



# The Sizewell C Project

## 6.2 Volume 1 Introduction to the Environmental Statement

### Chapter 1 Introduction

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## 1. Introduction

### 1.1 Overview

1.1.1 SZC Co. is proposing to build a new nuclear power station at Sizewell in East Suffolk, known as Sizewell C. Located to the north of the existing Sizewell B power station, the Sizewell C site is located on the Suffolk coast, approximately halfway between Felixstowe and Lowestoft; to the north-east of the town of Leiston.

1.1.2 The proposed Sizewell C nuclear power station would comprise two UK EPR™ units with an expected net electrical output of approximately 1,670 megawatts (MW) per unit, giving a total site capacity of approximately 3,340MW. The design of the UK EPR™ units is based on technology used successfully and safely around the world for many years, which has been enhanced by innovations to improve performance and safety. The UK EPR™ design has passed the Generic Design Assessment process undertaken by the United Kingdom (UK) regulators (Office for Nuclear Regulation and Environment Agency), and has been licenced and permitted at Hinkley Point C. Once operational, Sizewell C would be able to generate enough electricity to supply approximately six million homes in the UK.

1.1.3 In addition to the key operational elements of the UK EPR™ units, the Sizewell C Project comprises other permanent and temporary development to support the construction and operation of the Sizewell C nuclear power station. The key elements are the main development site, comprising the Sizewell C nuclear power station itself, offshore works, land used temporarily to support construction including an accommodation campus, the enhancement of sports facilities in Leiston, fen meadow and, if required, temporary marsh harrier improvement area (Westleton), and a series of off-site associated development sites in the local area. These are:

- two temporary park and ride sites; one to the north-west of Sizewell C at Darsham (the ‘northern park and ride’), and one to the south-west at Wickham Market (the ‘southern park and ride’) to reduce the amount of traffic generated by the construction workforce on local roads and through local villages;
- a permanent road to bypass Stratford St Andrew and Farnham (referred to as the ‘two village bypass’) to alleviate traffic on the A12 through the villages;

- a permanent road linking the A12 to the Sizewell C main development site (referred to as ‘Sizewell link road’) to alleviate traffic from the B1122 through Theberton and Middleton Moor;
- permanent highway improvements at the junction of the A12 and B1122 east of Yoxford (referred to as the ‘Yoxford roundabout’) and other road junctions to accommodate Sizewell C construction traffic;
- a temporary freight management facility at Seven Hills on land to the south-east of the A12/A14 junction to manage the flow of freight to the main development site;
- a temporary extension of the existing Saxmundham to Leiston branch line into the main development site (‘the green rail route’) and other permanent rail improvements on the Saxmundham to Leiston branch line, to transport freight by rail in order to remove large numbers of heavy goods vehicles from the regional and local road network; and

1.1.4 The components of the Sizewell C Project listed above are referred to collectively as the ‘Sizewell C Project’ or ‘the proposed development’ within this volume of the **Environmental Statement (ES)** and are shown in **Figure 1.1**.

## 1.2 The applicant

1.2.1 EDF Energy group is one of the largest in the energy sector in the UK; producing around 20% of the nation’s electricity and supplying electricity and gas to its residential and business customers. EDF Energy group’s installed capacity is around 16.5GW, and the company has over 5.5 million businesses and residential customers.

1.2.2 Currently, EDF Energy group operates eight nuclear power stations across the UK, with a combined capacity of almost 9,000MW. These comprise seven advanced gas-cooled reactor power stations (each with two reactors) at six locations on the coast of Britain, and a Pressurised Water Reactor located at Sizewell B. EDF Energy (UK) Limited is the company responsible for the planning, construction, commissioning, operation and eventual decommissioning of its UK nuclear power plants. In particular, NNB Generation Company (SZC) Limited is the company currently within the EDF Energy group that is applying for development consent to construct, operate and maintain Sizewell C (referred to in this application as “SZC Co.”).

1.2.3 In addition to the eight existing, operational nuclear power plants, EDF Energy group was granted a Development Consent Order to construct and operate a new nuclear power station in Somerset, known as Hinkley Point C, in March 2013. Hinkley Point C is currently under construction and is

expected to start generating in 2025. Hinkley Point C is the first new nuclear power station to be constructed in the UK for more than 20 years. Like Sizewell C, it will use the EPR™ technology.

### 1.3 Consenting process for the Sizewell C Project

#### a) The Planning Act 2008

1.3.1 The Sizewell C Project meets the criteria of a nationally significant infrastructure project (NSIP) under section 15 of the Planning Act 2008 (Ref. 1.1), as it would bring forward a new onshore generating station in England with a capacity of over 50 megawatts (MW). An application for development consent is therefore required pursuant to the Planning Act 2008.

1.3.2 The Sizewell C Project also requires a number of other permits, licences and consents. These are summarised in **Chapter 5** of this volume and listed in the **Schedule of Other Consents, Licences and Agreements** (Doc Ref. 5.11).

