



Our reference: DCO/2013/00021
Your reference: EN010012

Sizewell C Proposed Nuclear Development **Comments on the Environmental Scoping Report, dated April 2014**

1. The proposal

- 1.1. EDF Energy proposes to build, operate and decommission a new nuclear power station comprising two UK European Pressurized Reactors with an expected electrical capacity of approximately 3,260 megawatts at Sizewell in Suffolk, known as Sizewell C (the “Project”).
- 1.2. The Project will consist of:
 - a main development site, located mainly to the north of the existing Sizewell B power station, which will include the nuclear power station, access road and temporary development required for construction; and
 - off-site associated development including temporary park and ride sites, the temporary extension of an existing railway line/new rail terminal and freight laydown area, possible works to road networks, and a visitor centre.
- 1.3. An Environmental Scoping Report ‘Sizewell C EIA Scoping Report’ dated April 2014 (the “Report”) has been prepared by EDF Energy as part of the Environmental Impact Assessment (“EIA”) process.

2. The MMO’s role in Nationally Significant Infrastructure Projects

- 2.1. The Marine Management Organisation (the “MMO”) was established by the Marine and Coastal Access Act 2009 (the “2009 Act”) to make a contribution to sustainable development in the marine area and to promote clean, healthy, safe, productive and biologically diverse oceans and seas.
- 2.2. The responsibilities of the MMO include the licensing of construction works, deposits and removals in the marine area by way of a marine licence¹. Marine licences are required for deposits or removals of articles or substances below the level of mean high water springs (“MHWS”), unless a relevant exemption applies.
- 2.3. In the case of Nationally Significant Infrastructure Projects (“NSIPs”), the Planning Act 2008 (the “2008 Act”) enables Development Consent Order’s (“DCO”) for projects which affect the marine environment to include provisions which deem

¹ Under Part 4 of the 2009 Act

marine licences². Alternatively, applicants may wish to separately seek consent for a marine licence directly from the MMO rather than having it deemed by a DCO.

- 2.4. For NSIPs where applicants choose to have a marine licence deemed by a DCO, during pre-application the MMO will advise developers on the aspects of a project that may have an impact on the marine area or those who use it. In addition to considering the impacts of any construction within the marine area, this would also include assessing any risks to human health, other legitimate uses of the sea and any potential impacts on the marine environment from terrestrial works.
- 2.5. Whether a marine licence is deemed within a DCO or consented independently by the MMO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement and revocation of provisions relating to the marine environment. As such, the MMO has a keen interest in ensuring that provisions drafted in a deemed marine licence enable the MMO to fulfil these obligations. This includes ensuring that there has been a thorough assessment of the impact of the works on the marine environment (both direct and indirect), that it is clear within the DCO which works are consented within the deemed marine licence, that conditions or provisions imposed are proportionate, robust and enforceable and that there is clear and sufficient detail to allow for monitoring and enforcement. To achieve this, the MMO would seek to agree the deemed marine licence with the developer for inclusion with their application to the Planning Inspectorate (“PINS”).
- 2.6. Further information on licensable activities can be found on the MMOs website³. Further information on the interaction between PINS and the MMO can be found in our joint advice note⁴.
- 2.7. The MMO recognises there is some overlap between the geographical jurisdiction of the MMO and the local planning authorities (i.e. between MHWS and mean low water springs).
- 2.8. The MMO has considered this and is of the view that matters which fall within the scope of the marine licensing provisions of the 2009 Act (i.e. anything below MHWS) are generally best regulated by conditions on marine licences. This should minimize the risk of inconsistency between different schemes of regulation, or of a duplication of controls.
- 2.9. In considering applications for marine licences to be consented independently by the MMO, the MMO regularly consults with bodies including, but not limited, to:
 - the Environment Agency
 - Natural England
 - Natural Resources Wales (for works in or affecting Wales)
 - the Maritime and Coastguard Agency
 - English Heritage
 - local planning authorities
 - local harbour authorities

² Section 149A of the 2008 Act

³ <http://www.marinemangement.org.uk/licensing/marine.htm>

⁴ <http://infrastructure.planningportal.gov.uk/wp-content/uploads/2013/04/Advice-note-11-v2.pdf>

- local inshore fisheries and conservation authorities
- the Royal Yachting Association
- the Royal Society for the Protection of Birds
- the corporation of the Trinity House of Deptford Strond.

