port of Rotterdam (Netherlands)</b> is considered potentially affected by the Proposed Development.</p> <p><b>Fisheries</b></p> <p>The Scoping Report states that the study area for commercial fisheries has been informed using the International Council for the Exploration of the Sea (ICES) rectangles accounting. However, the Scoping Report does not include details of these fisheries and the nationalities of the fishermen that utilise them have not been provided.</p> <p><b>Radiological exposure</b></p> <p>The Scoping Report confirms that radiological exposure will meet legal requirements and will be controlled through an Environmental Permit.</p> <p><b>Spent fuel and radioactive waste management</b></p> <p>The extent of the direct and indirect effects of the spent fuel and radioactive waste management is not provided in the Scoping Report and will depend on the location of the final disposal site.</p> |
| <p><b>Magnitude</b></p> | <p><b>Marine Mammals</b></p> <p>Section 6.16 of the Scoping Report provides the assessment methodology of the effects of the Proposed Development on marine ecology. Paragraph 6.16.18 states that the impact magnitude primarily considers the spatial extent of the impact, the duration of the impact and the amount of change (positive or negative) relative to baseline conditions. However, the predicted impact magnitude of the Proposed Development on</p>   |

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|                           | <p>marine mammals, in particular, harbour porpoise is not provided.</p> <p><b>Birds</b></p> <p>Section 6.7 of the Scoping Report provides the assessment methodology of the effects of the Proposed Development on terrestrial ecology including ornithology. The Scoping Report states that the methodology will conform with the industry standard (Chartered Institute of Ecology and Environmental Management (CIEEM) 2018 Guidelines for Ecological Impact Assessment. However, the predicted magnitude of impact of the Proposed Development on bird species qualifying European Protected sites is not provided.</p> <p><b>Shipping and navigation</b></p> <p>The magnitude of impacts is not specified within the Scoping Report submitted by the Applicant.</p> <p><b>Fisheries</b></p> <p>Paragraph 6.16.35 states that the magnitude of predicted impacts will be considered on an individual fishery basis and will be defined spatially and temporally. Table 6.31 provides the descriptors of impact magnitude for fisheries receptors. No further details are provided.</p> <p><b>Radiological exposure</b></p> <p>Paragraph 6.18.4 states that the radiological impact assessment will assess the potential impacts from the Proposed Development against legally established and recognised radiological protection standards (including relevant dose constraints, limits and screening values) for a specified range of human and non-human receptors. No further details are provided. The scoping Report states at paragraph 6.19.55 that the safety of a generic reactor design is assessed under the Generic Design Assessment (GDA) process, overseen by the Office for Nuclear Regulation (ONR) and the Environment Agency.</p> <p>The safety of a site-specific implementation of that design of nuclear reactor is assessed as part of the review process undertaken prior to granting of the Nuclear Site Licence (NSL) by the ONR. Therefore, the requirement for the Applicant to apply mitigation measures for potential radiological effects would arise from its regulatory and legal obligations under a NSL and an Environmental Permit for radiological substances.</p> <p><b>Spent fuel and radioactive waste management</b></p> <p>The magnitude of impacts is not specified within the Scoping Report submitted by the Applicant.</p> |
| <p><b>Probability</b></p> | <p>The probability of impacts is not specified within the Scoping Report submitted by the Applicant.</p> <p><b>Radiological exposure</b></p>   |