1.3.3 Further information on the consenting process for the Sizewell C Project is provided in the **Planning Statement** (Doc Ref. 8.4) submitted with the application for development consent.

#### b) National Policy Statements

1.3.4 NPS EN-1 (Ref. 1.2) and NPS EN-6 (Ref. 1.3) were considered by Parliament and formally designated in July 2011. Sizewell was one of the sites listed in NPS EN-6 as potentially suitable for the deployment of new nuclear power stations in England and Wales by the end of 2025. Whilst SZC Co. remains confident that Sizewell is suitable for the deployment of a new nuclear power station, it is no longer possible for deployment to take place by the end of 2025.

1.3.5 **Sections 3.4 and 3.5** of the **Planning Statement** (Doc Ref. 8.4) provide the history and context of NPS EN-1 and NPS EN-6 and explain how these two policy statements establish an urgent need for the new nuclear power generation in the UK.

1.3.6 The Ministerial Statement on Energy Infrastructure published on 7 December 2017 ('2017 Ministerial Statement') states that for projects yet to apply for development consent and due to deploy beyond 2025, the Government continues to give its strong in principle support to proposals at those sites currently listed in EN-6.

1.3.7 The 2017 Ministerial Statement explains that the Government is confident that both EN-1 and EN-6 incorporate information, assessments and

statements which will continue to be important and relevant for projects which will deploy after 2025, including statements concerning the need for nuclear power, as well as environmental and other assessments that continue to be relevant for those projects. The 2017 Ministerial Statement confirms that in deciding whether or not to grant development consent to such a project, the Secretary of State would be required, under section 105(2)(c) of the Planning Act 2008, to have regard to the content of EN-1 and EN-6, unless they have been suspended or revoked (which they had not been at the date of submitting the application).

- 1.3.8 Between December 2017 and March 2018, the Government consulted on the siting criteria and process for a new NPS for nuclear power with single reactor capacity over 1 GW beyond 2025 (Ref. 1.20). SZC Co. nominated Sizewell as a site that is suitable for the deployment of a new nuclear power station by 2035. The new NPS for Nuclear Power between 2026-2035 (new NPS) had not been published at the date of submission of the Application but is currently expected to be published prior to the decision being made on the Application.
- 1.3.9 In July 2018 the Government published its response to the consultation. (Ref 1.20) In the response, the Government concluded that “*sites listed in EN-6 on which a new nuclear power station is anticipated to deploy after 2025 will continue to be considered appropriate sites and retain strong Government support during the designation of the new NPS*” (paragraph 3.10). This includes the Sizewell C site.
- 1.3.10 As explained in further detail in the **Planning Statement** (Doc Ref. 8.4), whilst NPS EN-1 and EN-6 do not formally have effect to the Sizewell C DCO application, it is appropriate to treat them as providing the primary policies relevant to the determination of the application.
- 1.3.11 Each of the sites identified in NPS EN-6 as potentially suitable have been the subject of their own Strategic Siting Assessment (SSA) and the Government’s AoS (Ref 1.21) and Habitats Regulations Assessment (HRA) (Ref. 1.22), which have considered each site at a strategic level, so that, at this level at least, the potential effects of the development of each site for nuclear power generation were understood when their potential suitability was confirmed within the NPS.
- 1.3.12 In addition to considerations of nuclear specific policies outlined in the NPS EN-6, NPS EN-1 sets generic policies which are relevant to all energy NSIPs. This includes guidance, for example, on the assessment and mitigation of potential environmental effects through an Environmental Statement, the requirement to consider the main alternatives studied by the developer (Section 4.4), climate change adaptation, health and the assessment of other generic impacts that may arise from the project.

1.3.13 Further information regarding policies and legislation relevant to the assessment of the proposed development can be found in **Chapter 3** of this volume.

## 1.4 Consultation and engagement

1.4.1 SZC Co. has undertaken pre-application consultation in accordance with the Planning Act 2008, having regard to the former Department for Communities and Local Government's (DCLG) guidance on the pre-application process for major infrastructure projects and other relevant guidance (Ref. 1.4). The process of consultation and engagement has played an important role in shaping the application proposals.

1.4.2 The Planning Act 2008 requires that pre-application consultation and engagement on the project proposals and preliminary environmental information is undertaken with statutory consultees and other relevant stakeholders (other interested parties) under section 42 of the Planning Act 2008; with local communities living in the vicinity of the site under section 47; and with the general public under section 48. In line with these requirements, SZC Co. completed four stages of statutory consultation for the Sizewell C Project between 2012 and 2019.

1.4.3 A summary of this consultation, and in particular how this has informed the development of the project proposals, is provided in the **Consultation Report** (Doc Ref. 5.1) submitted with the application for development.

1.4.4 Through the formal stages of consultation and development of design, SZC Co. has considered various strategies to manage the transport and workforce accommodation requirements arising during the construction of the power station. Each strategy requires the development of supporting infrastructure and, therefore, land. Taking account of feedback from the consultation, as well as design development, further modelling and technical and environmental studies, SZC Co. has identified the strategies that are most suitable for the development. It is on the basis of these strategies that SZC Co. is making its application for development consent.