Where a marine licence is to be deemed within a DCO, the MMO would expect that comments provided by the above list of bodies and any other relevant bodies are taken into consideration.

3. Activities for this project which would be licensable under the 2009 Act

3.1. At this stage of the development the MMO have identified the following licensable activities as stated in the Report:

- Cooling water infrastructure (including cooling water tunnels extending out to sea, intake and outfall headworks on the sea bed, and associated fish recovery and return system);
- Beach landing facility to receive deliveries of Abnormal Indivisible Loads (“AILs”) by sea throughout the power station’s operational life;
- Temporary jetty for the transport of bulk construction materials, equipment and AILs by sea;
- Temporary works areas on the foreshore for the installation of flood defence and coastal protection measures;
- Construction of flood defence and coastal protection measures;
- Dredging.

3.2. It should be noted that the Report includes limited detail regarding work activities and methodologies. Specifically, the requirement for dredging is unclear and how any dredge arisings will be dealt with. Should dredge arisings be disposed of at sea, this is also a licensable activity under the 2009 Act. The MMO would expect to see each activity clearly described and assessed during the EIA process. This should also include ongoing activities which may be necessary, such as maintenance dredging. Paragraphs 4.9 & 4.19 of this document provide further information on this.

3.3. The Report mentions a number of mitigation measures which may constitute licensable activities under the 2009 Act. This includes such things as beach recycling, beach recharge and scour protection. Further information should be provided regarding these during the EIA process.

3.4. Any additional works or activities in the marine area which may require a marine licence under the 2009 Act should be notified to the MMO at the earliest opportunity and the impacts of such works considered in the EIA process.

4. Comments on the Report

General comments

- 4.1. The comments expressed in this document are made in respect of the MMOs jurisdiction which is outlined in paragraph 2.8 of this document.
- 4.2. The Report is well written and provides a broad overview of the Project. However, due to the high level nature of the document and lack of Project detail, confidence in the assessments made is limited. For example, as stated in section 3 of this document, only a broad overview of the works to be undertaken has been provided. This limits the confidence that all relevant elements of the project have been scoped with regards to impact pathways and receptors. This is detailed in the relevant sections of this document.
- 4.3. In general, the methodology for scoping impact pathways and receptors appears to be appropriate. The Report provides a high level overview of impact pathways and receptors, with nothing explicitly being scoped in or out of the assessment at this stage. Where impact pathways and receptors are scoped out, the Environmental Statement (“ES”) will need to clearly justify the rationale for the approach taken and decisions made.
- 4.4. References are made throughout the report to baseline studies undertaken, though details of methodologies used and results obtained are only provided in summary. The description of the baseline and survey work is often vague, for example in relation to ornithology and marine ecology. It is therefore difficult to confirm whether all relevant baseline material has been accessed, or whether the surveys undertaken or proposed are adequate. The MMO would welcome sight of any relevant baseline studies during the pre-application phases of the project to ensure their suitability. Specific examples of this are included in the relevant sections of this document.
- 4.5. Where there is overlap in subject matters, cross referencing to other relevant chapters should be provided.
- 4.6. The Project is within the East Marine Plan Area. Marine planning provides guidance for sustainable development within the plan area. Any decision made must have regard to the marine plan. As such, the EIA should demonstrate how the project meets the requirements of the marine plan and should include how the plan polices support the Project, the case for going ahead with the Project if it differs from plan policies and any evidence for this. The MMO will also have regard to the marine plan when providing advice to PINS.