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|                        | <p>The probability of impacts is not specified within the Scoping Report submitted by the Applicant. However, the Scoping Report confirms that operations will be controlled by an Environmental Permit.</p> <p>The Scoping Report does not conclude on the significance of radiological effects; however, given the measures to be employed (as detailed above), there is no evidence to suggest that there would be significant adverse effects from routine operations.</p> <p><b>Spent fuel and radioactive waste management</b></p> <p>The probability of impacts is not specified within the Scoping Report submitted by the Applicant. However, paragraph 6.18.7 of the Scoping Report states that the Applicant will apply for an environmental permit from the regulator, the Environment Agency, for the disposal of radioactive waste from the site. As part of this process the operator will need to describe in detail the design and management controls that are in place through the application of Best Available Techniques (BAT) to keep the radiological impacts from the disposal and discharge of radioactive wastes as low as reasonably achievable (ALARA) as required in the Environmental Permitting (England and Wales) Regulations 2016 (as amended). The operation of the nuclear power station, regulated by the Environment Agency under an environmental permit, would include limits on the radioactive materials that could be disposed of from the site and the conditions that the operator would need to comply with, including the requirement to undertake monitoring, recording and reporting of discharges and their impacts.</p> |
| <p><b>Duration</b></p> | <p><b>Marine Mammals</b></p> <p>Paragraph 6.16.20 of the Scoping Report states that the duration of the impact on marine ecology (thus including marine mammals) will be considered in relation to pressure benchmarks and constructions timelines. The construction phase is anticipated to last between 9 to 12 years, impacts during the construction phase are considered short to medium-term whilst impacts that occur (or persist) for longer durations are considered long-term. Therefore, the Planning Inspectorate considers that the duration of potential impact on marine mammals will extend to the lifetime of the Proposed Development.</p> <p><b>Birds</b></p> <p>Similar to marine mammals, the Planning Inspectorate considers that the duration of potential impact on birds will extend to the lifetime of the Proposed Development.</p> <p><b>Shipping and navigation</b></p> <p>The potential for effects applies during the construction phase and during subsequent relevant maintenance operations.</p> <p><b>Fisheries</b></p>  |

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|  | <p>The duration of impacts associated with construction are short term to medium term, occurring over the 9 to 12 years estimated for construction. Impacts associated with operation are potentially long term, occurring over the operational lifetime of the Proposed Development.</p> <p><b>Radiological exposure and radioactive waste management</b></p> <p>Emissions to air and water could occur during operation of the generating station and in the longer term in the case of long-lived radionuclides. Such emissions would be subject to controls through the Environmental Permitting regime.</p> |
| <p><b>Frequency</b></p>  | <p>The frequency of the impact is not discussed in the Scoping Report but it is considered that potential effects would be intermittent during construction and continuous during operation of the Proposed Development.</p> <p><b>Radiological exposure and radioactive waste management</b></p> <p>Potential effects would be continuous during operation of the Proposed Development and in the longer term (in the case of long-lived radionuclides). Such emissions would be subject to controls through the Environmental Permitting regime.</p>   |
| <p><b>Reversibility</b></p>  | <p>The reversibility of impacts is not specified within the Scoping Report.</p>  |
| <p><b>Cumulative impacts</b></p>   | <p>The Applicant's cumulative impact assessment has not yet been undertaken and the Applicant has not identified any likely significant cumulative effects at this stage. The Scoping Report does not provide a scope for the cumulative assessment. The Planning Inspectorate notes that the Scoping Report recognised interaction with Off-shore wind farm developments in terms of disruption of navigation.</p>  |
| <p><b><u>Transboundary screening undertaken by the Inspectorate on behalf of the SoS</u></b></p> <p>Under Regulation 32 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 2017 EIA Regulations) and on the basis of the current information available from the Applicant, the Inspectorate is of the view that the Proposed Development <b>is likely</b> to have a significant effect on the environment in another EEA State.</p> <p>In reaching this view the Inspectorate has applied the precautionary approach (as explained in its Advice Note Twelve: Transboundary Impacts) and taken into account the information currently supplied by the Applicant.</p> <p><b>Action:</b></p> <p>Transboundary issues notification under Regulation 32 of the 2017 EIA Regulations is required.</p> <p>States to be notified:</p> <ul style="list-style-type: none"> <li>• Netherlands (Potential impacts on navigation)</li> </ul> |  |

**Date: 31 October 2019**

**Note:** The SoS' duty under Regulation 32 of the 2017 EIA Regulations continues throughout the application process.

## SECOND TRANSBOUNDARY SCREENING

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| <b>Document(s) used for transboundary Screening:</b> | Environmental Statement (ES), Application Documents <b>6.2 – 6.11</b> (in particular: Document <b>6.11</b> , Volume 10, Chapter 5 <i>Transboundary Effects</i> (and Appendix 5A to that Chapter); Document <b>6.2</b> , Volume 2, Chapter 25 <i>Radiological Considerations</i> ; and Document <b>6.2</b> , Volume 2, Chapter 27 <i>Major Accidents and Disasters</i> .<br><br>Application Document <b>5.10</b> Shadow Habitats Regulations Assessment Report (Volumes 1-5) |
| <b>Date screening undertaken:</b>                    | Re-screened on 29 June 2020 following acceptance of the application on 24 June 2020 to proceed to examination   |

### **Transboundary re-screening undertaken by the Inspectorate on behalf of the SoS**

Following submission of the DCO application which included the Environmental Statement (ES) and the Applicant's HRA report, the Inspectorate has reconsidered the transboundary screening decision made on 31 October 2019.