1.4.5 In addition to the formal consultation and engagement under the Planning Act 2008, SZC Co. has also consulted statutory stakeholders and the Planning Inspectorate on the scope of the Environmental Impact Assessment (EIA). An EIA scoping opinion was issued by the Secretary of State in June 2014 and an updated opinion was issued in July 2019 (refer to **Chapter 6** of this volume).

1.4.6 Furthermore, SZC Co. has been conducting separate engagement with the relevant statutory and non-statutory consultees throughout the EIA process and the development of the proposals. Commentary on the technical



consultation and engagement undertaken is provided within each of the technical assessment chapters of this **ES**.

## 1.5 Other related applications

1.5.1 SZC Co. has progressed two separate early works planning applications under the Town and Country Planning Act 1990 that are related to the Sizewell C Project – Aldhurst Farm habitat creation scheme and Sizewell B relocated facilities project.

### a) Aldhurst Farm habitat creation scheme

1.5.2 The Aldhurst Farm habitat creation scheme was designed to compensate for any future land-take from the Sizewell Marshes Site of Special Scientific Interest (SSSI) should the Sizewell C nuclear power station be granted consent and built; notably to compensate for the loss of reedbed and lowland ditch habitat within the SSSI, and their associated invertebrate and rare vascular plant assemblages.

1.5.3 A planning application for the Aldhurst Farm habitat creation scheme was submitted to Suffolk Coastal District Council (now East Suffolk Council) as the local planning authority in December 2014 (application ref. DC/14/4224/FUL) (Ref. 1.5). Permission for this application was granted in March 2015 and the physical form, including the main earthworks and waterbodies of the habitat creation scheme, was created in 2015 and 2016.

1.5.4 The habitats created as part of the scheme have been considered, within the EIA, to form part of the existing baseline environment. Given the purpose of the scheme was to mitigate for the loss of SSSI should the Sizewell C Project go ahead the Aldhurst Farm habitat creation scheme has also been considered to form primary mitigation. Further information on the assessment approach is provided in **Chapter 6** of this volume.

### b) Sizewell B relocated facilities

1.5.5 A hybrid planning application for the relocation, demolition and replacement of a number of existing Sizewell B facilities (known as the Sizewell B relocated facilities project) was submitted to East Suffolk Council (ESC) in April 2019 by EDF Energy Nuclear Generation Company Limited who operate the Sizewell B power station (application ref. DC/19/1637/FUL) (Ref. 1.6). The application was approved by ESC on 13 November 2019.

1.5.6 The facilities that would be relocated, demolished or replaced are ancillary to the process of electricity generation and have a broad range of functions including industrial, workplace, education, cultural and infrastructure. The facilities would be upgraded to comply with current standards and regulations. Some of these facilities to be relocated are within the area of



land that is nominated for Sizewell C whilst the other facilities, or areas of land, would be impacted as a consequence of relocating the facilities from the north to the Sizewell B site. Applying for these proposed works through a separate planning application to ESC facilitates the Government's policy objective of more rapid development of new nuclear power, by ensuring earlier delivery of the Sizewell C Project, than if the relocation proposals were only included as part of SZC Co.'s application for development consent. This is in line with the approach advocated in the DCLG letter to local authorities, dated 16 July 2009, in relation to the new consenting process for NSIPs.

- 1.5.7 Nevertheless, as these are such critical elements to facilitate the construction of Sizewell C, the proposals for the above facilities are also included in our application for development consent for the Sizewell C Project.
- 1.5.8 Further details on the Sizewell B relocated facilities project can be found in **Chapter 2** and **Appendix 2A** of this volume.

## 1.6 Environmental Impact Assessment

### a) Requirement

- 1.6.1 An Environmental Impact Assessment (EIA) is a tool for systematically examining and assessing the impacts and effects of a development on the environment. The objective of the EIA is to identify any likely significant effects which may arise from the proposed development and identify measures to prevent, reduce or offset any adverse effects and to enhance any beneficial effects. During the EIA process, opportunities and management measures are identified and incorporated within the development proposals, to prevent or reduce any adverse effects and to enable sustainable design and construction principles to be embedded within the proposals. The outcome of the EIA process is reported within the **ES**.
- 1.6.2 For NSIPs, the requirements for an EIA are set out within the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (Ref. 1.7). Furthermore, works subject to a marine licence need to be assessed under the requirements of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) (Ref. 1.8).
- 1.6.3 These sets of regulations are referred to as the Infrastructure Planning EIA Regulations, Marine Works EIA Regulations or the EIA Regulations collectively hereafter.