Chapter 2 – Consenting regimes and environmental assessment

- 4.7. Section 2.3 of the Report recognises the need for an Appropriate Assessment for the Project. There is no reference to the scope of a Habitats Regulation Assessment (HRA) which is likely to be required to address the potential impact on the Outer Thames Special Protection Area (SPA). The Report refers to the development and agreement of an Evidence Plan with Natural England. Given that the information will also be relevant to the consideration of ornithology within the ES, it will be important that other statutory bodies such as the MMO are involved in those discussions and in reviewing documentation associated with this.

Chapter 3 – Description of the proposed development

- 4.8. Paragraph 3.2 of the Report outlines the main development activities, providing a high level overview of the Project. Whilst it is appreciated that at this stage of the project final designs are yet to be agreed, and the applicant is seeking to work to the Rochdale Envelope approach, the lack of detail lowers confidence in the identification of impact pathways and receptors and assessments made. A detailed design of the project, and any variations thereof, must be presented and assessed within the EIA process, as is outlined in the Planning Inspectorates *Advice Note 9: Using the Rochdale Envelope*.
- 4.9. Dredging and the disposal of dredged material is referred to elsewhere in the Report, for example, in sections 7.13 (Coastal geomorphology and hydrodynamic) and 7.14 (Marine water quality and sediments), however, not when describing the proposed development and work activities within Chapter 3. Dredging and the disposal of dredged material at sea are licensable activities under the 2009 Act. These activities will need to be described in full, assessed thoroughly in the EIA process and included in any marine licence. Should disposal of dredged material at sea be required, the MMO would expect the EIA process to include sampling of sediments to the same standard as would be required for an application made to the MMO. Further guidance can be found on the MMO's website⁵.

Chapter 4 – Consideration of alternatives

- 4.10. The scoping report confirms that the consideration of alternatives will focus on the principal site-specific and design alternatives and goes on to detail some of the on-site associated infrastructure (section 4.3) for which alternative design solutions will be explored. The MMO welcome this approach and request that relevant environmental impact pathways which have been screened in are considered in the design alternatives and that this is documented in the ES.

Section 7.3 – Terrestrial Ecology and Ornithology

- 4.11. The MMOs comments on this section of the report relate to seabirds and marine ornithology. Within this section there is no reference to the need for, and scope of, a Habitats Regulation Assessment (HRA) which is likely to be required to address the potential impact on the Outer Thames SPA. The ornithology section and HRA should be cross referenced to ensure appropriate details are included in each section.
- 4.12. It is unclear whether all relevant marine and coastal bird species will be included in the assessment. Red-throated Diver, Little Tern and Sandwich Tern are mentioned but other species, such as gulls and coastal waterbirds that could be impacted by changes to the marine environment will be included should also be scoped and assessed accordingly. Consideration to changes in fish populations and impacts of

⁵ <http://www.marinemanagement.org.uk/licensing/index.htm>

prey structures should be considered. Cross references should be provided where appropriate for example in relation to impacts of fish mortality on seabirds.

- 4.13. The suggested survey types (breeding bird, wintering bird and seabird surveys) are considered to be appropriate, as are the study areas and the key statutory designated sites highlighted within the Report. However it is not possible to assess whether the studies will be adequate, due to a lack of detail regarding the timing, duration and number of surveys, and a lack of detail regarding the methodology both for the surveys and data analysis. The report indicates that surveys began in 2007, but no further detail is provided as to the study periods or the frequency of surveys. The Report outlines the methodology that will be used to assess impacts in the EIA in more detail, referencing IEEM guidance (IEEM 2006). Reference should be made to the more up-to-date IEEM (2010) guidance for marine EIAs.

Section 7.6 – Marine historic environment

- 4.14. Paragraph 7.6.8 of the Report states that, while there are 162 wrecks within the marine study area, 'the proposed development is not expected to directly impact any of these'. No further information or justification for this comment is provided. The EIA should fully assess possible impacts and justify any comments made regarding effects. If impacts are to be scoped out, clear justification should be provided for this.