The Applicant has identified within ES Volume 10 Chapter 5: Transboundary Effects (shown on ES Figure 5.1) the nearest the nearest states to the Development outside of the UK. The nearest territorial waters of these states from the Development are approximately as follows

- 112km to France;
- 119km to Belgium;
- 122.5km to the Netherlands; and
- 380km to Germany.

### **Changes in the description of the Proposed Development**

The description of the Proposed Development is set out in the volumes of the ES as follows, covering the main development and offsite associated development works (eg construction worker accommodation, highway improvements etc):

- ES Volume 1, Chapter 1: Overview of the Sizewell C Project;
- ES Volume 2, Main Development site:
  - Chapter 2: Description of Permanent Development;
  - Chapter 3: Description of Construction;
  - Chapter 4: Description of Operation; and
  - Chapter 5: Description of Decommissioning.

- Chapter 2 in each of ES Volumes 3-9 of the ES describes: Northern Park and Ride; Southern Park and Ride; Two Village Bypass; Yoxford roundabout and other highway improvements; Freight Management Facility; and Rail infrastructure.

There have been some modifications and further design details provided as part of the Application documents (eg the maximum power output of the Development has increased from 3,240MW in the Scoping Report to 3,340MW in the ES).

In respect of potential for significant effects on the environment, the Inspectorate is satisfied that the Proposed Development to which the Application relates remains materially the same as that which was the subject of the previous transboundary screening decision in October 2019, as set out above.

### **Potential impacts and Carriers**

The pathways of effect and the potential extent of effects remain consistent with those considered in the Inspectorate's previous transboundary screening decision undertaken on behalf of the Secretary of State, namely pathways through air, land and water.

Further to the Inspectorate's consideration of these pathways, the following matters are considered as set out in the Application documents:

- **Spent Fuel and Radioactive Waste Management** - ES Volume 2, Chapter 7 *Fuel and Radioactive Waste Management* details the predicted types and quantities of waste and how it is to be managed in line with relevant regulations. Radiological effects are also assessed as part of ES Volume 2, Chapter 25. An onsite interim Spent Fuel Store (ISFS) facility would operate until a UK geological disposal facility is available and the spent fuel is ready for disposal. The construction and operation of the Development would be subject to the UK's regulatory framework in controlling the disposal of radioactive waste from nuclear power stations and direct radiation exposure (eg via radiological substances regulation under the Environmental Permitting (England and Wales) Regulations 2016). The Applicant must demonstrate the application of Best Available Techniques (BAT) to minimise radioactive waste generated and ensure any discharges are kept 'As Low As Reasonably Achievable' (ALARA).
- **Conventional Waste** - The ES highlights the potential for exporting recyclable materials to destinations outside of the UK. This does not include radioactive waste and is considered unlikely to result in a significant effect on an EEA state and thus no transboundary effects are identified.
- **Marine and Terrestrial Ornithology** - Chapter 14, ES Volume 2 acknowledges the potential for effect on migratory bird species/assemblages as a result of habitat loss and disturbance during construction. The offshore works area forms part of the Outer Thames Estuary Special Protection Area (SPA). However, this is a temporary disturbance and is unlikely to result in a significant effect on any other EEA State.
- **Marine Water Quality and Sediments** - The ES includes detailed modelling of suspended sediment, thermal and chemical plumes. A summary of the assessments is set out in paragraph 5.4.21 of ES Volume 10, Chapter 5 Transboundary Effects. The ES concludes that with the implementation of mitigation, there is unlikely to be a significant effect on any other EEA state.
- **Marine Ecology (excluding Ornithology)** - The Applicant's assessment of potential effects on marine ecology considers underwater noise during construction, suspended sediment plumes and thermal plumes. The transboundary effects report recognises the potential for interaction between species in UK waters and those originating in Belgium and Germany, particularly in respect of marine mammals,

migratory fish species, plankton and benthic ecology. The Applicant concludes that no known species which undertake international passage are reliant on the Greater Sizewell Bay. Therefore, significant effects on the environment in other EEA states are unlikely. Alongside the Humber Estuary SAC, The Wash and North Norfolk Coast SAC and the Southern North Sea SAC, the Applicant concluded in their Shadow HRA Report that the following European sites outside of the UK could experience a likely significant effect:

- Schelde- en Durmeëstuarium van de Nederlandse grens tot Gent SCI.
- Unterweser SCI.
- Weser bei Bremerhaven SCI.
- Nebenarme der Weser mit Strohauser Plate und Juliusplate SCI.
- Schleswig-Holsteinisches Elbästuar und angrenzende Flächen SCI.
- Untere Elbe SCI.
- Mühlenberger Loch/Neßsand SCI.
- Rapfenschutzgebiet Hamburger Stromelbe SCI.
- Hamburger Untere Elbe SCI.
- Elbe zwischen Geesthacht und Hamburg SCI.

The Applicant's Shadow HRA concludes that there would be no adverse effect on integrity on any of the qualifying features of the above sites and that significant transboundary effects are therefore not likely.

- **Marine navigation** - The potential for transboundary effects exists should Rotterdam be chosen as the transshipment facility base for abnormal indivisible load deliveries to the development site during construction. On this basis, the Inspectorate (on behalf of the Secretary of State) previously concluded that a significant transboundary effect on the Netherlands could not be excluded. However, the percentage increase in vessels movement activities from the port of Rotterdam (should this route be chosen) is determined to be 'negligible' and therefore is unlikely to result in a significant effect on the Netherlands. Pathways such as collision with installation vessels, severity of consequence with vessel grounding and fishing gear is also assessed and concluded as tolerable. This is set out in Volume 2, *Chapter 24 Marine Navigation* of the ES.
- **Radiological effects** - Effluent discharges on human and non-human biota are modelled and assessed as being well below the regulatory threshold levels (ES Volume 2, *Chapter 25 Radiological Considerations*). Receptors closest to the main development site have been assessed (on the basis that concentrations reduce as distance from any release increases). Results of the modelling for 'routine releases' at the closest receptors have been classed as 'miniscule' and discounted as being not significant. It is therefore unlikely to result in a significant effect on any EEA state given the separation distances.
- **Major Accidents and Disasters** - By definition, unmitigated major accident and disasters / hazards and threats could result in significant environmental effects including on other EEA states. Following the implementation of the identified mitigation (including compliance with legislative and regulatory processes, as set out in ES Volume 2, *Chapter 27 Major Accidents and Disasters*), all risks including any

potential transboundary effects are considered to be tolerable and / or as low as reasonably practicable and not significant. The mitigation measures are set out in section 27.5 of ES Volume 2, Chapter 27 and the list of major accident and disaster event risks considered during construction and operation of the development are presented in tables 27.6 and 27.7 respectively of the same chapter.

### Cumulative effects

The Applicant had not undertaken their cumulative and in-combination effects assessment at the time of the Inspectorate's previous transboundary screening decision. ES Volume 10, Chapter 4 *Cumulative Effects* describes the Applicant's approach to and the outcomes of their cumulative impact assessment (including lists of cumulative developments considered in appendices 1A and 1B of the chapter). For each stage of the development and environmental aspect considered (sections 4.2 – 4.21 of ES Volume 10, Chapter 4), specific developments are included and considered as part of the assessment. The methodology for the assessment is bespoke to each aspect being assessed. In terms of the list of pathways and carriers of effects considered above, the Applicant does not identify the potential for any significant cumulative effects, including to other EEA states.

Table C.1 (Appendix C) of the Shadow HRA Report lists the plans and projects that were considered as part of the HRA in-combination assessment. As set out above, the applicant concluded that there would be no likely significant effect alone or in-combination on any SPA outside of the UK, and that there would be no adverse effect on integrity alone or in-combination on those SAC's outside of the UK for which a likely significant effect could not be excluded.

### Conclusions

Under Regulation 32 of the 2017 EIA Regulations and on the basis of the current information available from the Applicant, there is a change to the previous conclusion, and the Inspectorate is now of the view that the Proposed Development **is not likely** to have a significant effect on the environment in any other EEA State.

In reaching this view the Inspectorate has applied the precautionary approach (as explained in its Advice Note twelve: Transboundary Impacts); and taken into account the information currently supplied by the Applicant.

### Action:

No new EEA States have been identified as being likely to have significant effects on their environment.