- 1.6.4 SZC Co. has applied to the Marine Management Organisation (MMO) for confirmation that the exception under Regulation 10(b) of the Marine Works EIA Regulations applies to the Sizewell C Project. The Regulation 10(b) exception does not remove the requirement to comply with the Marine Works EIA Regulations but rather avoids the need for a separate assessment to be carried out by the MMO where one is already being carried out by another consenting authority (in this case the Secretary of State). This **ES** has, therefore, been prepared in accordance with the requirements of these EIA Regulations with the terrestrial elements of the Sizewell C Project being assessed against the Infrastructure Planning EIA Regulations and the marine elements (i.e. the marine licensable activities) being assessed against the Marine Works EIA Regulations.
- 1.6.5 The need to carry out an EIA is determined against the criteria set out in the EIA Regulations, which divides development into two classes: Schedule 1 or Schedule A1 projects, where EIA is always required, and Schedule 2 or Schedule A2 projects, where EIA is required only if the particular project in question is judged likely to give rise to significant environmental effects<sup>1</sup>.
- 1.6.6 Sizewell C Project is classified as a Schedule 1 or Schedule A1 development, as identified in Schedule 1, paragraph 2(2) of the Infrastructure Planning EIA Regulations and Schedule A1, paragraph 3 of the Marine Works EIA Regulations respectively. Therefore, an EIA is required and an **ES** needs to accompany the application for development consent.
- 1.6.7 This **ES** presents the assessment of likely environmental effects that may occur as a result of the proposed Sizewell C Project, including the construction and operational phases of the Sizewell C nuclear power station and the associated developments, including the removal and reinstatement phase of the associated developments and temporary construction areas, where appropriate. The assessment of operations for Sizewell C also includes the assessment of commissioning as well as re-fuelling and maintenance outages. A qualitative assessment of the decommissioning of the Sizewell C nuclear power station is also provided within the **ES**, although a separate application for decommissioning would need to be submitted at the end of generation and a new **ES** prepared under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended) (Ref. 1.9). The generic and topic-specific assessment methodologies which have been applied to undertake the EIA for the Sizewell C Project are detailed in **Chapter 6** of this volume.

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<sup>1</sup> Infrastructure Planning EIA Regulations include Schedules 1 and 2, the Marine Works EIA Regulations include Schedules 1A and 2A.

## b) Structure

1.6.8 The **ES** for the Sizewell C Project comprises ten volumes, as detailed in the following sections. Each volume considers a geographically separate component of the Sizewell C Project, as shown in **Figure 1.1**, and is accompanied by a series of figures and appendices, as required.

1.6.9 The red line boundaries used in the figures in some of the appendices within this **ES** do not reflect the boundaries in respect of which development consent has been sought in this application, as the red line boundaries were changed after the appendices were finalised. However, the red line boundary changes do not have any impact on the findings set out in the appendices and all other information remains correct. Where the red line boundaries have changed subsequent to the appendix being finalised, it has been clearly identified in the appendix.

### i. Volume 1: Introduction to the Environmental Statement

1.6.10 **Volume 1** (this volume) provides an introduction to the Sizewell C Project and the **ES**. It presents an overview of the Sizewell C Project, an overview of the relevant legislation and policy, a summary of the strategic alternatives considered; and details the approach and methodologies used for the EIA (including both generic and technical topic assessment methodologies). In summary, Volume 1 of the **ES** comprises the following **ES** chapters:

- **Chapter 1** Introduction.
- **Chapter 2** Overview of the Sizewell C Project.
- **Chapter 3** Legislation and policy context.
- **Chapter 4** Sizewell C Project evolution and alternatives.
- **Chapter 5** Other permits, consents and licences.
- **Chapter 6** EIA approach and methodology.

1.6.11 A glossary of terms and list of abbreviations used throughout the **ES** can be found in **Appendix 1A** of this volume.

### ii. Volume 2: Main development site

1.6.12 **Volume 2** provides a description of the construction, operation and decommissioning phases of the proposed Sizewell C nuclear power station at the main development site. It presents an assessment of the likely significant effects of the construction and operation and at a high-level, the decommissioning of the development on the environment, the proposed

mitigation measures and residual effects. Any variations in the technical assessment methodology from that detailed in **Volume 1** are also explained.

**1.6.13** This volume of the **ES** is divided into a number of background and technical chapters supported with figures, tabular information and appendices. In summary, **Volume 2** of the **ES** comprises the following chapters:

- **Chapter 1** Introduction.
- **Chapter 2** Description of permanent development at the Sizewell C main development site.
- **Chapter 3** Description of construction of Sizewell C.
- **Chapter 4** Description of operation of Sizewell C.
- **Chapter 5** Description of decommissioning of Sizewell C.
- **Chapter 6** Alternatives and design evolution.
- **Chapter 7** Spent fuel and radioactive waste management.
- **Chapter 8** Conventional waste management and material resources.
- **Chapter 9** Socio-economics.
- **Chapter 10** Transport.
- **Chapter 11** Noise and vibration.
- **Chapter 12** Air quality.
- **Chapter 13** Landscape and visual.
- **Chapter 14** Terrestrial ecology and ornithology.
- **Chapter 15** Amenity and recreation.
- **Chapter 16** Terrestrial historic environment.
- **Chapter 17** Soils and agriculture.
- **Chapter 18** Geology and land quality.
- **Chapter 19** Groundwater and surface water (including flood risk).
- **Chapter 20** Coastal geomorphology and hydrodynamics.
- **Chapter 21** Marine water quality and sediments.