Section 7.13 – Coastal geomorphology and hydrodynamics

- 4.15. The Report provides good detail on the approach for the ES and the modelling appears to cover the appropriate scale of change (temporal and spatial). However, there is a lack of transparency in the scoping of issues and no issues have been clearly scoped out. Issues should be clearly scoped in and out of the ES with clear justifications and assessed appropriately to ensure all potential impacts and impact pathways have been identified and assessed appropriately.
- 4.16. Specifically, the Report is missing the impact pathways and implications of climate change over the life time of the project such as changing patterns of offshore banks and flood and coastal erosion risk, including the potential for changing beach profiles reducing effectiveness of the beach. Therefore, it is unclear whether all potential impacts and impact pathways have been linked due to the limited project description. More detailed information, specifically on construction and operation, is required to ensure all impacts and impact pathways are identified.
- 4.17. Consideration needs to be given to modelling extreme events and climate change. Modelling should cover the cooling water discharges, contaminant concentrations, sediment disturbance (e.g. long term dredging) and provide sensitivity analysis to cover inherent variability and uncertainty in calibration and input parameters.
- 4.18. No modelling results have been presented in the report, although there is indication that this has been undertaken. More detailed modelling is proposed and this will need to be documented in the ES. New wave, flow and localised erosion data are being collected to hindcast information. The consideration of the interrelationship

between wind, wave, and coastal erosion is required within ES. Data are indicated as being available but has not been summarised within the Report.

- 4.19. Paragraph 7.13.29 of the Report refers to 'dredging activities for the jetty and its navigation approach, should this prove necessary'. Paragraph 7.13.35 also indicates a possible requirement for ongoing dredging to maintain navigational access. As stated in paragraphs 3.2 and 4.9 of this document, information should be provided to detail this dredging activity. Information provided to the MMO to support such applications includes, but may not be limited to, dredging locations, the volume of material to be dredged, the type of dredger to be used, working hours, duration of the dredge, how disposing the material will be managed, a pre-dredge survey and any details regarding dredging history. Should disposal of dredged material to sea be required analysis of sediment for potential contamination will also be required prior to consent being granted. If a new marine disposal site is required, characterisation of the site would be required. These factors should be considered in the EIA process and documented in the ES.
- 4.20. Paragraph 7.13.23 of the Report details elements of the Project that could have impacts on coastal geomorphology and hydrodynamics. This should also include capital and maintenance dredge and disposal requirements. Should the berthing pocket require hard standing, this would also need to be included in the assessment. The impacts of the decommissioning of Sizewell B on the baseline coastal geomorphology and hydrodynamics should be considered within the ES.
- 4.21. All information for the purposes of EIA should result from the analysis of the data already collected, the range of modelling said to have been carried out and the proposed further modelling. A Modelling Technical Appendix should be included in the ES.

Section 7.14 – Marine water quality and sediments

- 4.22. The assessment is based upon Water Framework Directive/Environmental Quality Standards (EQS Water) and sediment contamination guideline information. The baseline information and modelling approach to inform assessment of water column EQS compliance is robust, to the extent that it is applied to all relevant substances potentially discharged from the site.
- 4.23. However, the project description is not sufficiently clear to identify whether all potential water quality impacts and impact pathways have been identified. Mobilisation of contaminants within sediments (or biota) is not identified as an impact pathway in the Report and no methodology is therefore presented for assessing such risks. This also has implications for potential impacts to other receptors, particularly marine ecology. These impacts should be scoped and assessed in the ES and cross referenced accordingly. A Modelling Technical Appendix should be included in the ES.
- 4.24. Section 7.14.24 states that sediment core samples will be taken around likely navigation channels. As discussed previously in paragraph 4.19, the MMO would expect the EIA process to include sampling of sediments to the same standard as

would be required for an application made to the MMO⁶. Should disposal of dredged material to sea be required, OSPAR will need to be considered in section 7.14.25 under European legislation.