On a precautionary basis, information letters will be sent to all EEA member States, including states who have previously responded to the Inspectorate expressing a desire to be consulted under Regulation 32 of the 2017 EIA Regulations.

**Date:** 29 June 2020

**Note:** The SoS' duty under Regulation 32 of the 2017 EIA Regulations continues throughout the application process.

## THIRD TRANSBOUNDARY SCREENING

### Document(s) used for transboundary Screening:

Environmental Statement (ES) Addendum (Doc 6.14); Second ES Addendum (Doc 6.16 [REP5-062 to REP5-069]); and Fourth ES Addendum (Doc 6.18 [REP7-029 to REP7-033]).

|                                   |  |
|-----------------------------------|--|
|                                   | Shadow HRA Addendum (Doc 5.10 [AS-173]) and Shadow HRA Third Addendum (Doc 5.10 [REP7-279]).                           |
| <b>Date screening undertaken:</b> | Re-screened on 13 October 2021 in light of changes to the original application, accompanied by additional information. |

**Transboundary re-screening undertaken by the Inspectorate on behalf of the SoS**

Following submission of additional environmental information as set out below, the Inspectorate has reconsidered the transboundary screening decision made on 29 June 2020.

**Additional environmental information and changes to the Proposed Development – Changes 1 to 15**

On 12 January 2021, the Applicant submitted a request for a number of proposed changes to the Application. This was as a result of continued engagement with stakeholders, and ongoing collection of environmental data during the pre-examination period. The changes to the Proposed Development were intended to enhance the Proposed Development and minimise impacts on the local area and environment. A total of 15 changes were proposed:

- Potential increases in the frequency of freight train movements and increased material imports by rail;
- Changes to the permanent beach landing facility and construction of a temporary beach landing facility;
- Greater flexibility as to where certain Sizewell B facilities are able to be relocated;
- Change to certain parameter heights and activities on the main development site;
- Change to the location of the water resource storage area and additional flood mitigation measures;
- Change to the Sizewell Drain and Sizewell Marshes Site of Special Scientific Interest (SSSI) crossing design;
- Revisions to tree retention on the main development site;
- Changes to construction surface water discharges to the foreshore via a temporary outfall;
- Change to the sea defence for increased resilience to climate change;
- Extension of landscaped bund and other minor changes at the southern park and ride;
- Provision of additional fen meadow habitat at Pakenham as mitigation for habitat loss;
- Changes to the Order Limits for works on the two village bypass, Sizewell link road and Yoxford roundabout and minor changes to the public rights of way;
- Changes to the Order Limits on the main development site and related sites (fen meadow mitigation sites and marsh harrier improvement sites);
- Minor reductions to the Order Limits of the northern park and ride, the A12/B1119 junction at Saxmundham and the A1094/B1069 south of Knodishall); and
- A new bridleway link between Aldhurst Farm and Kenton Hills.

The change request was supported by an ES Addendum (Doc 6.14) which presents an assessment of any new or different significant effects that are likely to result from the proposed changes to the Application. The ES Addendum also provides other additional information such as new or updated baseline information, updates to modelling, or corrections made to the original ES. The ExA accepted the changes to the Proposed Development in a procedural decision dated 21 April 2021.

Sections 1.3 and 1.4 of ES Addendum Volume 1, Chapter 1 (Introduction and Scope) [AS-180] set out the additional information and changes to the application respectively and where / how this information is presented across the ES Addendum. In particular, ES Addendum Volume 1, Chapter 10 (Project-Wide, Cumulative and Transboundary Effects)

[AS-189] sets out the potential for new or different significant effects to occur with regards to the assessment of transboundary effects. The ES Addendum provides additional information of relevance to the transboundary assessment in the original ES in terms of European populations of twaite shad and cucumber smelt, further consideration of potential effects on selected fish stocks and impingement predictions based upon specific cooling water system design.

The Applicant concluded that the additional information and proposed changes would not change the conclusions of the assessment presented within Volume 10, Chapter 5 of the original ES (Doc Ref 6.11 [APP-580]) for any of the topics assessed, with the exception of marine ecology and marine navigation. In the case of these topics, the Applicant provided an updated assessment in light of the additional information and proposed changes to consider any new or different environmental effects.