- **Chapter 22** Marine ecology and fisheries.
- **Chapter 23** Marine historic environment.
- **Chapter 24** Marine navigation.
- **Chapter 25** Radiological considerations.
- **Chapter 26** Climate change.
- **Chapter 27** Major accidents and disasters.
- **Chapter 28** Health and wellbeing.

1.6.14 Where applicable, some technical assessments presented within **Volume 2** (i.e. **Chapters 8 to 10, 20 to 27**) provide a project-wide effects assessment of the Sizewell C Project and therefore, these assessments have not been repeated within the **ES** volumes for associated development sites (**Volumes 3 to 9**).

iii. [Volumes 3 to 9: Associated development sites](#)

1.6.15 These volumes provide details of the off-site associated developments required to support the construction and operation (where applicable) of the Sizewell C nuclear power station. They present an assessment of the likely significant effects of the construction, operation and removal and reinstatement (where applicable) phases of the associated developments on the environment, the proposed mitigation measures and residual effects. Any variations in the technical assessment methodologies from those detailed in **Volume 1**, which have been applied in relation to the associated development, are explained within the relevant volumes.

1.6.16 The off-site associated developments are presented as follows:

- **Volume 3:** Northern park and ride at Darsham.
- **Volume 4:** Southern park and ride at Wickham Market.
- **Volume 5:** Two village bypass.
- **Volume 6:** Sizewell link road.
- **Volume 7:** Yoxford roundabout and other highway improvements.
- **Volume 8:** Freight management facility.
- **Volume 9:** Rail.

1.6.17 As for **Volume 2** of the **ES**, **Volumes 3–9** of the **ES** are divided into a number of background and technical chapters. In summary, **Volumes 3–9** comprise the following **ES** chapters:

- **Chapter 1** Introduction.
- **Chapter 2** Description of development.
- **Chapter 3** Alternatives and design evolution.
- **Chapter 4** Noise and vibration.
- **Chapter 5** Air quality.
- **Chapter 6** Landscape and visual.
- **Chapter 7** Terrestrial ecology and ornithology.
- **Chapter 8** Amenity and recreation.
- **Chapter 9** Terrestrial historic environment.
- **Chapter 10** Soils and agriculture.
- **Chapter 11** Geology and land quality.
- **Chapter 12** Groundwater and surface water.

iv. **Volume 10: Cumulative and transboundary effects**

1.6.18 This volume contains a summary of ‘interactions’ or ‘inter-relationships’ between different effects, and project-wide effects, where a receptor is affected by more than one component of the Sizewell C Project. Furthermore, **Volume 10** presents the cumulative effects assessment with other reasonably foreseeable third-party developments; relevant plans and programmes; and a transboundary effects assessment, where effects may be experienced outside the UK. In summary, **Volume 10** comprises the following chapters:

- **Chapter 1** Introduction.
- **Chapter 2** Approach and methodology.
- **Chapter 3** Inter-relationships and project-wide effects.
- **Chapter 4** Assessment of cumulative effects with other plans and projects.
- **Chapter 5** Transboundary effects.

## c) Non-technical summary

1.6.19 The **ES** is accompanied by a non-technical summary (NTS), which provides a summary of the key findings from all ten volumes of the **ES** for the Sizewell C Project in non-technical language.

## d) Environmental Statement structure summary

1.6.20 Schedule 4 of the Infrastructure Planning EIA Regulations and Schedule 3 of the Marine Works EIA Regulations identify information that is reasonably required to assess the environmental effects of the development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile. **Table 1.1** provides a summary where information required for inclusion in an **ES** under the EIA Regulations can be found in this **ES**.

**Table 1.1: Location of information within this ES in accordance with Schedule 4 of the Infrastructure Planning EIA Regulations and Schedule 3 of the Marine Works EIA Regulations**

Schedule 4 Schedule 3 Ref. <sup>2</sup>	Information Required under the EIA Regulations.	Location within ES.
1.	A description of the development and regulated activity, including in particular:	
a)	a description of the location of the development and regulated activity;	Volume 2, Chapter 1 Introduction. Volumes 3–9, Chapter 1 Introduction.
b)	a description of the physical characteristics of the whole development and regulated activity, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;	Volume 1 Chapter 2 Overview of the Sizewell C Project. Volume 2, Chapter 2 Description of permanent development and Chapter 3 Description of construction. Volumes 3–9, Chapter 2 Description of development.
c)	a description of the main characteristics of the operational phase of the development and regulated activity (in particular any production process), for instance, energy demand and energy used, the nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and	Volume 2, Chapter 3 Description of construction and Chapter 4 Description of operation. Volumes 3–9, Chapter 2 Description of development.
d)	an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.	Volume 2, Chapter 3 Description of construction and Chapter 4 Description of operation. Volume 2, Technical Chapters 7–28. Volumes 3–9, Chapter 2 Description of development. Volumes 3–9, Technical Chapters 4–12.