Section 7.15 – Marine ecology

- 4.25. The marine ecology chapter currently merges a range of receptors into one chapter (commercial fisheries, pelagic ecology, benthic ecology, marine mammals and fish and shellfish). Consideration should be given to splitting these receptors into different sections to make specific pathways clearer or clarify the use of judgement where necessary.
- 4.26. Section 7.15.21 lists construction activities but does not identify the impact pathways and receptors and link back to other relevant chapters as required. This section should also include capital and maintenance dredge and disposal requirements. Details of what is required in the “maintenance of the maritime exclusion zone” should be included and what impacts this could have on marine ecology should be identified. Should the berthing pocket require hard standing, this would also need to be included in the assessment. This should include an in-combination assessment with other activities that may increase the re-suspension of sediments. The impact of the increase in vessel movements should also be considered during the EIA process. It is not currently considered in section 7.16 on Navigation but should be cross referenced where appropriate.
- 4.27. The Report currently makes broad references to elements of the proposed development that could have effects on marine ecology and therefore it is unclear whether all possible pathways and receptors have been identified and considered. Impacts that have not been identified include: the possible effect of climate change in relation to direct and indirect impacts on fish stocks; the impact on protected species, including twaite shad; the impact on eels and consideration of the eels regulations; impacts from bioaccumulation or dispersal of radionuclides in the marine environment; impacts of the cooling water infrastructure, including biofouling and biocides, thermal plume; and, in-combination effects with Sizewell B. These should be scoped and assessed in the EIA process and documented be clearly justified in the ES. However, there is not enough information in the report to identify all information gaps
- 4.28. The types of data being collected are considered to be appropriate however more detail on the survey methods and survey design is required. The descriptions of the methods used to collect the data are very brief and, in the absence of detailed information, it is not possible to determine whether the surveys are appropriate. The approach to the assessment of impacts (including cumulative impacts) is unclear; for example, section iv does not provide any detail concerning how the magnitude of change in relation specific impacts will be quantified.
- 4.29. The marine ecology baseline information is brief, often vague and incomplete with no clear references made to whether the statements are based on judgement or

⁶ Further information is available at http://www.marinemanagement.org.uk/licensing/how/sample_analysis.htm

references. The detail of the surveys is missing and references are not provided in the report and should be clearly documented in the ES where necessary. It is noted that habitat mapping studies have been completed and are not planned as part of future studies. Detail on the habitat mapping undertaken and reasons that no further surveys are required must be provided in the ES.

- 4.30. The fish and habitat surveys do not appear to cover all of the anticipated area for the cooling water and associated infrastructure (Figure 7.15.1). Adequate information is required for the area in the immediate vicinity of the structures to inform the assessment (particularly the habitat, beam trawl and commercial otter trawls do not extend to the seaward extent of the potential development area).
- 4.31. Some broad information on the planned marine ecology studies is provided (in relation to intertidal, subtidal, impingement and entrainment and fishing activity), however as stated previously the information it is not sufficiently detailed to confirm if the surveys proposed are adequate.
- 4.32. The majority of habitats and species contained in the BAP priority lists are now considered as habitats or species of principal importance for the conservation of biodiversity in England under the 2006 Natural Environment and Rural Communities (NERC) Act.
- 4.33. There is little consideration of the impacts on fish and fish populations. The impacts described in section 7.3 of the Report identify long term effects on bird populations but not on the fish themselves which is considered to be a significant omission.
- 4.34. The magnitudes of the populations of the fish under consideration are not considered which makes it difficult to accurately consider the level of impact. Paragraph 7.15.8 notes that herring eggs and or larvae are found in the vicinity however it is unclear to which population this relates. If the herring are from the Blackwater population on the Eagle Bank then the impacts on the population would be much greater than if they were from the general North Sea stock.
- 4.35. Paragraph 7.15.9 lists the species of conservation concern. Several species that are known to occur at this site and are impinged on the B station screens are missing from discussion. These include mackerel (*Scomber scombrus*), sea lamprey (*Petromyzon marinus*) and scad (*Trachurus trachurus*) which are all in the BAP species list. These should be considered in the ES and if scoped out, clear justification should be provided.
- 4.36. The Report covers many of the issues related to the impacts of cooling water abstractions on fish but lacks details of the design concept. It is not clear if alternatives to the plan have been considered and why they were dismissed. Different cooling technologies can differ markedly in the volume of water extracted and therefore differ in their potential impacts. If the technologies to be used have been decided, justification and evidence should be provided to support these decisions. There is reference to fish deterrent and fish return systems but no discussion or reference as to their effectiveness. This should be explored and discussed in the ES.