#### *Marine Ecology*

In respect of the additional information and changes to the Application, an updated assessment is presented in section 2.17 of ES Addendum Volume 1, Chapter 2 (Main development site) [AS-181]. Of particular relevance to consideration of transboundary effects were updated assessments relating to river lamprey, Allis shad and Twaite shad. No likely significant effects have been identified and the Applicant remains of the view that significant transboundary effects are unlikely in terms of marine ecology.

#### *Marine Navigation*

In respect of the additional information and changes to the Application, an updated assessment is presented in section 2.19 of ES Addendum Volume 1, Chapter 2 (Main development site) [AS-181]. The changes to the Proposed Development included an increase in vessel movements associated with the new temporary beach landing facility and resulting increases in vessel collision risks, vessel grounding and disruption to fishing and recreational activities. However, no changes to the residual effects identified in the original ES were identified and significant transboundary effects are unlikely to occur.

The change request was also supported by a Shadow HRA Addendum [AS-173], which concluded that the additional information and proposed changes would not affect the conclusions of the Shadow HRA Report (Doc 5.10 [APP-145 to APP-149]).

### **Additional environmental information and changes to the Proposed Development – Changes 16 to 18**

On 23 July 2021, the Applicant submitted a formal change request for three additional proposed changes to the application (Changes 16 to 18). The ExA formally accepted Changes 16 to 18 to the application on 10 August 2021. The changes broadly comprised:

- Change 16 - changes to Lover's Lane and Main Development Site access works, including alignment of bridleway 19, relocation of proposed Pegasus crossing and repositioning of proposed mammal culvert south of the Leiston Drain;
- Change 17 - changes to two village bypass proposals including reduction in length of flood relief culverts through the River Alde overbridge, changes to adjacent accommodation track and provision of a mammal migration ledge; removal of proposed upgrade of two footpaths; new crossing of the proposed Friday Street roundabout; and
- Change 18 - changes to Sizewell link road proposals including to road layout, Pretty Road Bridge and public rights of way. Increases to the Order Limits to facilitate the changes.

The change request was supported by the Second ES Addendum (Doc 6.16 [REP5-062 to REP5-069]). Noting the relatively minor nature and scale of the works associated with

Changes 16 to 18, the Applicant concluded that the proposed changes would not change the conclusions of the assessments reported within the ES (as updated by the first ES Addendum). The Applicant stated that no new or materially different transboundary effects would occur as a result of Changes 16 to 18 (Doc 6.16 [REP5-062 to REP5-069]).

### **Additional environmental information and changes to the Proposed Development – Change 19**

The Applicant submitted a further proposed change to the application (Change 19) by letter dated 3 September 2021. The ExA formally accepted Change 19 to the application on 10 September 2021. This broadly comprised a change to the Water Supply Strategy to provide a temporary desalination plant, until the Sizewell transfer main is delivered and operational.

The change request was supported by the Fourth ES Addendum (Doc 6.18 [REP7-029 to REP7-033]) and Shadow HRA Report Third Addendum [REP7-279]. The Applicant concluded [REP7-030] that whilst the proposed desalination plant would introduce new impacts within the marine environment, following mitigation no significant effects are predicted. The Shadow HRA Report Third Addendum [REP7-279] concluded that Change 19 would not result in an adverse effect on the integrity of any European site, or alter the conclusions of the Shadow HRA Report (as updated by the Shadow HRA Report Addendum and Second Addendum).

The Applicant stated that the effects of Change 19 would not extend beyond UK borders and would not result in any transboundary effects [REP7-030]. The Fourth ES Addendum concluded that the additional information and Change 19 would not alter the conclusions regarding transboundary effects presented in the ES (as updated by the ES Addenda).

### **Conclusion**

Under Regulation 32 of the 2017 EIA Regulations and on the basis of the current information available from the Applicant, there is no change to the previous conclusion, and the Inspectorate remains of the view that the Proposed Development **is not likely** to have a significant effect on the environment in an EEA State.

In reaching this view the Inspectorate has applied the precautionary approach (as explained in its Advice Note twelve: Transboundary Impacts); and taken into account the information currently supplied by the Applicant.

### **Action:**

No further action required.

No new EEA States have been identified as being likely to have significant effects on their environment.

**Date:** 13 October 2021

**Note:** The SoS' duty under Regulation 32 of the 2017 EIA Regulations continues throughout the application process.

### **Note:**

The Inspectorate's screening of transboundary issues is based on the relevant considerations specified in the Annex to its Advice Note Twelve, available on our website at <http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>