<sup>2</sup> Where paragraph numbers in Schedule 4 of the Infrastructure Planning EIA Regulations and Schedule 3 of the Marine Works EIA Regulations differ, both paragraph numbers have been listed.



Schedule 4 Schedule 3 Ref. <sup>2</sup>	Information Required under the EIA Regulations.	Location within ES.
2.	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project, the regulated activity and their specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	Volume 1, Chapter 4 Sizewell C Project evolution and alternatives. Volume 2, Chapter 6 Alternatives and design evolution. Volumes 3–9, Chapter 3 Alternatives and design evolution.
3.	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12.
4.	A description of the factors specified in regulation 5(2)/21A(2)(a) to (e) likely to be significantly affected by the development and the regulated activity: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12.
5.	A description of the likely significant effects of the development and the regulated activity on the environment resulting from, <i>inter alia</i> :	
a)	the construction and existence of the development and regulated activity, including, where relevant, demolition works;	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.

Schedule 4 Schedule 3 Ref. <sup>2</sup>	Information Required under the EIA Regulations.	Location within ES.
b)	the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.
c)	the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.
d)	the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.
e)	the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;	Volume 10, Chapter 4 Assessment of cumulative effects with other plans and projects.
f)	the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; and	Volume 2, Chapter 26 Climate Change.
g)	the technologies and the substances used.	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.

**NOT PROTECTIVELY MARKED**

Schedule 4 Schedule 3 Ref. <sup>2</sup>	Information Required under the EIA Regulations.	Location within ES.
No ref./6.	The description of the likely significant effects on the factors specified in regulation 5(2)/21A(2) (a) to (e) must cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development and the regulated activity. This description must take into account the environmental protection objectives established at Union or Member State level which are relevant to the project and the regulated activity, including in particular those established under Council Directive 92/43/EEC and Directive 2009/147/EC.	Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.
6./7.	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	Volume 1, Chapter 6 EIA methodology. Volume 2, Technical Chapters 7–28. Volumes 3–9, Technical Chapters 4–12. Volume 10, Chapter 2 Approach and methodology.
7./8.	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description must explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and must cover both the construction and operational phases.	Volume 2, Chapters 2–4 Description of development. Volume 2, Technical Chapters 7–28. Volumes 3–9, Chapter 2 Description of development. Volumes 3–9, Technical Chapters 4–12. Volume 10, Technical Chapters 3–5.

Schedule 4 Schedule 3 Ref. <sup>2</sup>	Information Required under the EIA Regulations.	Location within ES.
8./9.	A description of the expected significant adverse effects of the development and the regulated activity on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU of the European Parliament and of the Council on the control of major accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC or Council Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations or UK environmental assessments may be used for this purpose provided that the requirements of the EIA Directive are met. Where appropriate, this description must include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	Volume 2, Chapter 27 Major accidents and disasters.
9./10.	A non-technical summary of the information provided under paragraphs 1–8/9.	Non-Technical Summary (NTS).
10./11.	A reference list detailing the sources used for the descriptions and assessments included in the <b>ES</b> .	At the end of each chapter of the <b>ES</b> .



## 1.7 Related assessments

1.7.1 In addition to the EIA, the Sizewell C Project has been subject to assessment pursuant to other regulatory regimes, including the Habitats Regulations and Water Framework Directive (Ref. 1.10 and 1.11 respectively), and assessments required by relevant planning policies, such as the Flood Risk Assessment (FRA) (Doc Ref. 5.2 to 5.9) and Transport Assessment (TA) (Doc Ref. 8.5). Further information on these regimes is provided in the sections that follow. Where relevant, these assessments have been used to inform the **ES**.

### a) Habitat Regulations Assessment

1.7.2 The European ‘Habitats Directive’ on the Conservation of Natural Habitats and Wild Flora and Fauna (92/43/EEC) (Ref. 1.12) and the European ‘Birds Directive’ on the conservation of wild birds (79/409/EEC – as amended by Directive 2009/147/EC) (Ref. 1.13) aim to put in place a network of habitats and species of European importance. The Directives were transposed into UK law through The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) (Ref. 1.10), which provide legal protection to sites designated as being of European (or international) importance for nature conservation.

1.7.3 An assessment under the Habitats Regulations (referred to as a Habitats Regulations Assessment (HRA)) is a multi-stage process. The first stage considers whether the proposals (either acting alone or in combination with other plans and projects) have the potential to cause a significant effect. This is called Likely Significant Effect screening, which is a high-level review of all potential cause-effect impact pathways on European sites.