- 4.37. Some potential mitigation of the impacts on fish is proposed such as the use of low velocity side entry (LVSE) intakes and both acoustic fish deterrent (AFD) and fish recovery and return (FRR) system. The benefits and limitations should be considered of these measures and if other alternatives have been scoped out, the justification for these should be explained. Consideration should be given to the effectiveness of any proposed mitigation over the lifetime of the Project.
- 4.38. The Report makes little reference to the local fishing industry however the information that is included appears to be an accurate assessment of the local fleet composition and size. The report does not detail the possible effects of the development upon the fishing industry and the works have the potential to have significant disruption in terms of lost ground during the construction phase to the fishing industry. Furthermore, from the information supplied, the loss of available fishing ground may have a long term impact. Public engagement with the local fishing industry is strongly recommended to fully appreciate the impact these works will have on local fishermen. This should be documented in the ES.

Section 7.16 - Navigation

- 4.39. The MMO consider that this is a well written and comprehensive chapter. The Report provides a commentary on the navigational aspects within the defined study area. This information is qualitative in nature and as such cannot be directly evaluated.
- 4.40. All plausible pathways have been considered in Section 7.16.21 through to 7.16.23, split into Construction and Operation however nothing is scoped out. The Report identifies that a Navigational Risk Assessments (“NRA”) is required, which will form part of the EIA chapter. Given the size and scale of the proposed project in relation to navigation considerations, this is considered appropriate. The EIA chapter on navigation will consider recreation and commercial navigation, plus any cumulative effects. These cumulative effects should relate to the cumulative effects section as discussed in paragraph 4.44.
- 4.41. Information sources that are identified as part of the NRA and EIA process are appropriate. It would be beneficial to characterise vessel traffic to and from ports and harbours within the study area, including Southwold, Walberswick and Slaughden Quay, and large ports and harbours adjacent to the study area, including Felixstowe, Harwich, Ipswich and Lowestoft. In addition, effects and interaction with marine traffic using the Southwold Ship-to-Ship transfer area should also be considered within the context of the NRA and EIA.
- 4.42. In the report section entitled ‘Work undertaken to date’ the document states all the sources of information considered have looked at (RYA, AIS, MMO, Fisheries etc), but the supporting figure shows an OS outline with a semi-circle to denote the area they will more fully consider in the EIA. Figure 17.16.1 should be updated to show information compiled for the baseline (for example, RYA routes, indicative vessel transit routes, AIS data from the MMO, RYA racing areas, etc).
- 4.43. The coastline adjacent to the proposed location of the Project is frequented by recreational vessels from marinas at Orford, Aldeburgh and Southwold. Commercial

angling boats also operate in the inshore area around Sizewell. The effect upon these sea-users would be dependent upon the extent of any exclusion zone imposed during and after the works and should be assessed within the ES.

Chapter 9 – Summary

- 4.44. Section 9.2.1 provides an indicative outline structure for the proposed ES. The MMO welcome the addition of an overarching chapter Cumulative Assessment as Volume 9. The Report identifies Galloper offshore wind farm as the only other project that has been scoped in for consideration in an in-combination effects assessment. This should be widened to incorporate other projects such as port developments in the region including Felixstowe and Harwich. This should include, but not limited to, the operation and decommissioning of Sizewell B. Consideration of methods to be used during construction and timing of works should also be considered in this overarching volume and in other volumes as required.

5. Consultation process and next steps

- 5.1. The items highlighted in this letter should be considered in the EIA process, and evidenced in the ES. However, this should not be seen as a definitive list of all EIA/ES requirements and other work may prove necessary, particularly as it is made clear what works will be undertaken in, or have an impact on, the marine area.
- 5.2. The MMO welcomes the ongoing consultation with EDF Energy and recommends that this continues.