1.7.4 The next stage of the process considers which parts of the proposals need to be subject to detailed investigation in order to establish if effects are likely to occur and, if they are, how significant the effects would be. This stage is termed ‘Appropriate Assessment’, and considers the likely effects of the proposals (alone and in combination with other plans and projects) on the interest features of the site. ‘Significance’ in this context is a measure of whether the proposals have the potential to compromise the site’s conservation objectives (i.e. whether the effect has the potential to undermine the designated criteria of the European site). Where significant effects are predicted, mitigation needs to be considered.

1.7.5 Following Appropriate Assessment, where a risk to the integrity of the European site is identified, it must then be considered (at Stage 3) whether any ‘alternative solutions’ exist that would be capable of delivering the same overall objective as the original proposal in a way that would not adversely affect the integrity of a European site. If such an alternative is

identified, then it should be pursued. If such an alternative is not identified, then the competent authority must consider whether the plan or project, in spite of a negative assessment of the implications for the European site, must nevertheless be undertaken for IROP) (Stage 4).

1.7.6 Furthermore, if IROPI can be demonstrated, for the project to proceed ‘compensatory measures’ necessary to ensure that the overall coherence of *Natura 2000* is protected will need to be implemented. Therefore, following the demonstration of IROPI in Stage 4, compensatory measures must be demonstrated to be available and deliverable.

1.7.7 The **Shadow Habitats Regulations Assessment Report** (Doc Ref. 5.10) contains the information necessary for the relevant authority to carry out the appropriate assessment required under the applicable legislation.

#### b) Flood Risk Assessment

1.7.8 As detailed in NPS EN-1, applications for energy projects of one hectare or greater in Flood Zone 1 (in England), and all proposals for energy projects located in Flood Zones 2 and 3, should be accompanied by a FRA.

1.7.9 An FRA has been undertaken for the Sizewell C Project given that part of the main development site and parts of the associated development sites are located in Flood Zone 3 and the site area is over one hectare. The assessment considers flood risk both to, and as a result of, the proposed development over the lifetime of the project. The FRA has been undertaken in accordance with the Office for Nuclear Regulations’ (ONR) and the Environment Agency’s joint advice note (Ref. 1.14); NPS EN-1 and NPS EN-6; the National Planning Policy Framework (NPPF) (Ref. 1.15); and the technical guidance to the NPPF (Ref. 1.16).

1.7.10 The FRA has considered potential sources of flooding from: fluvial; coastal; groundwater; surface water resulting from intense rainfall (pluvial) events; sewers (also resulting from intense pluvial events); and non-natural water bodies (i.e. canals and reservoirs), either from individual or multiple sources. The FRA has been undertaken on a site by site basis. Effects on flood risk arising from climate change and any future geomorphological change, including the potential for increased flooding risk due to coastal erosion, have also been considered.

#### c) Water Framework Directive

1.7.11 Directive 2000/60/EC of the European Parliament and of the Council, referred to as the Water Framework Directive (WFD) (2000) (Ref. 1.11), is transposed into law in England and Wales by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref. 1.17). Two ‘daughter’ directives, one aimed at protecting groundwater

(Ref. 1.18), the second aimed at reducing pollution of surface water (rivers, lakes, estuaries and coastal waters) by pollutants on a list of priority substances (Ref. 1.19), have been adopted at European level.

1.7.12 The requirements of the WFD need to be taken into account in the planning of all new activities that may impact on any aspect of the water environment. To meet the requirements of the WFD, the competent authority (the Environment Agency) has set environmental objectives for each water body. A default objective for all water bodies is to prevent deterioration and to ensure no change in either the ‘Ecological Status’ (for natural water bodies) or the ‘Ecological Potential’ (for heavily modified or artificial water bodies).

1.7.13 A project-level WFD compliance assessment has been undertaken in four stages; collation of baseline information to inform the assessment, scoping, detailed compliance assessment, and summary of mitigation, improvements and monitoring.

1.7.14 The **Water Framework Directive Compliance Assessment Report** (Doc Ref 8.14) explains how the Sizewell C Project adheres to the European Water Framework Directive.

#### d) [Transport Assessment](#)

1.7.15 The application for development consent for the Sizewell C Project includes a TA, which assesses the impact of the construction and operational phases of the proposed development on the road network.

1.7.16 The TA considers the impact of the Sizewell C Project on road and network capacity, the operation of junctions and journey times both locally, and where necessary, in the wider context, taking account of the transport strategy adopted for the Sizewell C Project and the proposed mitigation. The TA and the associated traffic modelling which supports the assessment form the basis of the transport chapter included within Volume 2 of the **ES**, as well as supporting other chapters such as noise and air quality (within **Volumes 2–9**), which are dependent on information such as traffic flow data.

## 1.8 [Other supporting documents](#)

1.8.1 In addition to the assessments summarised above, the **ES** has been informed by other supporting documents submitted with the application for development consent for the Sizewell C Project. These include the following documents:

- **Sizewell C Main Development Site Design and Access Statement** (Doc Ref. 8.1).
- **Associated Development Design Principles** (Doc Ref. 8.3).
- **Sustainability Statement** (Doc Ref. 8.13).
- **Equality Statement** (Doc Ref. 5.14).
- **Economic Statement** (Doc Ref. 8.9).
- **Code of Construction Practice** (Doc Ref. 8.11); and associated management plans.
- **Community Impact Report** (Doc Ref. 5.13).

## 1.9 Environmental Impact Assessment project team

1.9.1 This **ES** has been compiled on behalf of SZC Co. by a team of technical consultants. Details of the technical consultants involved in the preparation of this **ES**, including their respective disciplines, project roles and contribution to the EIA, are presented in **Table 1.2**.

1.9.2 The EIA Project Management team is a registrant to the EIA Quality Mark scheme run by the Institute of Environmental Management and Assessment (IEMA), demonstrating EIA credentials and competency for the preparation of an **ES**. Further evidence of the EIA Project Team’s competency has been provided within **Appendix 1B Statement of Competence** included within this volume.

**Table 1.2: EIA Project Management Team.**

Organisation	Project Role/EIA Input.
SZC Co.	The Applicant, technical lead for radiological effects and radioactive waste.
AECOM	EIA coordination and technical lead for air quality, climate change, major accidents and disasters, marine technical specialist, cumulative and transboundary effects assessment.
Anatec	Technical lead for marine navigation risk assessment.
Arcadis	Technical lead for terrestrial ecology and ornithology and soils and agriculture.
Atkins	Technical lead for geology and land quality, groundwater and surface water.
Cefas	Technical lead for marine coastal geomorphology and hydrodynamics, marine water quality and sediments and marine ecology.
COARS, University of Southampton.	Technical lead for marine historic environment.

Organisation	Project Role/EIA Input.
Grimshaw	Architects.
LDA Design.	Masterplanners, landscape designers and technical lead for landscape and visual impact assessment and amenity and recreation.
Mott MacDonald.	Technical lead for conventional waste.
Quod	Planning consultant and technical lead for socio-economics assessment.
Royal Haskoning DHV.	Technical lead for flood risk, Water Framework Directive assessment and Habitats Regulations Assessment.
RPS Group.	Technical lead for health and wellbeing.
Sharps Redmore.	Technical lead for noise and vibration.
Wood E&IS UK Ltd.	Technical lead for terrestrial historic environment.
WSP	Technical lead for transport.



## References

- 1.1 Parliament of the United Kingdom, The Planning Act 2008 (London, 2008).
- 1.2 Department of Energy and Climate Change, Overarching National Policy Statement for Energy (EN-1) (London: The Stationery Office, 2011).
- 1.3 Department of Energy and Climate Change, National Policy Statement for Nuclear Power Generation (EN-6) (London: The Stationery Office, 2011).
- 1.4 Department for Communities and Local Government, Planning Act 2008: Guidance on the pre-application process, (London, 2015).
- 1.5 Aldhurst Farm Habitat Creation Scheme Planning application (DC/14/4224/FUL), (23 December 2014).
- 1.6 Sizewell B Relocated Facilities Planning application (DC/19/1637/FUL), (18 April 2019).
- 1.7 Parliament of the United Kingdom, The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended), (London, 2017).
- 1.8 Parliament of the United Kingdom, The Marine Works (Environmental Impact assessment) Regulations 2007, (London, 2007).
- 1.9 Parliament of the United Kingdom, Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (London, 1999).
- 1.10 Parliament of the United Kingdom, The Conservation of Habitats and Species Regulations 2010 (as amended) (London, 2010, 2017).
- 1.11 The European Commission, The Water Framework Directive (Directive 2000/60/EC) (2000).
- 1.12 The European Commission, The Habitats Directive (Directive 92/43/EEC) (1992).
- 1.13 The European Commission, The Birds Directive (Directive 79/409/EEC – as amended by Directive 2009/147/EC) (1979).
- 1.14 Office for Nuclear Regulations' (ONR) and the Environment Agency's joint advice note, Principles for Flood and Coastal Erosion Risk Management, (July 2017).
- 1.15 Ministry of Housing, Communities and Local Government, National Planning Policy Framework, (London, 2019).

- 1.16 Department for Communities and Local Government, Technical Guidance to the National Planning Policy Framework, (London 2012).
- 1.17 Parliament of the United Kingdom, The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, (London 2003, 2017).
- 1.18 The European Commission, The Water Groundwater Directive (Directive 2006/118/EC) (2006).
- 1.19 Directive on Environmental Quality Standards (Directive 2008/105/EC) (2008).
- 1.20 Department for Business, Energy and Industrial Strategy, Government Response: Consultation on the siting criteria and process for a new National Policy Statement for nuclear power with single reactor capacity over 1 gigawatt beyond 2025 (London, July 2018)
- 1.21 Department of Energy and Climate Change, National Policy Statement for Nuclear Power Generation (EN-6) (London: The Stationery Office, 2011) Annex C.8.
- 1.22 Department of Energy and Climate Change, Habitats Regulations Assessment: Site Report for Sizewell (London, 2010).